Medicare Cost Shifting in DME – 2018

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Since 2011, VGM has sponsored studies every three years that showcase the importance of Medicare investment in the DME (Durable Medical Equipment) industry. In all three studies, a common theme has surfaced - Medicare could save millions of dollars by dedicating more resources toward DME. But as it currently stands, this industry is receiving only slightly over 1% of the HHS Budget. This small percentage is the result of a tight crackdown by CMS on wasteful spending, but this very narrow focus has severely damaged the DME provider network and led to a substantial drop in patient access.

To help CMS better understand the destructive impact of its narrow focus, VGM has taken steps to better understand the cost shifts that result when Medicare fails to deliver or delays in delivering critical DME to Medicare beneficiaries. When this happens, Medicare incurs substantial increased Part A costs to treat the medical complications caused by not having the needed DME. Three Monographs, each focused on a key DME product category were developed to highlight the cost shift and increased Medicare burden for recurring DME delivery issues:

Mobility DME:

- In 2017, seniors fell 32.4 million times, resulting in 7.8 million injuries that required treatment.
- Medicare spent between $31.6 and $33.7 billion in payments for treating these injuries.
- Failure to timely provide needed DME results in an average cost shift of between $4,705 - $5,029 each time a beneficiary is injured in a fall.

Supplemental Oxygen Therapy:

- In 2017, 16.3 million U.S. adults were diagnosed with COPD and in 1.2-2.6 million cases, the diagnoses were severe.
- The expected cost shift in Medicare payments to treat a COPD-related exacerbation that results from Medicare's failures to provide needed supplemental oxygen therapy is approximately $14,350.

CPAP Therapy:

- It is estimated that 40 million U.S. adults suffer with Obstructive Sleep Apnea (OSA) and that 30 million are undiagnosed.
- The overall economic cost of untreated OSA in the U.S. is estimated at $170 billion.
- The average Medicare cost shift to treat OSA-related complications for each beneficiary who does not receive needed CPAP therapy is $1,631.

In sum, Medicare ends up paying significantly more to treat the medical complications that result from its failure to adequately invest in DME. By shifting both the cost and the focus of CMS to provide needed treatment for patients up front, the government can dramatically reduce overall healthcare costs and improve the care provided to its Medicare beneficiaries.

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MONOGRAPH 1 – MEDICARE COST SHIFTING FOR FALL INJURIES

This is the first 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 Falls and Mobility DME. The 2nd and 3rd Monographs address Chronic Obstructive Pulmonary Disease (COPD) and supplemental oxygen therapy and Obstructive Sleep Apnea and Continuous Positive Airway Pressure (CPAP) equipment.

When Medicare implemented the DMEPOS[1] 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 delays 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 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; the lack of CPAP equipment results in untreated patients who suffer from sleep apnea.

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.

[1] DMEPOS is an acronym for Durable Medical Equipment; Prosthetics; Orthotics; and Supplies

FALLS -

When Medicare fails to provide or delays in providing needed mobility DME, beneficiaries are at greater risk to fall and be injured. When a fall injury occurs, the cost of treating it is typically covered by Medicare Part A. Much lesser amounts are paid by Medicare Parts C (prescription drugs) and D (for Medicare Advantage users). Typically, Medicare also ends up paying for the mobility DME it initially failed to provide, under Part B. The cost to treat a fall injury dramatically exceeds the cost of the DME that could have avoided the fall in the first place.[2]

- In 2017, seniors fell 32.4 million times[3]
- 7.8 million of those falls resulted in injuries that required treatment of some sort[4]
- 3.6 million resulted in doctor/clinic visits[5]
- 3.1 million led to an emergency room trip[6]
- 900,000 were admitted to an acute care hospital[7]
- Countless others required visits to rehab therapists, home health care visits and stays in nursing care facilities

Treatment of these fall injuries comes at a substantial cost to Medicare.

