

Analysis of the Cost of Providing Durable Medical Equipment to the Medicare Population

Measuring the Impact of Competitive Bidding

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Executive Summary

About the Study

The Centers for Medicare and Medicaid Services (CMS) established a competitive bidding (CB) program in 2003 for Medicare Part B durable medical equipment, prosthetics, orthotics and supplies (DMEPOS). The purpose of the program is to facilitate the setting of prices through allotting contracts for the rights to supply DMEPOS to Medicare beneficiaries within competitive bid areas (CBA). It was anticipated that CB could save Medicare money if successfully and properly implemented.

In practice, the CB program has been controversial. Detractors argue that the CB process by design produces payments that lack transparency and do not support providers' acquisition, service, and distribution costs,^{1,2} often resulting in reduced efficiency.³ If so, large segments of the industry are financially vulnerable, as are Medicare beneficiaries. However, at this point in time, CMS contends that the CB process meets its objectives.

This paper presents an analysis of the costs incurred by providers of DMEPOS in providing equipment and associated services to the Medicare beneficiary population as gathered through a survey effort. It further compares these costs to current payments under the CB program as calculated using the weighted average Medicare reimbursement per unit. The study was commissioned by the American Association for Homecare (AAHomecare) in order to inform policy makers of the financial consequences of the CB process to the Medicare DMEPOS provider community and ultimately, to the Medicare beneficiary. The

¹ Cramton, P. et al. "Letter from 167 Concerned Auction Experts on Medicare Competitive Bidding Program." Received by Pete Stark, 26 Sept. 2010. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

² Cramton, P. et al. "Letter from 244 Concerned Auction Experts on Medicare Competitive Bidding Program." Received by Barack Obama, 17 June 2011. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/further-comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

³ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

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results of the study indicate that Medicare payments under CB do not cover providers' costs and may threaten beneficiary access and service quality, particularly in rural areas.

Competitive Bidding

The CB process requires DMEPOS providers to submit bids for selected products from specific product categories. The criteria for winning a bid are price, meeting the applicable quality standards, and meeting organizational financial standards. Winning providers who accept contracts from CMS are required to accept all requests from Medicare beneficiaries for bid items and are reimbursed at the price determined by the auction. The price is derived from the median of all winning bids for an item in a CBA.⁴

Importantly, bidders are not aware of the prices bid by others. Since the auction is non-transparent with an “essentially arbitrary set of vendors,” the resultant price is non-competitively determined from a marketplace perspective.⁵ The literature on CB, as summarized in our full report, suggests that the process contains design flaws, some of which have encouraged bidders to submit low bids that can lead to reimbursement levels which do not cover actual costs. The theoretical research contends that CMS' use of the median-pricing auction with nonbinding bids may not be the most efficient or effective methodology for pricing DMEPOS.⁶ According to a recently published study, the median pricing system is “likely [to] result in supply shortages, diminished quality and service to Medicare beneficiaries, and an increase in long-term total cost.”⁷ Thus, there is extensive controversy surrounding the CB process and its ultimate effect on both providers and Medicare beneficiaries. This study seeks to obtain and provide information on the extent to which CB has led to reimbursement levels that are below providers' cost.

Methodology

In order to determine the cost of providing DMEPOS to Medicare beneficiaries, our analytic methodology comprised four steps: 1) creation of a technical advisory panel (TAP) to assist in the design of the cost survey; 2) development of the cost survey instrument to capture the costs of supplying DMEPOS; 3) administration of the cost survey with ongoing technical assistance to respondents; and 4) analysis of the costs of providing DMEPOS to

⁴ Centers for Medicare and Medicaid Services. (2012). Overview of the DMEPOS Competitive Bidding Program. Retrieved from <http://www.dmecompetitivebid.com/palmetto/cbic.nsf/vMasterDID/79NTSG0132>

⁵ Tozzi, J. and Levinson, B. (2012). The Need for a Clinical Trial of CMS' Competitive Bidding Program for Durable Medical Equipment. The Center for Regulatory Effectiveness. Washington, DC.

⁶ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). “Designed to Fail: The Medicare Auction for Durable Medical Equipment.” *Economic Inquiry*, 53(1), 469-485.

⁷ *Ibid.*

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Medicare beneficiaries as gathered from the survey in comparison to Medicare reimbursement.

The relationship between product cost and this average reimbursement, or the percent of costs covered, is the focus of our analysis. The total cost of providing a given product was calculated as the sum of 1) the cost of goods, 2) the indirect costs allocated to the product category, and 3) the direct costs allocated to the product category.

Study Findings

1. The survey was distributed via Survey Monkey and made available on the AAHomecare website. The distribution list included, but was not limited to, members of AAHomecare. Completed surveys were obtained from 27 respondents. Survey respondents represent 12.7% of the Medicare expenditures for the HCPCS surveyed.
2. We believe that the survey results are generally representative of industry costs. If anything, firms that were able to complete the survey are highly sophisticated in cost accounting and are, therefore, likely to have a lower cost structure than the industry as a whole.
3. On average, all DMEPOS HCPCS included in the survey were reimbursed at 88% of overall cost, which is considerably below costs. The median percent of costs covered for each DMEPOS product category under study is presented below.

Exhibit ES-1: Percent of Costs Covered by Medicare

DMEPOS Product	Median Percent of Costs Covered
Standard Beds	69.58%
Heavy Duty Beds	90.35%
Liquid Oxygen	86.91%
All Other Oxygen	94.60%
BiPAP with Supplies	91.52%
CPAP with Supplies	67.83%
Walkers	83.88%
Lightweight Wheelchairs with Elevating Leg Rests	82.72%
Lightweight Wheelchairs with Footrests	82.79%
Standard Wheelchairs with Elevating Leg Rests	80.55%
Standard Wheelchairs with Footrests	71.35%
All Products Overall	87.68%

Source: Dobson | Davanzo DMEPOS Cost Survey

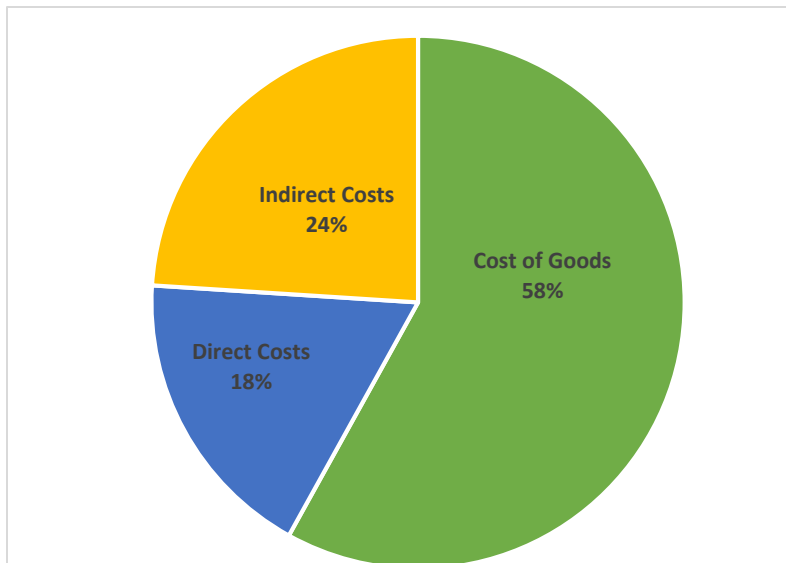
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4. Of interest is the consistency of findings across providers, regardless of size, and across DMEPOS products (not shown in ES-1), in that the resultant payment-to-cost ratios calculated are typically well below 100 percent. This suggests that respondents who were able to complete the survey did so in a consistent fashion with highly consistent results.

5. The cost of goods alone, while important, does not comprise the overall cost of providing care. As shown in Exhibit 2, the cost of goods accounts for just over half of the overall cost of providing DMEPOS to Medicare beneficiaries. For the bona fide bid process, providers are only asked to provide an invoice showing that they can purchase the product at a cost below the bid price.⁸ Other operational costs, which account for 42 percent of overall costs, are not evaluated in the bid process.

- CB prices must cover all costs, not just the cost of goods.
- Products must be delivered and consumers educated in their use.
- These activities require corporate infrastructure and significant labor input.
- Eventually, competitive bids that only cover the cost of goods are incomplete indicators of CB's adequacy.

Exhibit ES-2: Breakdown of the Cost of Providing DMEPOS to Medicare Beneficiaries



Source: Dobson | Davanzo DMEPOS Cost Survey

⁸ 72 Fed. Reg. 18047, Tuesday, April 10, 2007.

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6. Our survey results do not reflect consistent scale; both large and small providers show relatively low payment-to-cost ratios.
7. Quality of service in rural areas is particularly threatened as there appears to be little opportunity to cover inadequate payments. This is because rural areas do not have the population density to win exclusive contracts, or make up for the revenue cost differential through volume. Anecdotal evidence suggests that even large companies are limiting services to rural areas by closing rural locations, limiting service areas, and/or offering fewer deliveries per month.
8. Our data suggest that there is very little room to cost-shift since public payers (Medicare and Medicaid) represent 45 percent of industry revenues and Medicaid payments have begun to fall in line with CB reimbursement. The omnibus bill passed in late December of last year (PL 114-113) contained a provision that will limit the federal portion of Medicaid reimbursement for CB items to CB prices starting January 1, 2019. While this does not require states to lower the overall reimbursement rate for DMEPOS, the state would be responsible for making up the payment difference. Additionally, in the private sector, many commercial and Medicare Advantage payers are reimbursing at or below Medicare CB payment rates, and TRICARE follows the discount Medicare fee schedule. This means that providers of DMEPOS have little opportunity to cost-shift and recover revenue lost from public payers.
9. The consistency of our findings indicates that the current CB process is financially unsustainable.
10. The CB process is fundamentally flawed in that CMS is currently paying the industry far less than the total costs incurred in providing DMEPOS goods and services to Medicare beneficiaries.
11. The CB process does not seem to produce competitive market prices for goods or services.
12. The literature, as summarized in our full report, indicates that this may be due to the way the CB process is designed.
13. Given the design of the current CB system, there is no reason to assume that the process is sustainable in the long run for a large part of the industry. If Congress and/or

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CMS wish to see a sustainable industry, the public policy process may need to reconcile key aspects of CB as recommended in the Cramton report.⁹

Conclusion

The CB process has been controversial in its implementation, with detractors arguing that, by design, reimbursement resulting from CB does not cover providers' costs. The results of this survey demonstrate that CB is likely to be endangering the stability of the DMEPOS market upon which millions of Medicare beneficiaries rely. This instability is a result of Medicare payments that are at levels consistently below the cost of supplying DMEPOS. These findings are consistent across the providers who completed the survey.

