

Analysis of Home Respiratory Therapy Costs

Comparison of Costs in Competitive Bid and Non-Competitive Bid Areas

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Executive Summary

During the summer of 2014, the supplier members of the Council for Quality Respiratory Care (CQRC) developed and fielded a cost survey to identify how the costs in competitive bidding areas (CBAs) differ from those in non-CBAs, as well as the costs in areas with the lowest density populations.

In sum, the CQRC data showed that:

- The cost of providing services in nonCBAs is approximately **11 percent higher** than the cost of providing the same services in CBAs.
- The cost of providing services in areas among the lowest quartile of all rural counties by population density is approximately **17 percent higher** than the cost of providing the same services in CBAs.
- Taken the rural and lowest quartile of all rural counties by population density, the average cost of providing services in nonCBAs overall is approximately **13 percent higher** than the cost of providing the same services in CBAs.

The reasons that costs differ significantly in the nonCBA and the low population density rural areas are varied and include differences in staffing levels (related to the distance between patient homes), delivery distances, and fuel costs.

When reviewing the cost differential, it is also important to remember that as currently structured, the Medicare competitive acquisition program does not result in prices that are appropriate proxies for the actual cost of providing services. The reasons for this fact include bidding strategies, the promise of increasing the number of patients served, and the basic desire to stay in business as long as possible.

In sum, the results of this cost survey support policies that acknowledge and address the real cost differences that are based upon geographic locations and population density.

Methods

During the summer of 2014, the supplier members of the CQRC provided their cost data for calendar year 2013. The survey included national and regional members. The reporting companies provide home therapy services to more than half of all Medicare beneficiaries who rely upon medically necessary home respiratory therapy.

The companies reported detailed cost data using a survey tool designed to mirror the costs included on Medicare cost reports for other types of providers. The survey sought to gather the total cost data about each National Provider Identifier (NPI) operated by each supplier organization to distinguish between the cost of providing services by ZIP code.

The data included the following categories and was provided at the NPI level:

- The total administrative cost of operating the home respiratory therapy services for each NPI during the reporting year, including:
 - Miscellaneous Administrative Costs¹;
 - Professional Administrative Services Cost²;
 - Building Costs;
 - Insurance;
 - Computer/software³;
 - Banking Fees; and
 - Business Registration and Related Fees
- The total cost of operating the home respiratory therapy services for each NPI during the reporting year, excluding “write-offs,” but included:
 - Buildings and equipment costs;
 - Vehicle and fleet maintenance costs;

¹Miscellaneous Administrative Costs include: Board of Directors of Trustees Expenses; Internet/Website Expenses; Office Supplies; Postage and Delivery; Meeting costs (including FDA, compliance costs, DOT oversight); Telephone; Trash and Shredding Services; and Printing and Copying Costs.

²Professional Administrative Service Costs include: Accounting; Contract Billing; Legal; Human Resources (*e.g.*, payroll services, other).

³Computer/Software Costs include: Depreciation; Equipment; Computer Equipment Rent/Expense; Maintenance/Repair/Support Services; Software Fees.

- Medical equipment costs; and
- Labor, including administrative, operations, and benefits.
- All local jurisdictional costs you incurred during the reporting period separately from total operating costs for each NPI during the reporting year, including:
 - Fees (such as licensing costs);
 - Local taxes; and
 - Other such costs.

Total costs were determined by adding these three cost categories together and creating a per patient per month costs by taking the total costs in each ZIP code and dividing it by the number of patients served in that area.

The survey also sought additional detail related to the costs incurred during the reporting period for professional services, such as having a medical director and/or respiratory therapist for each NPI during the reporting year.

Because there are no standardized cost definitions in this sector, the CQRC members agreed to a set of standardized data definitions and principles to try to ensure consistency in how the data were reported.

To determine the cost difference in CBAs and nonCBAs, we relied upon the ZIP code information available from the CMS website for the competitive bidding program. To evaluate the costs in rural, super-rural, and urban areas, we relied upon the 2014 ZIP list that CMS used to determine rural and super rural status under the ambulance fee schedule. We trimmed the data by excluding costs that were in either tail of the distribution.