- In 2017, Medicare payments for fall injury treatment totaled between $31.6[8] and $33.7[9] Billion, including at least:
    - $7.3 Billion in hospital payments[10]
    - $6.1 Billion in payments to physicians and other treatment providers[11]

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[2] Leitten, *The Case for Medicare Investment in DME – 2014 Update*, http://www.vgmdclink.com/uploads/Document-Library/d1306dfcd9db67830ba14d4cd5b3be8c.pdf

[3] *Cost of Falls Among Older Adults*, Centers for Disease Control (CDC), 2014 data updated for 2017 Medicare population https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html

[4] Id. Some portion of those falls did not require medical treatment but did require restricted activity for at least one day.

[5] See Note 2.

[6] *Falls and Fall Injuries Among Adults Aged ≥65 Years — United States, 2014,* CDC Morbidity and Mortality Weekly Report (09/23/16) https://www.cdc.gov/mmwr/volumes/65/wr/mm6537a2.htm

[7] Id.

[8] Florence et al., *Medical Costs of Fatal and Nonfatal Falls in Older Adults,* Journal of American Geriatrics Society, Vol. 66, Issue 4, pp. 693-698 (2018) https://doi.org/10.1111/jgs.15304, data updated for 2017 Healthcare CPI

[9] See Note 2.

[10] See Note 8.

[11] Id.

- $228 Million in dental payments[12]
- $1.2 Billion in prescription drug payments[13]
- $16.6 Billion in other payments for home health care visits and stays in nursing care facilities[14]

With this information, the average cost shift that results each time a Medicare beneficiary sustains a fall injury because of a Medicare failure or delay can be determined. Three average cost shifts (mostly to Part A) are possible. First, the cost of fall injuries can be divided by the number of falls that require some form of treatment. This yields a cost shift in the range of between $4,139 and $4,315. This is the most conservative range, since a portion of the 7.8 million annual fall injuries did not require medical treatment but did require restricted activity for at least one day[15]. Those falls would not generate Medicare payments.

Another approach is to divide the cost of fall injuries by the number of ER visits that were triggered. This is the approach taken by the National Center for Injury Prevention and Control at the CDC.[16] This yields a cost shift in the range of between $10,091 and $10,787. This cost is higher than might be expected since it does not take into account falls that required only a doctor or clinic visit.

The most comprehensive approach is to divide the cost of fall injuries by the sum of doctor/clinic visits and ER visits. This best approximates the number of fall injuries that require medical treatment. It is likely that a beneficiary who falls will either visit a doctor or clinic or go directly to the ER (hospital admissions are generally a subset of ER visits). While there will be some overlap where beneficiaries do both, it should not significantly impact the outcomes. This approach yields a cost shift in the range of between $4,705 and $5,029.

"The expected cost shift in Medicare payments that results each time a Medicare beneficiary sustains a fall injury because Medicare fails to provide or delays in providing needed mobility DME is between $4,705 and $5,029."

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[12] Id.

[13] Id.

[14] Id.

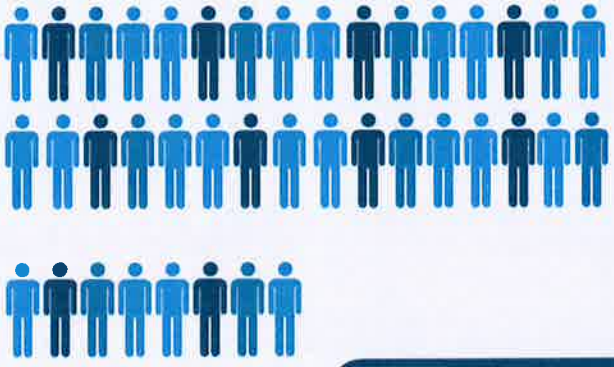
[15] See Note 4.