Two key areas which demonstrate problems with the construction of the CB bid process are that:

- The bidding process is non-transparent and does not encourage bidders to include all costs in their bids. These factors lead to the reimbursement failures seen in the survey.
- CMS only considers the cost of goods when ensuring that no contracts are awarded below cost. CMS does not take into account all of the other costs that go into supplying DMEPOS to Medicare beneficiaries. This is insufficient to ensure that providers are not bidding in ways that are harmful to the stability of the market.

The CB process produces an auction that is not designed to reveal actual prices, and payments therefore drop below costs. There are three options that providers can take when payments are lower than costs: (1) make gains in efficiency; (2) implement cuts (which harms quality); or (3) go out of business. This survey shows that gains in efficiency have not yet reduced costs to bid prices.¹⁰ Additionally, size does not matter, and big companies cannot successfully supply DMEPOS to all Medicare beneficiaries, especially in rural areas. Our study indicates that while large firms sometimes show more favorable payment to cost ratios, this is not true across all product categories. Few product categories thus far have allowed for costs to be recovered through volume. Additionally, there is little opportunity for DMEPOS providers to shift costs from Medicare to other payers.

The fact that, under CB, the median cost coverage under Medicare is often substantially below break-even is highly problematic for the DMEPOS industry and for Medicare beneficiaries. These low reimbursement rates may ultimately force some providers out of

⁹ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

¹⁰ Hayford, T., Nelson, L. & Diorio, A. (2016). *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios* (Working Paper Series 2016-04). Washington, DC: Congressional Budget Office.

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business. Other providers will have to raise prices or downsize operations, leading to a decrease in access to and quality of care for all patients. Overall, the CB program has the potential to significantly impact beneficiary access to needed equipment and harm the DMEPOS industry as a whole. Congress and CMS should consider changes to the CB process in order to have a stable and sustainable DMEPOS system.

Introduction

Upon enactment of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003, the Centers for Medicare and Medicaid Services (CMS) established a competitive bidding (CB) program for Medicare Part B durable medical equipment, prosthetics, orthotics and supplies (DMEPOS), which is defined as medical equipment that may be reused (e.g. hospital beds, walkers, respiratory equipment).¹¹ The MMA was enacted following demonstrations from 1999-2002 resulting from the Balanced Budget Act of 1997 and showing that competitive bidding could reduce Medicare expenditures. The purpose of the program is to facilitate the setting of prices through allotting contracts for the rights to supply these products to Medicare beneficiaries within competitive bid areas (CBA). It was anticipated that competitive bidding could save Medicare money if successfully and properly implemented, as DMEPOS costs, which represent approximately 1.25 percent of Medicare spending,¹² are continuing to rise. According to a report by the Government Accountability Office published in 2011, competitive bidding at 2011 rates could have saved home oxygen payers as much as \$700 million, which is consistent with the 1999-2002 demonstrations.¹³

The stated goals of the CB program for DMEPOS are to:

- assure Medicare beneficiaries access to quality DMEPOS products and services;
- reduce the amount Medicare pays for DMEPOS under a payment structure that is reflective of a competitive market;
- limit the financial burden on beneficiaries by reducing out-of-pocket expenses, and;

¹¹ Centers for Medicare & Medicaid Services. Medicare Coverage of Durable Medical Equipment and Other Devices [PDF document]. Retrieved from <https://www.medicare.gov/Pubs/pdf/11045.pdf>

¹² American Association for Homecare. Durable Medical Equipment (DME) Represents Approximately 1.25% of Medicare Spending [PDF document]. Retrieved from https://s3.amazonaws.com/aafh/downloads/458/Medicare_Spending_Chart_01_16.pdf

¹³ United States Government Accountability Office. (January 2011). MEDICARE HOME OXYGEN: Refining Payment Methodology Has Potential to Lower Program and Beneficiary Spending [PDF document]. Retrieved from <http://www.gao.gov/products/GAO-11-56>

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- contract with providers that conduct business in a manner that is beneficial for the program and its beneficiaries.¹⁴

In practice, the CB program has been somewhat controversial. Detractors argue that the CB process by design produces payments that lack transparency and do not support providers' acquisition, service, and distribution costs,^{15,16} often resulting in reduced efficiency.¹⁷ If so, large segments of the industry are financially vulnerable. However, at this point in time, CMS contends that the CB process meets its objectives.

This paper presents an analysis of the costs incurred by providers of DMEPOS in providing equipment and associated services to the Medicare beneficiary population as gathered through a survey effort. It further compares these costs to current payments under the CB program as calculated using the weighted average Medicare reimbursement per unit. The study was commissioned by the American Association for Homecare (AAHomecare) in order to inform policy makers of the financial consequences of the CB process to the Medicare DMEPOS provider community and ultimately, to the Medicare beneficiary. The results of the study indicate that by in large, Medicare payments and CB do not cover providers' costs and may threaten beneficiary access and service quality, particularly in rural areas.

¹⁴ Centers for Medicare and Medicaid Services. (2007). 42 CFR Parts 411 and 424 | Medicare Program; Competitive Acquisition for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) and Other Issues; Final Rule. (Federal Register, Vol. 72, No. 68). Washington, DC.

¹⁵ Cramton, P. et al. "Letter from 167 Concerned Auction Experts on Medicare Competitive Bidding Program." Received by Pete Stark, 26 Sept. 2010. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

¹⁶ Cramton, P. et al. "Letter from 244 Concerned Auction Experts on Medicare Competitive Bidding Program." Received by Barack Obama, 17 June 2011. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/further-comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

¹⁷ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

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The Medicare Competitive Bidding Process

The competitive bidding process is directed toward DMEPOS providers who operate in a particular CBA and ultimately, the entire U.S. market. The process requires providers to submit bids for selected products from specific product categories. The submitted bids are evaluated based on the provider's eligibility, financial stability and bid price. The criteria for winning a bid are price, meeting the applicable quality standards, and meeting financial standards. These last two criteria are set to ensure that winning providers have the ability to fulfill the DMEPOS orders for all products that may result from winning a contract.

Winning providers who accept contracts from CMS are required to accept all requests from Medicare beneficiaries for bid items and will be reimbursed at the price determined by the auction. The amount is derived from the median of all winning bids for an item in a CBA.¹⁸

Under CB, prices are determined based on the "lead" product cost for each category. The lead product is the one with the greatest Medicare dollar volume. Other items within a product category are price-adjusted based on a relative price index for each individual item within the category (e.g. 30% of walker overall cost for walker replacement parts). The price index is based on bidder reports made during a qualification stage. No payment distinction is made between mail-order and retail products. Thus, product prices are separated by category and use, rather than by the method of warehousing and delivery.¹⁹

The CB program covers eight product categories: enteral nutrition; general home medical equipment including hospital beds; commode chairs; nebulizers and supplies; negative pressure wound therapy; respiratory equipment including oxygen and sleep therapy; standard mobility including walkers; standard power and manual wheelchairs; and

¹⁸ Centers for Medicare and Medicaid Services. (2012). Overview of the DMEPOS Competitive Bidding Program. Retrieved from <http://www.dmecompetitivebid.com/palmetto/cbic.nsf/vMasterDID/79NTSG0132>

¹⁹ Cramton, P. Auction Design for Medicare Durable Medical Equipment [PDF document]. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/cramton-auction-design-for-medicare.pdf>

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transcutaneous electrical nerve stimulation (TENS) units. Each category includes a specific number of products covered by the CB contracting process. CB providers must be accredited by an approved organization, be licensed by the state in which they supply beneficiaries, and must produce their products in accordance with specifications outlined by CMS.²⁰ Contract providers must furnish all items in the product category under contract to any beneficiary who maintains permanent residence within or visits the respective CBA. Providers cannot discriminate against Medicare beneficiaries.²¹

The CB program utilizes composite bids in order to determine the overall bid contract price, where an average of bids across products is weighted by government-estimated demand. CMS selects winners based on the lowest composite bid until the total capacity of winners satisfies the estimated demand.²² Small providers must be represented in winning bids; therefore, CMS ensures that 30% of each competition's winning bids are offered to small providers. If that threshold were not met, then additional small providers would be offered contracts without changes to the CB amount.²³

Legislation regarding CB was recently changed to make bids binding commitments; however, this will not be implemented until some period between 2017 and 2019. As such, bids currently in place are non-binding, which means that bidders may decline to sign a supply contract following the auction. This is thought to encourage low bids and a form of bidding known as "suicide bidding," in which DMEPOS companies will take substantial losses on specific items in order to retain high market share within the CBA. Low bidding is currently an effective bidding strategy because these bids have a negligible impact on the eventual price paid, due to the way CB prices are derived from the median of all winning bids.

By definition, through this median bid pricing, half of the winning bidders will be awarded contracts at prices higher than their bids. This may encourage low bids because bidders may simply bid low on products that are not as important to their business, driving down their composite bid and increasing the odds of receiving a contract.²⁴ It may also result in

²⁰ O'Roark, B. and Foreman, S. (2008). The Impact of Competitive Bidding on the Market for DME. *Pennsylvania Association of Medical Providers*. Mechanicsburg, PA.