The data presented in this report provides information about the costs of the larger national and regional providers. Arguably, these providers have implemented more efficient systems and benefit from economies of scale that smaller providers may not always be able to implement or experience. Thus, the results likely underestimate the cost of providing services for the industry as a whole.

The Cost of Providing Services in non-CBAs Exceeds the Cost of Providing Services in CBAs

When the CQRC compared the cost of providing services in ZIP codes in CBAs with ZIP codes in other parts of the country, we found that the cost of providing services in nonCBAs is approximately **11 percent higher** than the cost of providing the same services in CBAs.

There are several reasons for the cost differential. First, the single payment amounts are below the cost of providing services. One reason for this result is the fact that bidders may bid below the cost of providing services. The promise of increased volume, if realized, would allow suppliers to reduce the per patient per month cost by increasing the number of patients over which their fixed costs could be spread. Other bidders simply wanted to try to stay in business no matter what, while others accept contracts and never provide any services. In addition, the population density in CBAs is significantly higher, allowing suppliers to serve more patients who are located closer to one another.

Second, nonCBAs are predominately rural areas. Many nonCBA areas defined as rural in other Medicare programs. The cost of providing services in rural (and especially in the lowest quartile of low population density areas) are clearly higher.

The cost of providing home respiratory therapy items and services varies significantly based upon the geographic area in which they are furnished. Fuel costs related to the greater distances traveled to beneficiaries' homes, as well as the lower population density, drive higher costs in rural areas. The most recent data available from the Bureau of Labor Statistics (2011) show that household expenditures for fuel costs and health care costs are higher in rural areas.⁴ For example, rural households spent \$3,115 on gasoline and motor oil, compared with the \$2,613 spent by urban households,⁵ making fuel costs about 84 percent higher in rural areas.

In addition, the distance between beneficiary homes is also significantly greater in rural areas when compared to urban areas. Greater distances not only require home respiratory therapy suppliers to use more fuel, but they also these suppliers to employ additional personnel, including when appropriate health care professionals, who provide services in these areas. The locations in rural markets typically have at least one customer service employee, one driver or service provider, one clinician, and one person to provide required minimum levels of service to patients that include maintaining a minimum of 30 office hours as required by CMS. Medicare's quality standards also require certain professionals to be on-call for beneficiaries 24/7. In some areas where the distances are great, an additional service provider, driver, or clinician is required to ensure that beneficiaries have access to these services when needed. With fewer patients per employee in rural areas, higher revenues per beneficiary are needed to cover the cost of providing services.

⁴<http://www.bls.gov/opub/btn/volume-2/expenditures-of-urban-and-rural-households-in-2011.htm>

⁵ *Id.*

The Cost of Providing Services in Low Population Density Areas Exceeds the Cost of Providing Services in CBAs

The cost of providing services in areas among the lowest quartile of all rural counties by population density is approximately **17 percent higher** than the cost of providing the same services in CBAs. The CQRC survey relied upon the 2014 ZIP code list CMS published for the Medicare ambulance fee schedule to estimate the cost of providing services in the lowest quartile of low population density areas. These areas are also known as “super rural” areas.

In addition to the higher fuel costs, the distances between the supplier’s location and the beneficiaries’ home are greater in low population density areas. For example, one CQRC member company operating in Georgia provides services to beneficiaries in a rural area that extends 98 miles from the supplier’s location. It can take the employees one-and-a-half hours to visit the various beneficiaries in this area, resulting in travel that averages approximately 250-300 miles a day. Montana is another example of where an average in-home delivery may be located 110 miles away from the supplier’s location. As noted in the previous section, these greater distances also mean that supplier must higher more staff to ensure that beneficiaries have access to the required services in a timely manner.

Additionally, the lower population density substantially reduces the ability to develop efficiencies and economies of scale. Supplier locations in the lowest population density areas serve fewer beneficiaries due to lower populations. However, the centers’ fixed costs, such as rent, utilities, licensing, information technology infrastructure, financial/accounting, compliance, and employee wages, are almost identical to the locations in more densely populated markets with higher beneficiary counts and more total revenues that come from serving more beneficiaries. Thus, urban centers can cover their fixed costs with a lower per beneficiary rate than a center in a low population area can.