[16] Burns et al., *The direct costs of fatal and non-fatal falls among older adults - United States*, J Safety Res. Sep;58:99-103 (2016) https://www.ncbi.nlm.nih.gov/pubmed/27620939 (abstract only)

MEDICARE COST SHIFTING

MEDICARE COST SHIFTING WHEN DME IS DELAYED/NOT PROVIDED RESULTING IN A FALL

ANNUAL SENIOR FALLS: 32.4 MILLION[3]



SENIOR FALL INJURIES: 7.8 MILLION[4]

3.6 MILLION SENIOR FALLS DOCTOR VISITS[5]

3.1 MILLION SENIOR FALLS ER VISITS[6]

0.9 MILLION SENIOR FALLS HOSPITAL ADMISSIONS[7]

MEDICARE SPENDING FOR FALLS: $31.6 - 33.7 BILLION

$228 MILLION MEDICARE DENTAL SPENDING[12]

$7.3 BILLION MEDICARE HOSPITALS SPENDING[10]

$6.1 BILLION MEDICARE PHYSICIANS & OTHER PROVIDERS SPENDING[11]

$1.2 BILLION MEDICARE PERSCRIPTION DRUGS SPENDING[13]

$16.6 BILLION MEDICARE OTHER SPENDING[14]

MEDICARE COST SHIFT PER BENEFICIARY FALL: $4,705 TO $5,029

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MONOGRAPH 2 – MEDICARE COST SHIFTING FOR COPD EXACERBATIONS

This is the second 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 1st Monograph addressed Falls and Mobility DME. The 3rd monograph addresses Obstructive Sleep Apnea and Continuous Positive Airway Pressure (CPAP) equipment.

When Medicare implemented the DMEPOS[1] 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 supplemental oxygen therapy results in untreated patients who suffer exacerbations from COPD and its comorbidities; the lack of mobility equipment results in fall-related injuries that require medical treatment; the lack of CPAP equipment results in untreated patients who suffer from sleep apnea.

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.

[1] DMEPOS is an acronym for Durable Medical Equipment; Prosthetics; Orthotics; and Supplies

COPD –

Chronic Obstructive Pulmonary Disease is defined as a chronic condition of persistent obstruction of air flow through bronchial tubes and lungs.[2] COPD encompasses chronic bronchitis, asthma, and emphysema.[3] COPD is 2nd leading cause of disability and the 3rd leading cause of death in the United States.[4] The overall cost of treating medical complications caused by COPD in the U.S. in 2017 is estimated at over $100 Billion.[5] Medicare payments comprise approximately 38.4% of this total, approximately $38.6 Billion.[6]

Supplemental oxygen therapy is beneficial for people with severe COPD, which accounts for between ¼ to ½ of those diagnosed with COPD.[7] When Medicare fails to provide or delays in providing needed supplemental oxygen therapy, beneficiaries are at greater risk for exacerbations (acute worsenings of symptoms that result in a change in treatment and often hospitalization).[8] When an exacerbation occurs, the cost of treating it is typically covered by Medicare Part A, with lesser amounts are paid by Medicare Parts C (prescription drugs) and D (for Medicare Advantage users).

COPD is also associated with a myriad of comorbidities, including:

- heart failure, ischemic heart disease (i.e., 'heart disease')
- hypertension

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[2] Chabner, *The Language of Medicine, 9th Edition*, Chapter 12 (2010) referenced at https://quizlet.com/20772101/the-language-of-medicine-chapter-12-flash-cards/

[3] Id.

[4] Englander et al, *Economic Dimensions of Slip and Fall Injuries, Journal of Forensic Science* 41(5) (1996) https://www.astm.org/DIGITAL_LIBRARY/JOURNALS/FORENSIC/PAGES/JFS13991J.htm (abstract only)

[5] Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey , Table 3: Total Expenses and Percent Distribution for Selected Conditions by Type of Service: United States (2014) https://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2014&Table=HCFY2014_CNDXP_C&_Debug=, adjusted to 2017 using Healthcare CPI and CMS population data.