²¹ Centers for Medicare and Medicaid Services. (2014). Contract Provider Obligations. Retrieved from [http://www.dmecompetitivebid.com/Palmetto/Cbicrd2Recompete.Nsf/files/23_Fact_Sheet_Contract_Provider_Obligations.pdf/\\$File/23_Fact_Sheet_Contract_Provider_Obligations.pdf](http://www.dmecompetitivebid.com/Palmetto/Cbicrd2Recompete.Nsf/files/23_Fact_Sheet_Contract_Provider_Obligations.pdf/$File/23_Fact_Sheet_Contract_Provider_Obligations.pdf)

²² Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

²³ (2011). Report to Congress: Evaluation of the National Competitive Bidding Program for Durable Medical Equipment, Prosthetics, Orthotics, and Supplies. U.S. Department of Health and Human Services. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Reports/downloads/DHHS_DME_RTC_August_2011.pdf

²⁴ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

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what some critics have referred to as “market failure in theory and partial market failure in the lab” due to the “wide range of prices” not associated with competitive market prices.²⁵

Importantly, the process is a “sealed-bid auction;” bidders are not aware of the prices bid by others. Since the auction is non-transparent with an “essentially arbitrary set of vendors,” the resultant price is non-competitively determined from a marketplace perspective.

According to the 2007 Final Rule for the Competitive Acquisition for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) and Other Issues, CMS “will be evaluating bids to ensure that they are bona fide, and we may request that a provider submit additional financial information, such as manufacturer invoices, so that we can verify that the provider can provide the product to the beneficiary for the bid amount. If we conclude that a bid is not bona fide, we will eliminate the bid from consideration.”²⁶

However, CMS only considers the cost of goods, as verified by manufacturer invoices, when ensuring that no contracts are given out below cost and does not necessarily take into account other costs that go into supplying DMEPOS to Medicare beneficiaries. As such, low bids are not fully vetted or disqualified in the CB process.²⁷

Several considerations and limitations of CB have been reported. The majority of existing providers by volume did not win a contract in their respective region and product category in the first round of rebidding,²⁸ and 34% of the Medicare bid program contractors were not financially secure.²⁹ This latter consideration is due in part to the issue of incomplete and inaccurate licensure data. The CMS CB program used data that did not reflect state licensure program requirements, so some providers that were not licensed with the state and/or were not licensed for specific product categories were awarded contracts. States are not legally required to report licensing information to CMS contractors running the bidding process, and the requirements for licensure may change frequently and be interpreted differently by the state and the provider.³⁰

However, bid prices are not recalculated if ineligible providers who were offered a contract and whose prices helped determine the payment amount are found not to meet the criteria

²⁵ Cramton, P. et al. “Letter from 244 Concerned Auction Experts on Medicare Competitive Bidding Program.” Received by Barack Obama, 17 June 2011. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/further-comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

²⁶ 72 Fed. Reg. 18047, Tuesday, April 10, 2007.

²⁷ Tozzi, J. and Levinson, B. (2012). The Need for a Clinical Trial of CMS’ Competitive Bidding Program for Durable Medical Equipment. The Center for Regulatory Effectiveness. Washington, DC.

²⁸ Cramton, P. (2011). “Medicare Auction Failure: Early Evidence from the Round 1 Rebid.” Retrieved from <http://www.cramton.umd.edu/papers2010-2014/cramton-change-in-market-structure-from-rebid.pdf>

²⁹ Invacare. (2010). 34 Percent Medicare HME Bid Program Contractors Are Not Financially Viable.

³⁰ Department of Health and Human Services, Office of Inspector General. (2016). Incomplete and Inaccurate Licensure Data Allowed Some Providers in Round 2 of the Durable Medical Equipment Competitive Bidding Program That Did Not Have Required Licenses. Retrieved from <https://oig.hhs.gov/oas/reports/region5/51300047.asp>

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for the bid, or if providers ultimately decline a contract. Cost analysis for Medicare DMEPOS prior to CB demonstrated that only a quarter of the cost of DMEPOS is used in the actual acquisition of the item; the majority of the financial burden is in corporate business expenses, delivery, warehousing, documentation, and customer intake/interaction.³¹

The above discussion suggests that the CB process may contain design flaws, some of which have encouraged bidders to submit low bids that can ultimately lead to reimbursement levels which do not cover actual costs or cover the cost of lower quality products. By design, payment to cost ratios considerably less than 1.0, which occur when reimbursement levels are less than cost, will disadvantage and crowd out some competitors, and more likely smaller competitors, “threatening the viability” of small businesses.³² We have also found that larger providers find delivery in rural areas problematic as well.

However, some providers may provide certain products at prices less than cost in the hope that the provision of other products can cross subsidize those loss leaders. This can improve a provider’s competitive position in the marketplace, as beneficiaries are more likely to purchase durable medical equipment from the same provider if that provider stocks a wide variety of products than they are to price compare and purchase from multiple providers. However, the premise that winning bidders may see increased business due to expanding market share is not necessarily applicable to providers in rural areas, as these locations do not hold the capacity for increased business or an expanding client base. Although rural providers are given a 10 percent positive price adjustment to account for location, there is no way for rural providers to offset prices less than cost. This holds true for both large and small providers.

Small businesses are also heavily affected by the pattern of low bids within the Medicare CB process. As winning bids potentially become lower due to the median pricing option, small businesses are more likely to be squeezed out in CMS’ drive for more and more – and eventually unsustainable – efficiency.³³ The DMEPOS supply industry may respond to this drive for efficiency, but often at the cost of financial viability, particularly for small businesses and rural providers.³⁴ Only so many savings and cuts in pursuit of efficiency may occur before that drive impedes business and beneficiary access. Providers may be forced to reduce care and services or cease operations. If small providers are forced to close

³¹ Cramton, P. Auction Design for Medicare Durable Medical Equipment [PDF document]. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/cramton-auction-design-for-medicare.pdf>

³² Austin, A. “NFIB Letter of Support HR 5210.” Received by Tim Price, 16 May 2016. Retrieved from https://s3.amazonaws.com/aafh/downloads/901/NFIB_Letter_of_Support_HR_5210_05_23_16.pdf?1464719426

³³ Ibid.

³⁴ Hayford, T., Nelson, L. & Diorio, A. (2016). *Projecting Hospitals’ Profit Margins Under Several Illustrative Scenarios* (Working Paper Series 2016-04). Washington, DC: Congressional Budget Office.

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in areas not supplied by larger providers, access to care could be impacted for Medicare beneficiaries. This is especially important in those rural areas that rely on small business providers.³⁵ Thus, while the CB process likely reduces Medicare DMEPOS payments, it could also reduce the quality of and beneficiary access to DMEPOS products and associated services.

The theoretical research contends that CMS' use of the median-pricing auction with nonbinding bids may not be the most efficient or effective methodology for sustainably pricing DMEPOS. According to a recently published study, the median pricing system is "likely [to] result in supply shortages, diminished quality and service to Medicare beneficiaries, and an increase in long-term total cost."³⁶ Additionally, a recent paper from Cramton, Ellermeyer and Katzman concludes that the median-price auction creates both quantity and allocation inefficiencies. The former occurs as demand is unfulfilled as some winning bidders face a price less than their costs, resulting in winners refusing to supply the product or supplying an insufficient number of units. There may be an "insufficient supply" to meet demand. Providers may bid low on products where CMS overestimated demand and bid higher where CMS underestimated demand; if so, the prices for individual products may not be closely related to costs.³⁷ The use of the median-pricing auction with nonbinding bids, and consequent use of low bidding for specific products by some providers, also creates allocation inefficiencies. While economic theory suggests that providers with the lowest costs will always submit the lowest bids, the use of low bidding can lead to outcomes where contract winners have higher costs than providers who do not receive contracts.³⁸ The authors suggest that moving from a median-bid auction to a more established procedure, such as a clearing-price auction with binding bids, could eliminate these inefficiencies. The experimental work of Merlob, Plott, and Zhang corroborates this theory.³⁹

In summary, there is extensive controversy surrounding the CB process and its ultimate effect on both providers and Medicare beneficiaries. This study seeks to obtain and provide information on the extent to which CB has led to reimbursement levels that are below providers' cost.

³⁵ ITEM Coalition. "Disability Community Support for the Patient Access to Durable Medical Equipment Act of 2016 (PADME), H.R. 5210." Received by Paul Ryan and Nancy Pelosi. Retrieved from https://s3.amazonaws.com/aafh/downloads/899/ITEM_Coalition_Endorsement_HR_5210_Letter_05_25_16.pdf

³⁶ Ibid.

³⁷ Cramton, P. et al. "Letter from 167 Concerned Auction Experts on Medicare Competitive Bidding Program." Received by Pete Stark, 26 Sept. 2010. Retrieved from <http://www.cramton.umd.edu/papers2010-2014/comments-of-concerned-auction-experts-on-medicare-bidding.pdf>

³⁸ Cramton, P., Ellermeyer, S., and Katzman, B. (2015). "Designed to Fail: The Medicare Auction for Durable Medical Equipment." *Economic Inquiry*, 53(1), 469-485.

³⁹ Merlob, B., C. R. Plott, and Y. Zhang. "The CMS Auction: Experimental Studies of a Median-Bid Procurement Auction with Non-Binding Bids." *Quarterly Journal of Economics*, 127, 2012, 793-827.

Methodology

Our Approach

Dobson | DaVanzo conducted a survey of DMEPOS providers in order to determine the costs of providing DMEPOS to Medicare beneficiaries. These costs were then compared to the average reimbursement provided by Medicare using the July 1, 2016 fee schedule. The survey collected data on utilization and costs for select DMEPOS products from the Healthcare Common Procedure Coding System (HCPCS), as well as company-overall and product-specific processing and delivery times. Provider operating data, including revenue and direct and indirect costs, were collected in the aggregate for each provider. The survey collected DMEPOS utilization data from calendar year 2015.

In order to determine the cost of providing DMEPOS to Medicare beneficiaries, our analytic methodology comprised four steps: 1) creation of a technical advisory panel (TAP) to assist in the design of the cost survey; 2) development of the cost survey instrument to capture the costs of supplying DMEPOS; 3) administration of the cost survey with ongoing technical assistance to respondents; and 4) analysis of the costs of providing DMEPOS to Medicare beneficiaries as gathered from the survey in comparison to Medicare reimbursement.

Creation of a Technical Advisory Panel (TAP)

DMEPOS financial experts were selected by AAHomecare to participate in a TAP to help develop and revise the survey instrument that was used to capture provider costs. The TAP convened several times during the initial stages of the project in order to utilize members' expertise in identifying concepts key to obtaining the cost of providing DMEPOS at the HCPCS unit level and to develop an effective survey instrument. Because it would not be possible to examine all types of DMEPOS in this study, the TAP assisted in identifying a representative sample of DMEPOS products to be included on the survey. A list of 18 HCPCS codes, representing 5 primary categories of DMEPOS, was developed. These categories, with subcategories, are presented in Exhibit 1 below.

Exhibit 1. Durable Medical Equipment from the Healthcare Common Procedure Coding System Included in the Study

DMEPOS Category	HCPCS Code	Description
Beds	E0260	Semi Electric Hospital Bed with Mattress and Rails
	E0303	Heavy Duty Hospital Bed with Mattress and Rails
Oxygen	E0431	Portable Gaseous Oxygen System
	E0434	Liquid Portable
	E0439	Liquid Stationary
	E1390	Oxygen Concentrator
	E1392	Portable Oxygen Concentrator
	K0738	Homefill Compressor
	Sleep	A7034
A7035		Headgear
A7038		Disposable Filter
E0470		Bilevel Positive Airway Pressure (BiPAP) Device
E0562		Heated Humidifier
E0601		Continuous Positive Airway Pressure (CPAP) Device
Walkers	E0143	Folding Walker with Wheels
Wheelchairs	K0001	Standard Wheelchair
	K0003	Lightweight Wheelchair
	K0195	Elevating Leg Rests

Development of the Cost Survey Instrument

In developing the cost survey instrument, Dobson | DaVanzo worked with the TAP to identify the components of care comprising the cost of providing DMEPOS in each product category. A major element of cost is the “cost of goods,” or how much each piece of DMEPOS costs the provider to acquire. In addition, there are a number of business costs that are not captured in the cost of goods that must also be considered. These costs comprise direct and indirect cost categories. A direct cost is associated with a person or function that is directly involved with providing the service, such as the driver who delivers the DMEPOS item to a patient or the technician who trains the patient on how to use it. An example of an indirect cost is the salaries for people who perform the clerical and billing functions of the organization. In the survey, direct and indirect costs were collected by cost category, as determined by the TAP.

The categories for direct costs collected in the survey are:

- Operations/Warehouse
- Program Management
- Referral and Sales Support
- Document Management
- Call Centers
- Logistics and Delivery
- Bad Debt Expense
- Other

Indirect cost categories include:

- Salaries, Wages, and Benefits for Indirect Employees
- General & Administrative
- Building
- Capital
- Transportation
- Fees and Licensure
- Sales and Marketing
- Other

With the assistance of the TAP, Dobson | DaVanzo next identified several additional factors related to providing care and service to Medicare beneficiaries that impact the cost of providing DMEPOS. These factors include the amount of time spent processing and delivering orders, the average number of times per month a beneficiary receives care or supplies from the DMEPOS provider, and the average number of months that a beneficiary is considered to be under care for a given DMEPOS product. These estimates were used to better match costs to payments. DMEPOS provision is a complex endeavor which requires detailed cost mapping.

Design of the Survey Instrument

The survey instrument contains three sections: 1) provider-specific operating information, including revenue and direct and indirect costs; 2) the cost of goods for each specific HCPCS code and the units provided in calendar year 2015; and 3) the average number of months a Medicare beneficiary is under care, as well as the average number of deliveries and processing time for each HCPCS product category.

Respondents were first asked to provide information on provider-specific operating characteristics. These questions captured revenue data including total revenue and revenue by payer category (Medicare, Medicaid, Managed Care/Medicare Advantage/Third Party, Private Payer). Additionally, this section captured total direct costs (excluding cost of goods), direct costs by cost category, and indirect costs. For ease of completion, survey respondents were asked to provide an aggregate total for indirect costs. They were also asked to provide an allocation percentage for this total to each indirect cost category using corporate accounting principles.

The second section of the survey asked respondents to provide their cost of goods for each HCPCS code, as well as the number of units provided for Medicare beneficiaries over the last fiscal year. The third section of the survey captured the organization's number of setups, average delivery and processing times, the number of deliveries per patient per month, and average number of months a patient is under care for a given DMEPOS product category. This information was captured overall, for all payers and across all product categories, and then requested for Medicare beneficiaries by specific product category. This information was used to calculate the cost of providing each product under study. The complete survey instrument, which was designed in Microsoft Excel, can be seen in Appendix A.

Administration of the Cost Survey

Once the survey instrument was finalized, it was distributed to 609 DMEPOS providers across the nation using Survey Monkey. The list of providers to whom the survey was sent was compiled from a variety of sources within the DMEPOS industry. It included, but was not limited to, members of AAHomecare. The survey was also available on the AAHomecare website, from which it could be downloaded and completed in Microsoft Excel.

It was anticipated that some of the providers to whom the survey was emailed may have gone out of business, had invalid contact information, or been the same provider operating under a different name. Due to time constraints, provider contact information was not tested prior to survey administration. One initial email was sent to all providers with a link to the survey; two additional reminder emails were sent to those providers who did not respond initially. The number of surveys opened was tracked within Survey Monkey. Because Survey Monkey was unable to track reasons for unopened surveys, such as spam filtering or misaddress, the number of surveys actually received by the DMEPOS providers to whom it was sent could not be determined. Additionally, because the survey was also available on the AAHomecare website, a final count of providers given the opportunity to participate is not available.

Respondents had the option of completing the online version of the survey within Survey Monkey or completing the Microsoft Excel version available on the AA Homecare website and returning it to Dobson | DaVanzo via email. Dobson | DaVanzo provided ongoing technical assistance to respondents who requested it as they completed the survey. Respondents were provided multiple opportunities for review and to make revisions to their survey responses. This included the opportunity to participate in a final review with Dobson | DaVanzo staff to go over their "draft" final results. Provider-specific information was shared with Dobson | DaVanzo only; the TAP and AAHomecare only received aggregate information.

Analysis of Survey Results

In order to calculate the cost of providing a given product, it was necessary to first allocate a portion of both direct and indirect costs to each product category total. Indirect costs were allocated to each product category on a proportional basis according to the volume of revenue it produced.

The volume of revenue was determined by multiplying the number of units of service provided by each organization by the average amount CMS reimburses for each item under CB. To calculate these average reimbursement rates, we took the population in each CBA, as provided by the Census Bureau, and weighted the payment rate for each CBA by the population. This allowed us to calculate an initial weighted average payment rate for each HCPCS code under study. This average rate was then applied to all non-CBAs, and was given a 10 percent add-on for rural areas. The rate for each CBA and all non-CBAs and rural areas were then again weighted by the population to produce a final weighted average price for each HCPCS code in the study. We used 2016 payment rates to show the nationwide impact of CB, since 2016 is the first year in which the CB process was implemented across the United States in its entirety.

Direct costs were allocated based upon the processing and delivery time associated with each product category, as compared to the provider's overall processing and delivery times. The processing and delivery times were summed and then multiplied first by the average number of times a beneficiary receives care or services per month, and then by the average number of months under care. This was done for overall organization operations and for each product category. The ratio between the total direct resources needed for each product category and the overall organization direct resource utilization was applied to the direct costs by category in order to proportionally allocate these costs to the HCPCS codes under study.

The total cost of providing a given product was calculated as the sum of 1) the cost of goods, 2) indirect costs, and 3) direct costs. This total cost was then adjusted by the number of Medicare set ups to represent the average cost per patient by product category.

In order to calculate the average reimbursement per patient, we multiplied the number of units of each HCPCS product provided during the last fiscal year by its reimbursement rate. This product was then multiplied by the average number of months under care for that product category, and finally divided by the number of patients treated. We note that in order to reflect the current reimbursement methodology for standard beds, heavy duty beds, wheelchairs, and CPAP and Bi-PAP machines, the full reimbursement rate was used for the first three months of care and 75% of the reimbursement rate was used for the remaining

months under care. The relationship between product cost and this average reimbursement, or the percent of costs covered, is the focus of our analysis.

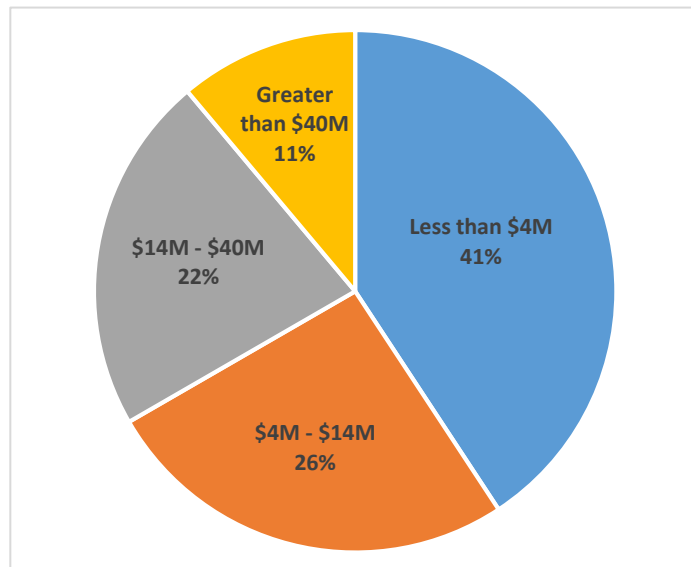
The study findings present the median percent of costs covered for each HCPCS code under study, overall and for provider categories defined by size. The categories were defined by the TAP as follows: 1) less than \$4 million in total revenue; 2) \$4 million to \$14 million in total revenue; 3) \$14 million to \$40 million in total revenue; and 4) greater than \$40 million in total revenue. We present the median value as a measure of central tendency to account for the fact that our data are not normally distributed, and a mean would have been heavily influenced by the extreme observations found in the data, as is often the case.

Study Findings

The survey was sent to DMEPOS providers on July 18, 2016 and responses were accepted until August 19. According to the receipt statistics obtained from Survey Monkey, 216 surveys were opened during this time period. A total of 27 respondents provided adequate data, either via Survey Monkey or the downloadable version posted on the AAHomecare website, to allow us to analyze their costs for each product category. The survey allowed us to obtain data representing a sizable share of Medicare spending for the DMS HCPCS under study. Together these respondents generated a combined total of \$275,819,545 in Medicare revenue for the DMEPOS products included in this study, which represents 12.7 percent of total Medicare expenditures for these DMEPOS HCPCS as derived from CMS Medicare claims data.