[6] Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey , Table 4: Total Expenses and Percent Distribution for Selected Conditions by Source of Payment: United States (2014) https://meps.ahrq.gov/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2014&Table=HCFY2014_CNDXP_D&_Debug=, adjusted to 2017 using Healthcare CPI and CMS population data.

[7] *COPD severity differs by severity system used*, GlobalData Healthcare (2017) https://www.pharmaceutical-technology.com/comment/commentcopd-severity-differs-by-severity-system-used-5852521/

[8] Blanchette et al., *Rising Costs of COPD and the Potential for Maintenance Therapy to Slow the Trend*, American Health and Drug Benefits, Vol. 7, No. 2 (April 2014) http://www.ahdbonline.com/issues/2014/april-2014-vol-7-no-2/1739-rising-costs-of-copd-and-the-potential-for-maintenance-therapy-to-slow-the-trend

- diabetes
- depression
- other potential comorbidities, including osteoporosis; anxiety; sleep apnea; rheumatic disease; cancer; rhinitis; stroke; dementia and anemia.[9]

This means that exacerbations could and often do involve one or more of those comorbidities. Medicare not only pays for the cost of treating COPD and comorbidity exacerbations but also typically ends up paying for the supplemental oxygen therapy it initially failed to provide. The cost to treat COPD exacerbations dramatically exceeds the cost of the DME that could have avoided the exacerbation in the first place.[10]

- In 2017, approximately 16.3 million U.S. adults were diagnosed with COPD[11]
- 6.1 million of those diagnosed were age 65 or over[12]
- Between 1.2 to 2.6 million Medicare beneficiaries suffer from severe COPD[13]

The cost of treating COPD for Medicare beneficiaries is substantial.

- In the year following an exacerbation, the incremental cost of treating COPD-related issues for Medicare beneficiaries with severe exacerbations is $14,350.[14]

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[9] Ställberg et al., *The prevalence of comorbidities in COPD patients, and their impact on health status and COPD symptoms in primary care patients: a protocol for an UNLOCK study from the IPCRG*, npj Primary Care Respiratory Medicine, Volume 26, Article #: 16069 (2016) https://www.nature.com/articles/npjpcrm201669

[10] Leitten, *The Case for Medicare Investment in DME – 2014 Update*, http://www.vgmdclink.com/uploads/Document-Library/d1306dfcd9db67830ba14d4cd5b3be8c.pdf

[11] *Employment and Activity Limitations Among Adults with Chronic Obstructive Pulmonary Disease — United States, 2013*, Morbidity and Mortality Weekly Report, CDC (March 27, 2016) https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6411a1.htm, adjusted for population growth by the author

[12] Ford et al., *COPD Surveillance—United States, 1999-2011*, Table 1, Chest Journal, Vol. 144, Issue 1, pp. 284-305 (2013) https://journal.chestnet.org/article/S0012-3692(13)60478-X/fulltext , adjusted to 2017 using CMS population data

[13] Id., applying the severity distributions set out in *COPD severity differs by severity system used*, GlobalData Healthcare (2017) https://www.pharmaceutical-technology.com/comment/commentcopd-severity-differs-by-severity-system-used-5852521/

[14] Pasquale et al., *Impact of exacerbations on health care cost and resource utilization in chronic obstructive pulmonary disease patients with chronic bronchitis from a predominantly Medicare population*, Int J Chron Obstruct Pulmon Dis., 7: 757–764 (2012), adjusted by the author to 2017 dollars using Healthcare CPI data. This cost result can be duplicated using the COPD Cost Calculator provided by the COPD Foundation, adjusted for exacerbation severity, CPI data and private pay to Medicare cost comparisons. See https://www.copdfoundation.org/pdfs/COPD-Calculator.xls and *An Analysis of Hospital Prices for Commercial and Medicare Advantage Plans*, Congressional Budget Office (2017) https://www.cbo.gov/system/files/115th-congress-2017-2018/presentation/52819-presentation.pdf. Another study suggests that this cost could be higher, in excess of $15,000, Hilleman et al., *Pharmacoeconomic evaluation of COPD*, Chest, Nov. 118(5):1278-85, (2000) https://journal.chestnet.org/article/S0012-3692(15)51198-7/abstract and Guarascio et al., *The clinical and economic burden of chronic obstructive pulmonary disease in the USA*, Clinicoecon Outcomes Res. 5: 235–245,