Respondents were divided into four classes based upon total revenue, as described in the Methodology section. As can be seen in Exhibit 2, large providers, defined as having a total revenue of greater than \$40 million, make up 11 percent of survey respondents. Those providers with total revenue between \$14 and \$40 million represent 22 percent of respondents, while providers with total revenue between \$4 and \$14 million make up 26 percent. Small providers, or those with less than \$4 million in total revenue, represent 41 percent of respondents.

Exhibit 2: Distribution of Respondents by Size Based On Total Revenue

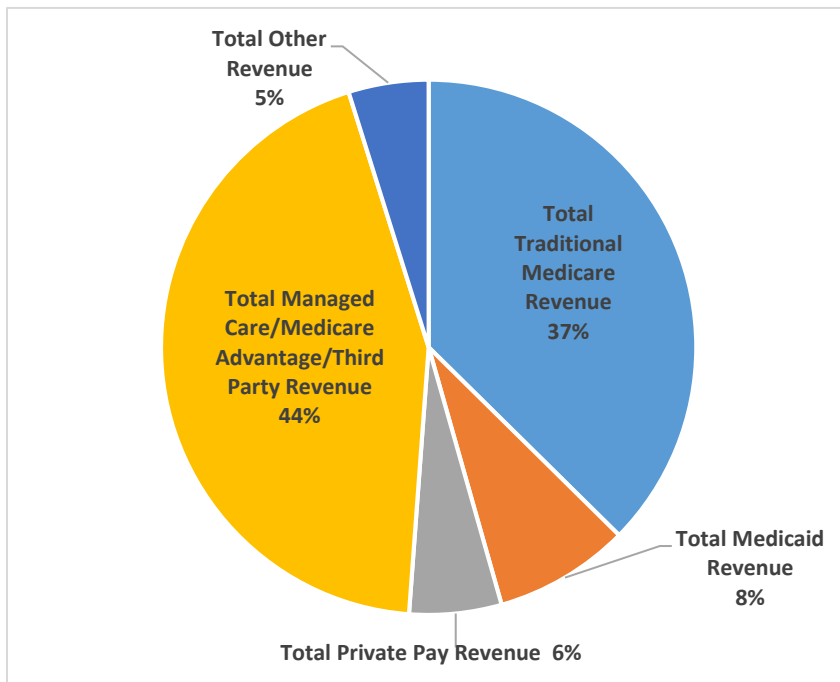


Source: Dobson | DaVanzo DMEPOS Cost Survey

Study Findings

The respondents' overall revenue by payer source can be seen in Exhibit 3. Traditional Medicare revenue makes up over one-third (37 percent) of the total revenue for study respondents. This category is second only to managed care, which includes Medicare Advantage and represents another 44 percent of respondents' total revenue. All other sources, including Medicaid, private payers, and other sources, represent less than 20 percent of respondents' total revenue. The result of this payer mix is that Medicare reimbursement contributes significantly to the revenue stream of DMEPOS providers, and Medicare reimbursement rates that do not cover costs will have a large impact on their overall financial viability.

Exhibit 3: Distribution of Total Revenue by Source



Source: Dobson | DaVanzo DMEPOS Cost Survey

Our data suggest that there is very little room to cost-shift since public payers (Medicare and Medicaid) represent 45 percent of industry revenues and Medicaid payments have begun to fall in line with CB reimbursement. The omnibus bill passed in late December of last year (PL 114-113) contained a provision that will limit the federal portion of Medicaid reimbursement for CB items to CB prices starting January 1, 2019. While this does not require states to lower the overall reimbursement rate for DMEPOS, the state would be responsible for making up the payment difference. Additionally, in the private sector, many commercial and Medicare Advantage payers are reimbursing at or below Medicare CB payment rates. This means that providers of DMEPOS have little opportunity to cost-shift and recover revenue lost from public payers.

Study Findings

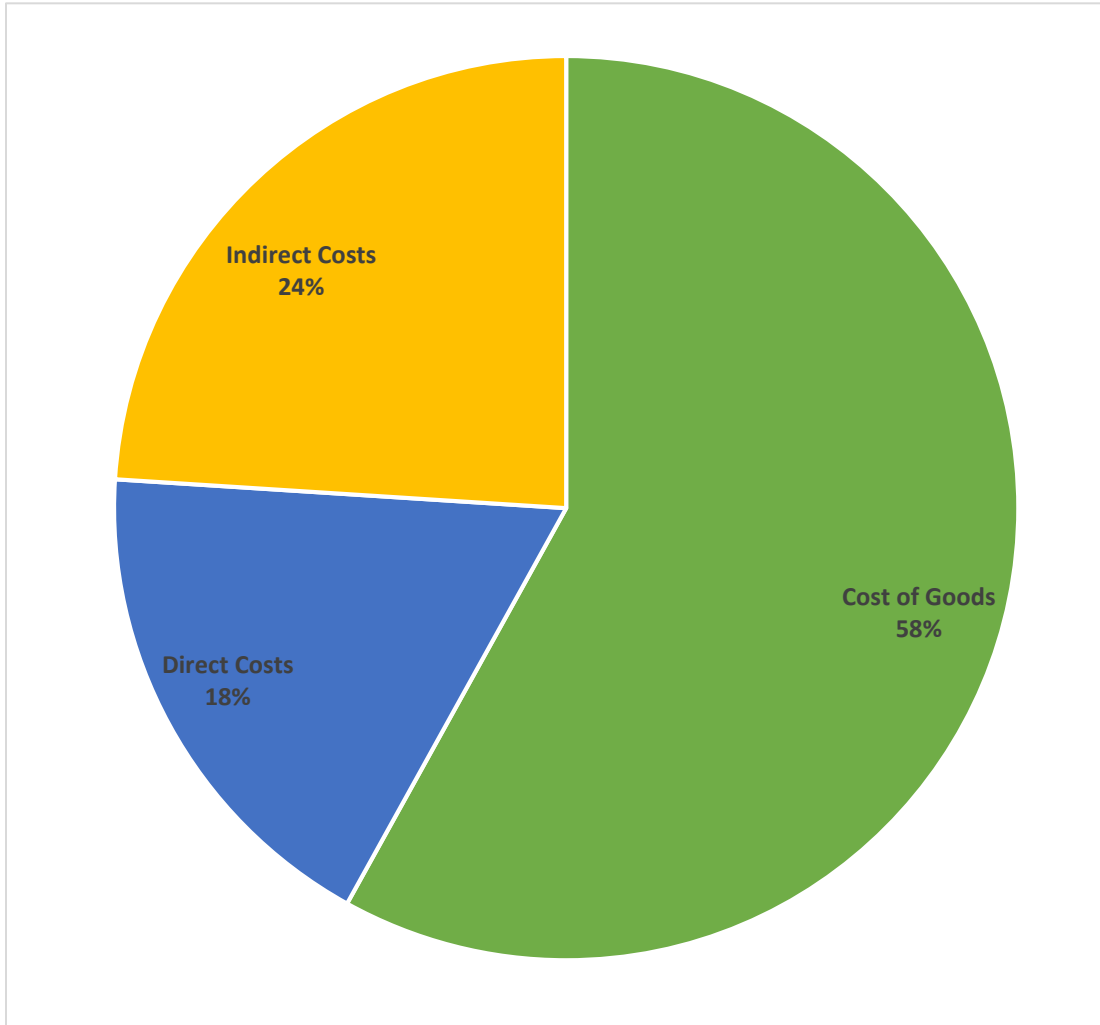
To begin our examination of Medicare reimbursement rates, we calculated the cost for each HCPCS code under study. As described in the methodology section above, the three components comprising the cost of providing DMEPOS are cost of goods, direct costs, and indirect costs. Exhibit 4 details the average cost of goods among survey respondents. This represents the average price that the providers pay for these DMEPOS products. As shown in Exhibit 5, the cost of goods accounts for just over half of the cost of providing DMEPOS; 42 percent of overall cost comes from direct and indirect cost categories.

Exhibit 4: Average Cost of Good by Product Category

DMEPOS Category	HCPCS Code	Description	Average Cost
Beds	E0260	Semi Electric Hospital Bed with Mattress and Rails	\$466.42
	E0303	Heavy Duty Hospital Bed with Mattress and Rails	\$1,224.65
Oxygen	E0431	Portable Gaseous Oxygen System	\$256.64
		Conserving Device/Regulator	\$126.90
	E0434	Liquid Portable	\$704.91
	E0439	Liquid Stationary	\$1,067.91
	E1390	Oxygen Concentrator	\$412.64
	E1392	Portable Oxygen Concentrator	\$1,630.81
	K0738	Homefill Compressor	\$1,440.78
		Back Up Tanks for Emergency Use	\$122.83
	E1399	Oxygen Monthly Supply Kit	\$11.15
	Sleep	A7034	Nasal Mask
A7035		Headgear	\$15.46
A7038		Disposable Filter	\$1.05
E0470		BiPAP Device	\$748.68
E0562		Heated Humidifier	\$111.21
E0601		CPAP Device	\$301.41
Walkers	E0143	Folding Walker with Wheels	\$24.94
	K0001	Standard Wheelchair	\$111.48
Wheelchairs	K0003	Lightweight Wheelchair	\$156.85
	K0195	Elevating Leg Rests	\$35.32

Source: Dobson | DaVanzo DMEPOS Cost Survey

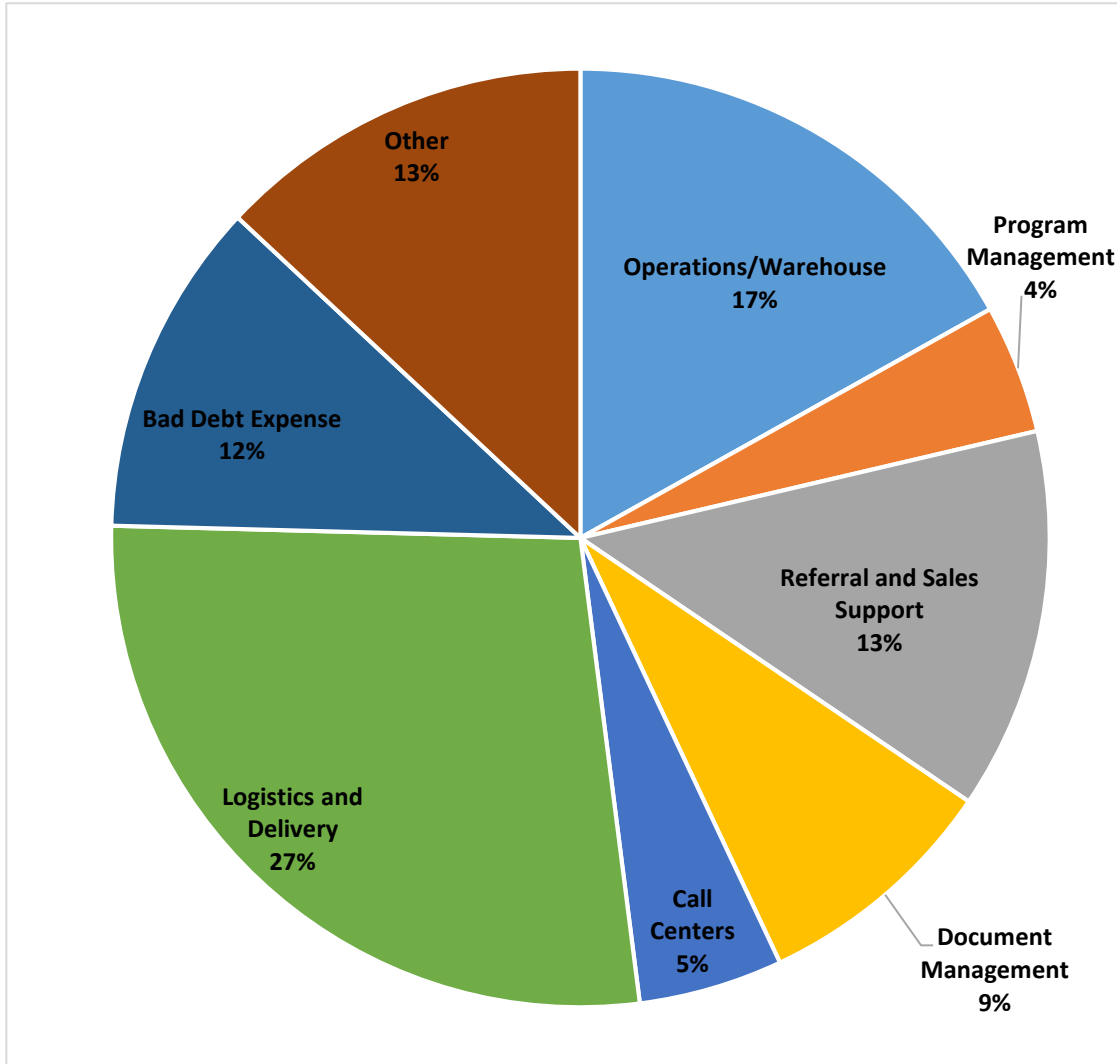
Exhibit 5: Breakdown of the Cost of Providing DMEPOS to Medicare Beneficiaries



Source: Dobson | DaVanzo DMEPOS Cost Survey

In addition to cost of goods, the direct and indirect costs incurred by DMEPOS providers are critical to understanding the cost of providing DMEPOS. The breakdown of direct costs is shown in Exhibit 5. Delivery and Logistics, which includes all routing, loading, delivery time and expenses, and related salaries, represents the largest individual share of direct costs at 27 percent. Operations and Warehouse, which includes all warehouse supplies and storage fees, represents 17 percent of total direct costs.

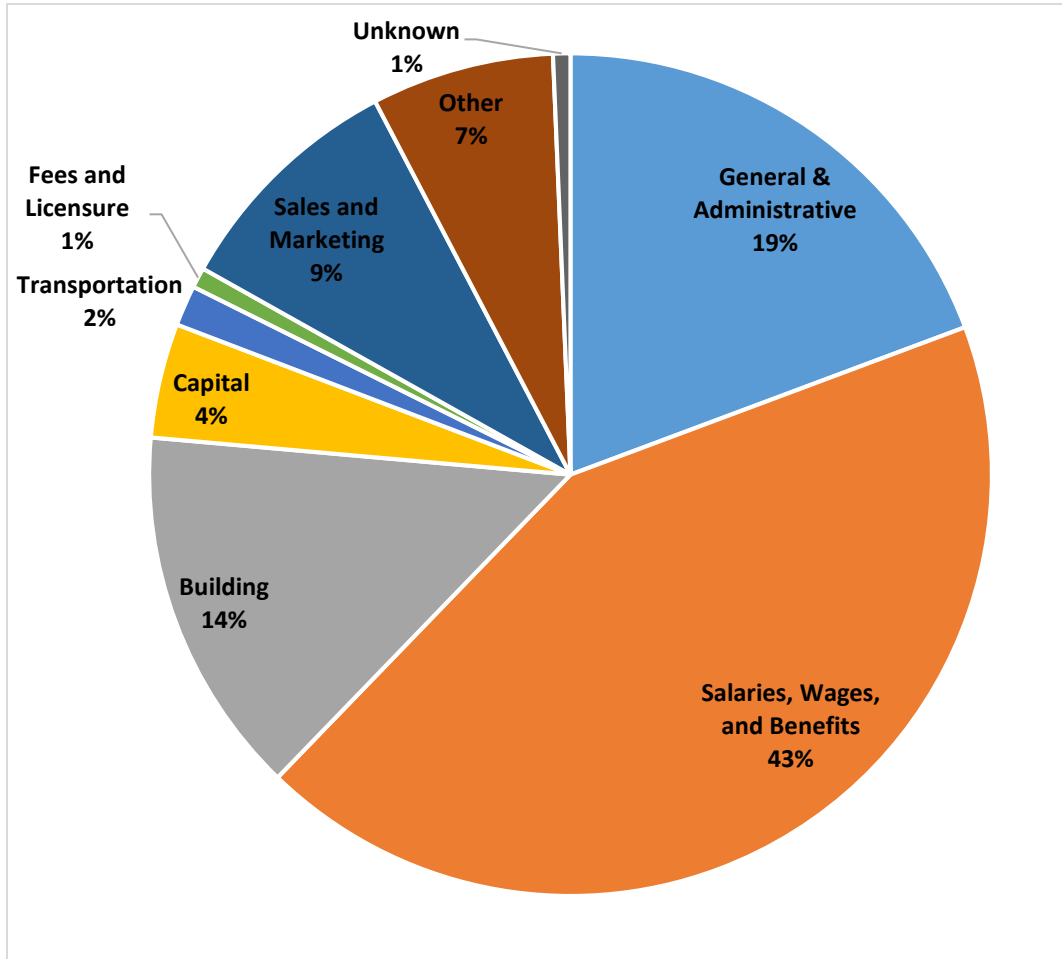
Exhibit 5: Percent Direct Cost by Cost Category



Source: Dobson | DaVanzo DMEPOS Cost Survey

Similarly, Exhibit 6 details the indirect cost by category as collected in the survey. Salaries, Wages and Benefits of Indirect Employees comprise the overwhelming portion of indirect costs at 43 percent. General & Administrative expenses make up 19 percent, while Building expenses, which include rental, utilities, and maintenance and upkeep, make up 14 percent of indirect costs. Sales and Marketing, which encompasses patient education and distribution in the home or physician office, represents 9 percent of indirect costs.

Exhibit 6: Percent Indirect Cost by Cost Category



Source: Dobson | DaVanzo DMEPOS Cost Survey

These direct and indirect expenses are incurred by DMEPOS providers as part of doing business in the standard course of servicing all patients, and so must be taken into consideration when considering the cost of providing DMEPOS to Medicare beneficiaries. As described in the previous section, our methodology allows for the apportionment of these costs to each product category when calculating total cost.

After using these data to calculate the total cost for each product, we calculated the ratio of cost to reimbursement, or payment to cost ratio, as described in the methodology section above. Exhibit 7 presents the median percent of costs covered by Medicare reimbursement for the HCPCS under study in this analysis. Any number greater than 100 percent indicates that the product reimbursement is above total cost for at least half of survey respondents, generating profit. Any number below 100 percent indicates that product costs are higher

Study Findings

than reimbursement for at least half of the providers. These are therefore products on which the typical company is losing money.

As can be seen in the exhibit, the unweighted median cost coverage for all products in the study, overall and for each product individually, is below 100 percent. This means that, for the HCPCS codes in this study, Medicare reimbursement is not sufficient to cover the cost of providing the equipment for most DMEPOS providers.

Exhibit 7: Median Percent of Costs Covered by Medicare Reimbursement for Select DMEPOS HCPCS by Category

DMEPOS Category	DMEPOS Product	Number of Respondents Providing Product Category	Unweighted Median Percent of Costs Covered
Beds	Standard Beds	25	69.58%
	Heavy Duty Beds	16	90.35%
Oxygen	Liquid Oxygen	11	86.91%
	All Other Oxygen	25	94.60%
Sleep	BiPAP with Supplies	23	91.52%
	CPAP with Supplies	24	67.83%
Walkers	Walkers	25	83.88%
	Lightweight Wheelchairs with Elevating Leg Rests	16	82.72%
Wheelchairs	Lightweight Wheelchairs with Footrests	21	82.79%
	Standard Wheelchairs with Elevating Leg Rests	22	80.55%
	Standard Wheelchairs with Footrests	24	71.35%
Overall: All Product Categories		27	87.68%

Source: Dobson | DaVanzo DMEPOS Cost Survey

In order to determine whether company size affects cost coverage, we also examined the median percent of costs covered for each product category, within respondent categories defined by size. We did so in order to ascertain whether these DMEPOS products are amenable to scale; that is, whether a higher sales volume, as seen in larger providers, offsets low reimbursement rates through lower overall costs.

These results are presented in Exhibit 8 and show that the median reimbursement to cost ratio is frequently less than 90 percent for providers of all size. This is the case with liquid oxygen, CPAP machines, walkers, and wheelchairs, and indicates that these products are

Study Findings

not amenable to scale. Providers of all size are being reimbursed well below cost for these products as a result of the CB program. In fact, for all providers with total revenue less than \$40 million, the median reimbursement is consistently less than cost across all product categories studied.