- The total incremental healthcare costs for these beneficiaries in the same period is $39,601.[15]

These costs are determined by subtracting the cost of treating COPD-related issues for beneficiaries with no exacerbations from the cost of treating those with one or more severe exacerbations. The same process is applied to overall healthcare costs for beneficiaries. The differential costs were then converted to 2017 dollars.[16]

"In the year following a severe COPD exacerbation, the expected cost shift in Medicare payments to treat COPD-related issues because Medicare fails to provide or delays in providing needed supplemental oxygen therapy is approximately $14,350."

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"The total incremental Medicare cost for these beneficiaries in the same year is $39,601."

(2013) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3694800/, also adjusted by the author to 2017 dollars using Healthcare CPI data

[15] Id.

[16] See Note 14, Pasquale et al.

MEDICARE COST SHIFTING

MEDICARE COST SHIFTING WHEN DME IS DELAYED/NOT PROVIDED RESULTING IN A COPD EXACERBATION

U.S. ADULTS WITH COPD: 16.3 MILLION[11]

SENIORS WITH COPD: 6.1 MILLION[12]

SENIORS WITH SEVERE COPD: 1.2 - 2.6 MILLION[13]

TOTAL U.S. SPENDING ON COPD TREATMENT: 100 BILLION[5]

MEDICARE COPD SPENDING: 38.6 BILLION[6]

MEDICARE COST SHIFT PER BENEFICIARY TO TREAT COPD ISSUES AFTER SEVERE EXACERBATION[14] **$14,350**

MEDICARE COST SHIFT PER BENEFICIARY FOR TOTAL HEALTH CARE COSTS AFTER SEVERE COPD EXACERBATION **$39,601**

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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 1st Monograph addressed Falls and Mobility DME. The 2nd monograph addressed Chronic Obstructive Pulmonary Disease (COPD) and supplemental oxygen therapy.

When Medicare implemented the DMEPOS[1] 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.

[1] DMEPOS is an acronym for Durable Medical Equipment; Prosthetics; 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.[2] It is estimated that 40 Million people in the United States suffer with OSA – *approximately 30 Million remain undiagnosed*.[3] 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.[4] Of the approximately 30 million undiagnosed OSA sufferers, over 8.4 million are age 65 or over.[5]

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

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

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[2] *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

[3] *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.

[4] *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.

[5] Prevalence estimates in Note 6 applied to U.S. undiagnosed OSA population.

[6] 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

[7] 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.smrv-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.[8] 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.[9] 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[10], 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.[11]

In the year following an exacerbation, the incremental cost of treating OSA-related health issues for Medicare beneficiaries is $1,631.[12] 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.[13]

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

[9] *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

[10] Id.

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

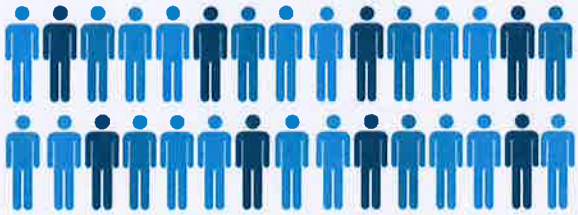
[12] See Note 7.

[13] 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)[3]



SENIORS WITH OSA: 8.4 MILLION[5]

TOTAL U.S. SPENDING ON OSA TREATMENT[6]
$170.1 BILLION

MEDICARE OSA SPENDING[7]
$13.7 BILLION

MEDICARE COST SHIFT PER BENEFICIARY TO TREAT OSA ISSUES FOR UNDIAGNOSED BENEFICIARIES: **$1,631**