Exhibit 8: Percent of Costs Covered by Medicare Reimbursement by Respondent Company Size

DMEPOS Product	Revenue Category	Number of Respondents Providing Product Category	Median Percent of Costs Covered
Standard Beds	Less than \$4 Million	10	69.76%
	\$4 Million to \$14 Million	6	75.49%
	14 Million to \$40 Million	6	59.76%
	Greater than \$40 Million	3	107.66%
Heavy Duty Beds	Less than \$4 Million	3	93.15%
	\$4 Million to \$14 Million	6	90.35%
	14 Million to \$40 Million	4	89.89%
	Greater than \$40 Million	3	66.03%
Liquid Oxygen	Less than \$4 Million	2	77.18%
	\$4 Million to \$14 Million	3	84.48%
	14 Million to \$40 Million	4	91.14%
	Greater than \$40 Million	2	85.75%
All Other Oxygen	Less than \$4 Million	9	94.60%
	\$4 Million to \$14 Million	7	73.00%
	14 Million to \$40 Million	6	94.40%
	Greater than \$40 Million	3	108.12%
BiPAP with Supplies	Less than \$4 Million	7	91.26%
	\$4 Million to \$14 Million	7	92.79%
	14 Million to \$40 Million	6	94.86%
	Greater than \$40 Million	3	99.77%
CPAP with Supplies	Less than \$4 Million	8	58.23%
	\$4 Million to \$14 Million	7	66.73%
	14 Million to \$40 Million	6	72.59%
	Greater than \$40 Million	3	69.73%

Study Findings

DMEPOS Product	Revenue Category	Number of Respondents Providing Product Category	Median Percent of Costs Covered
Walkers	Less than \$4 Million	10	80.02%
	\$4 Million to \$14 Million	6	83.13%
	14 Million to \$40 Million	6	84.01%
	Greater than \$40 Million	3	83.88%
Lightweight Wheelchairs with Elevating Leg Rests	Less than \$4 Million	5	73.70%
	\$4 Million to \$14 Million	2	79.60%
	14 Million to \$40 Million	6	85.28%
	Greater than \$40 Million	3	86.68%
Lightweight Wheelchairs with Footrests	Less than \$4 Million	7	82.79%
	\$4 Million to \$14 Million	5	93.34%
	14 Million to \$40 Million	6	82.64%
	Greater than \$40 Million	3	80.48%
Standard Wheelchairs with Elevating Leg Rests	Less than \$4 Million	8	78.40%
	\$4 Million to \$14 Million	5	96.73%
	14 Million to \$40 Million	6	76.50%
	Greater than \$40 Million	3	72.29%
Standard Wheelchairs with Footrests	Less than \$4 Million	9	70.62%
	\$4 Million to \$14 Million	6	81.00%
	14 Million to \$40 Million	6	62.62%
	Greater than \$40 Million	3	61.95%

Source: Dobson | DaVanzo DMEPOS Cost Survey

However, Exhibit 8 also shows several types of DMEPOS that are amenable to scale, either positively or negatively. Providing a higher volume of equipment substantially increases the payment to cost ratio for BiPAP, oxygen (except liquid), and standard beds, as a portion of direct and indirect costs are recaptured through volume. However, standard beds and oxygen are the only product categories demonstrating that some profit is possible through sales volume. For BiPAP and beds, high volume still does not provide enough reimbursement to fully recoup costs for a typical provider. In addition, it must be noted that the majority (83.47 percent) of Medicare beneficiaries utilizing DMEPOS for sleep receive

Study Findings

CPAP devices rather than BiPAP devices, meaning that BiPAP devices contribute only marginally to the overall product category revenue.

Conversely, the median percent of costs covered for heavy duty beds decreases considerably after weighting. In this case, our results show that size is inversely related to payment to cost ratios. It is possible that the discrepancy between reimbursement and cost is so great for heavy duty beds, which require additional personnel for delivery and setup, that a higher volume leads to greater monetary loss.

The consistency of less-than-cost payments across all product categories under study is striking, as is the consistency of results across provider size within product category. This level of reimbursement is not financially sustainable and it will not be possible for many providers, regardless of size, to continue providing DMEPOS if payment rates remain at this level or are further reduced. Additionally, our analysis assumes that providers will receive all beneficiary copayments. However, anecdotal evidence suggests that providers often do not receive the entire copayment due for these products. Often, the patient will make the first several copayments and then stop, leaving the provider with additional unpaid costs. A separate consideration is that in rural areas where CB has just been implemented, there is little room to expand market share and the cost of delivery is very high. These unpaid costs are not reflected in Exhibits 7 and 8, and would lead to lower ratios of cost coverage.

We note that one additional national provider with revenue greater than \$40 million was not able to respond to the survey due to company regulation. This company was provided with analytical results from this survey, and indicated that the results presented in Exhibits 7 and 8 are consistent with their internal ledgers.

Discussion

The survey, with its variety of accounting, logistical, and operational questions, was complex in nature and required a large investment of time to complete. Respondents indicated that completing the survey often required input from multiple employees in different departments. Due to its complex design, the survey likely favors well-run, technically competent firms. In completing our survey, respondents demonstrated high levels of accounting and analytic skills. So, assuming that firms with high levels of accounting and analytic skills are also low-cost providers, our survey results are likely biased toward the low-cost providers. As reported above, with a few notable exceptions, these providers reported relatively consistent costs across our size categories.

DMEPOS providers have few choices in how to respond to these less-than-cost reimbursement rates. A recently published analysis from the Congressional Budget Office (CBO)⁴⁰ of how hospitals may deal with financial pressures provides insight into what may happen to DMEPOS providers if the CB program continues as currently implemented, and Medicare pays below cost for many equipment categories.

The financial pressures outlined in the CBO analysis – namely, negative profit margins due in part to Medicare payment cuts – are similar to those currently encountered by the DMEPOS industry as a result of CB. According to the CBO, there is a small number of choices that hospitals (and similarly, providers) may make to address negative profit margins. Providers may first attempt to limit cost through improvements to productivity. This means, for the DMEPOS industry, providing the same level of products and support with fewer inputs (including labor, materials and supplies). Depending upon the level of efficiency achieved, some providers will be able to maintain positive margins, or at least limit negative profit margins, through these improvements. However, the extent to which productivity can increase year after year is unclear. Providers who are unable to increase

⁴⁰ Hayford, T., Nelson, L. & Diorio, A. (2016). *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios* (Working Paper Series 2016-04). Washington, DC: Congressional Budget Office.

productivity enough every year, or who are unable to adequately control cost through such increases, will ultimately lose money.

As a result, providers may also need to find other means to either increase revenue or limit costs. Providers may be forced to raise prices, particularly for the privately insured. They may also reduce costs through reductions in staff, departments, and limits to capital improvements. Additionally, some providers may be forced merge, to close locations, or close entirely. According to the CBO, while reductions such as these may maintain profit margins, they also may lead to a decrease in overall access to and quality of care.⁴¹

Interviews with members of the DMEPOS industry who contributed to this survey, through participation in the TAP panel or survey response, demonstrate that DMEPOS providers of all sizes are implementing a variety of strategies as a result of the CB program. Larger providers, who may operate out of multiple locations, reported that they have begun to close or reduce service in their rural and less profitable locations in an effort to maintain overall business operations. Smaller providers have indicated that it can take a full day to make one or two deliveries to rural locations, exhausting all of the company's delivery resources for that day and leaving little margin of error for increased efficiency. This means that deliveries to rural locations are less frequent, and patients in rural areas are forced to wait longer periods of time than they did prior to CB for their equipment or service. Consequently, it also means that wait times may be longer for patients in non-rural areas as resources are stretched. This means that the DMEPOS CB program may ultimately lead to lower quality of care for all patients – especially those in rural, non-bid, and underserved areas for whom cost of access and support are higher.

Three case studies elucidate this concept. First, in response to DMEPOS reimbursement decreases in the beginning of January 2016 and again in July 2016, a 170-year old home health care and DMEPOS business in Danville, Illinois closed due to inability to operate at the 48% lower rate.⁴² Second, Cape Medical Supply withdrew its services from the Nantucket Cottage Hospital in the Cape Cod area due to the same cuts, forcing the hospital to keep otherwise homebound patients in admittance because of a lack of home oxygen provider. Urban providers “can reduce costs through consolidation and by expanding the client base,” unlike those in service of rural beneficiaries.⁴³ Finally, cuts due to CB program-derived rates triggered severe price cuts for companies serving the military

⁴¹ Ibid.

⁴² 170 Year Danville Business Closing. (2016). *Vermilion County First*. Retrieved from <http://www.vermilioncounty-first.com/2016/08/13/170-year-danville-business-closing-its-doors/>

⁴³ McCormick, C. (2016, July 4). Medicare cuts affect Nantucket oxygen supply. *Cape Cod Times*. Retrieved from <http://www.capecod-times.com/article/20160704/NEWS/160709799>

Discussion

through TRICARE insurance, with July 2016 reductions reaching as far as 35-60% less in price than those reimbursement rates of the prior year.⁴⁴ The higher costs necessary for access, care, and support to rural beneficiaries are likely to pose “a risk to rural America,” and providers are likely to “not have economies of scale” to offset the drastic payment cuts, especially in non-bid areas to which the CB prices extend.⁴⁵

⁴⁴ American Association for Homecare. (2016). Competitive Bidding Program-Derived Rates for HME Trigger Even Deeper Cuts for Providers Serving Our Nation’s Military. Retrieved from <http://us1.campaign-archive2.com/?u=3c0f3755f13930464597f245a&id=fc29bee6e1&e=b4730b58fe>

⁴⁵ American Association for Homecare. (2016). Congress Must Stop Drastic Cuts to DME Items in Rural & Non-Bid Areas [PDF Document]. Retrieved from <http://athomes.org/Resources/Documents/Non-CB%20Cut%20Relief%20Issue%20Brief%20071015.pdf>

Conclusion

The CB process has been controversial in its implementation, with detractors arguing that, by design, reimbursement resulting from CB does not cover provider's costs. This study confirms the industry contention that CB prices typically do not cover the costs of production for a broadly representative sample of DMEPOS providers representing approximately 12.7 percent of Medicare expenditures for the HCPCS under study.

The results of this survey demonstrate that CB is endangering the stability of the DMEPOS market upon which millions of Medicare beneficiaries rely. This instability is a result of Medicare payments that are at levels consistently below the cost of supplying DMEPOS. These findings are consistent across the providers who completed the survey.

Two key areas which demonstrate problems with the construction of the CB bid process are that:

- CMS uses a non-transparent process for determining utilization and need among the Medicare DMEPOS population. In addition, the bidding process is also non-transparent and does not encourage bidders to include true cost in submitting their bids. These factors create the reimbursement failures we are seeing in our survey.
- When CMS examines bids to see that no contracts are given out below cost, they only consider the cost of goods. CMS does not take into account all of the other costs that go into providing DMEPOS to Medicare patients. This is insufficient to ensure the providers are not bidding in ways that are harmful to the stability of the market.

As a result, the CB process produces an auction that is not designed to reveal actual prices, and payments therefore drop below costs. There are three options that providers can take when payments are lower than costs: (1) make gains in efficiency; (2) implement cuts (which harms quality); or (3) go out of business.⁴⁶ This survey shows that gains in

⁴⁶ Hayford, T., Nelson, L. & Diorio, A. (2016). *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios* (Working Paper Series 2016-04). Washington, DC: Congressional Budget Office.

Conclusion

efficiency are unlikely to cover Medicare shortfalls. Additionally, size does not matter, big companies cannot successfully supply DMEPOS to all Medicare beneficiaries, especially in rural areas. Our study indicates that while large firms sometimes show more favorable payment to cost ratios, this is not true across all product categories. Few product categories thus far have allowed for costs to be recovered through volume. Additionally, there is no way for DMEPOS providers to shift costs from Medicare to other payers.

The fact that, under CB, the median cost coverage under Medicare is often substantially below break-even is highly problematic for large segments of the DMEPOS industry and for the Medicare population. These low reimbursement rates will ultimately force some providers out of business. Other providers will have to raise prices or downsize operations, leading to a decrease in access to and quality of care for all patients. Ironically, some patients may be forced to remain in hospital care or more expensive services due to being unable to afford DMEPOS that would facilitate the outpatient process, as in the case of Nantucket Cottage Hospital. Overall, the CB program has the potential to significantly impact beneficiary access to needed equipment and harm the DMEPOS industry as a whole. The consequence of this is that Congress and CMS should consider changes to the CB process if they wish to have a stable and sustainable DMEPOS system going forward.

Appendix A: Survey Instrument

Appendix A: Survey Instrument

This is a survey to collect and analyze the true cost of providing select homecare services.

This survey is divided into 3 sections.

Section 1 deals with the overall financial picture of your organization.

Section 2 deals with your organization's volume and Medicare billing for a select group of HCPCS Codes.

Section 3 deals with the frequency of orders and order processing time for your organization.

Please understand that we know you may not have answers for every line.

If you find a line in the survey for which you have no input, please enter a zero.

If you have questions regarding the survey,
 please contact Steven Heath from Dobson|DaVanzo at 703-260-1763 (email steven.heath@dobsondavanzo.com)

or Laura Williard from AAHomecare at 336-451-1934 (email lauraw@aahomecare.org)

Section 1: Overall Financial Picture

Please enter the amount of revenue you received in each category for your last fiscal year in the appropriate space.

Please note that all payer-specific revenue should sum to equal the total. Please do not leave any blank spaces.

Time Frame	Last Fiscal Year
Fiscal Year Start (mm/dd/yy)	
Fiscal Year End (mm/dd/yy)	
Total Revenue	
Total Traditional Medicare Revenue	
Total Medicaid Revenue	
Total Private Pay Revenue	
Total Managed Care/Medicare Advantage/Third Party Revenue	
Total Other Revenue	
Total Medicare Revenue for Cost Study HCPCS (E0260, E0303, E0431, E0434, E0439, E1390, E1392, K0738, A7034, A7035, A7038, E0470, E0562, E0601, E0143, K0001, K0003, K0195)	
% of orders containing multiple items for one location/patient. Review two weeks' worth of tickets or run a report for a time frame you feel is representative to get the percent.	
% of deliveries containing items for delivery to more than one location/patient. Review two weeks' worth of tickets or run a report for a time frame you feel is representative to get the percent.	

Please enter your direct costs for each category in the appropriate space for your last fiscal year.

A lot of this information will be found on your P&L or audited statements.

Appendix A: Survey Instrument

You may not have cost associated with every category, but please make sure to enter zeros for those that you do not track.

Direct Cost Categories (P&L or audited statements)	
Category	Value
Operations/Warehouse	
Program Management	
Referral and Sales Support	
Document Management	
Call Centers	
Delivery (this includes all logistics, delivery, and routing, etc.)	
Bad Debt Expense	
General & Administrative	
Other	

Please enter your total indirect costs in this space for your last fiscal year.

A lot of this information will be found on your P&L or audited statements.

All Indirect Costs	
Category	Value
Total	

You may not have cost associated with every category, but please make sure to enter zeros for those that you do not track.

Enter percent of total indirect costs for each category. To ensure you have captured all indirect costs, percents should sum to 100%.

Indirect Cost Apportionment (P&L or audited statements)	
Category	Percent
Salaries, Wages, and Benefits	
Building	
Capital	
Transportation	
Fees and Licensure	
Sales and Marketing	
Other	

Appendix A: Survey Instrument

Section 2: Medicare Volume and Cost of Goods for Select HCPCS

Please enter the cost of ***EACH UNIT*** your organization paid under the Cost of Goods column.

Please enter the total number of units your organization provided under the Units column.

Category	HCPCS	Description	Cost of Goods (unit price to your organization)
Bed	E0260	Semi Electric Hospital Bed with Mattress and Rails	
Bed	E0303	Heavy Duty Hospital Bed with Mattress and Rails	
O2	E0431	Portable Gaseous Oxygen System will include Cart and Regulator, plus average number of tanks left in the home for use	
O2		Conserving Device/Regulator	
O2	E0434	Liquid Portable will include Bag and Regulator	
O2	E0439	Liquid Stationary	
O2	E1390	Oxygen Concentrator	
O2	E1392	Portable Oxygen Concentrator including average backup batteries provided	
O2	K0738	Homefill Compressor Plus average number of tanks left in home for use	
O2		Back Up Tanks for Emergency Use	
O2		O2 Monthly Supply Kit (tubing, cannulas, etc.)	
Sleep	A7034	Nasal Mask	
Sleep	A7035	Headgear	
Sleep	A7038	Disposable Filter	
Sleep	E0470	BiPAP Device	
Sleep	E0562	Heated Humidifier (Leave cost of goods blank if purchase integrated with PAP Device)	
Sleep	E0601	CPAP Device	
Walker	E0143	Folding Walker with Wheels	
Wheelchair	K0001	Standard Wheelchair	
Wheelchair	K0003	Lightweight Wheelchair	
Wheelchair	K0195	Elevating Leg Rests	

Appendix A: Survey Instrument

Section 3: Number of Deliveries and Processing Time by Product Category

Overall	
All Orders All Payers All Categories	
Total Number of Set Ups (all patients)	
Average Number of Deliveries Per Patient Per Month	
Average Delivery Time (minutes), from time truck leaves warehouse until driver leave patient location.	
Average Processing Time (minutes), total Processing from receipt of order until loaded on truck.	
Medicare	
Oxygen (all)	
This category includes HCPCS: E0431: Portable Gaseous Oxygen System, E0434: Liquid Portable, E0439: Liquid Stationary, E1392: Portable Oxygen Concentrator, E1390: Oxygen Concentrator, K0738: Homefill	
Total Number of Medicare Set Ups (patients)	
Average Number of Months Under Care	
Average Number of Deliveries Per Patient Per <i>Month</i> for Portable Gaseous System	
Average Number of Deliveries Per Patient Per <i>Month</i> for Liquid	
Average Number of Deliveries Per Patient Per <i>Month</i> for Homefill	
Average Number of Deliveries Per Patient Per <i>Month</i> for Portable Concentrator	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home.	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	
% of Oxygen Business that is Stationary Gaseous	
% of Oxygen Business that is Homefill	
% of Oxygen Business that is Portable Concentrator	
% of Oxygen Business that is Liquid	

Appendix A: Survey Instrument

Medicare	
Sleep	
This category includes HCPCS: A7034: Nasal Mask, A7035: Headgear, A7038: Disposable Filter, E0470: BiPAP Device, E0562: Heated Humidifier, E0601: CPAP Device	
Total Number of Medicare Equipment Set Ups (patients)	
Average Number of Deliveries Including Supplies Per Patient Per <u>Year</u>	
Average Number of Months Under Care for PAP Device	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home.	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	

Medicare	
Walkers	
This category includes HCPCS: E0143: Folding Walker with Wheels	
Total Number of Medicare Set Ups (patients)	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home.	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	

Medicare	
Beds	
This category includes HCPCS: E0260: Semi Electric Hospital Bed with Mattress	
Total Number of Medicare Set Ups (patients)	
Average Number of Deliveries Per Patient Per <u>Month</u>	
Average Number of Months Under Care	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home.	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	

Appendix A: Survey Instrument

Medicare	
Heavy Duty Beds	
This category includes HCPCS: E0303: Heavy Duty Hospital Bed with Mattress	
Total Number of Medicare Set Ups (patients)	
Average Number of Deliveries Per Patient Per <i>Month</i>	
Average Number of Months Under Care	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home. (If two-person delivery, multiply the single bed time by 2).	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	

Medicare	
Wheelchairs	
This category includes HCPCS: K0001: Standard Wheelchair, K0003: Lightweight Wheelchair, K0195: Elevating Leg Rests	
Total Number of Medicare Set Ups (patients)	
Average Number of Deliveries Per Patient Per <i>Month</i>	
Average Number of Months Under Care	
Average Delivery Time (minutes) From the Time the Truck Leaves the Warehouse until the Driver Leaves the Patient's Home.	
Average Processing Time (minutes) From Receipt of Order Until Loaded on the Truck.	