The Single Payment Amounts (SPAs) Are Not Appropriate Proxies for the Cost of Providing Services

Finally, it is important to keep in mind that while some policy-makers have assumed that SPAs represent the cost of providing services in each CBA, this assumption is incorrect. There are several reasons why the competitive acquisition program as designed incentivizes bidding at levels that do not reflect the cost of providing care, especially in nonCBAs. In some instances, companies may have believed that increased volume in a CBA would have offset the lower payment rates. Other bidders indicated that they were bidding to try to “stay in the game” and then would figure out how to make the finances work later in hopes of surviving until payments rates might increase. Some bidders won contracts based on low bids

simply trying to stay in business as long as they could. Still others accepted contract and never performed. Regardless of the rationale, the result is the same. Competitive bid pricing in the current CBAs is artificially low and does not represent an appropriate proxy for the cost of providing services.

One of the central tenants of the competitive bidding program has been to restrict the number of suppliers in the CBAs. Fewer suppliers has led to an increase in the number of beneficiaries served by those who win the contracts. As CMS indicated in the 2007 Final Rule, this volume could offset the lower reimbursement rates. "Contract suppliers will see a decrease in expected revenue per item as a result of lower allowed charges from lower bid prices. However, because there will be fewer suppliers, a contract supplier's volume could increase."⁶

Economists who have argued for reverse auctions for government procurement, such as the current competitive bidding program, view the promise of increased volumes as a central driver of lower bid prices.

In order to compensate for lower prices and lower margins, suppliers seek higher volumes to maintain or increase the total revenue. Buyers, in turn, benefit from the lower transaction costs and economies of scale that result from larger volumes....The procurement volume must be sufficiently high to provide sufficient profits to attract enough suppliers, and provide buyers with enough savings to cover their additional costs.⁷

Other government agencies have likewise acknowledged that the greater the guaranteed volume increases, the lower the bid prices and the greater potential for government savings.⁸ There is no evidence to indicate that this principle is not also present in the Medicare competitive bidding program; in fact, it is a core component that influenced the bidding of the CQRC members as well.

In addition, competitive bidding is based on the basic principles of auction theory, namely that bidders will act rationally and establish bids that are based upon the value of the services they are providing and the information they have available. However, economists have noted that the theory of auctions is poorly developed in terms of concluding that a bid is consistent with the cost of providing services when the environment in which the bidding is conducted is complex. For example, it is unclear how to interpret bid amounts when the contracts on which the bids are based can change over time. This is especially true for the Medicare competitive bidding program because the volume of the services is not set at the time of the bid and will ebb and flow throughout the duration of the contract. "This

⁶72 *Fed. Reg.* 17992, 18080 (April 10, 2007).

⁷Shalev, M.E. & Asbjornsen, S. (2010). Electronic reverse auctions and the public sector – Factors of success. *Journal of Public Procurement*, 10(3), 428-452.

⁸ David C. Wyld, "REVERSE AUCTIONS 101: What Are the Pricing and Lotting Decisions That Make for Success in Competitive Bidding?" 6 (Nov. 2012).

fact affects bidding behavior in subtle ways, and makes it very difficult to give a meaningful interpretation to bidding data.”⁹

Similarly, most bid analyses are based upon assumptions that each auction can be treated in isolation, but again that is not correct in the case of the more complex programs, such as the Medicare competitive bidding program. This fact distorts the interpretation of the bidding data. In the competitive bidding program, CMS offers multiple contracts for bid at the same time. Bidders may adjust their bids based upon their concerns about winning too many or too few contracts. “Little is understood about these simultaneous auctions, or about the effects of the resale market in drilling rights on the equilibria in the auction games.”¹⁰ Although this statement relates to drilling rights, it is no less true for competitions that award access to providing services for Medicare beneficiaries. Some economists have concluded that in these scenarios “an optimal bidding strategy in this situation may involve placing high bids on a few tracts and low bids on several others of comparable value.”¹¹ Given the complex nature of the competitive bidding program, it would be inappropriate to conclude that the SPAs represent the cost of providing services.

This complexity does not mean that competitive bidding should not be used within the Medicare program; rather the point is that policy-makers should not assume that the bidding data gained through this program represents the actual price of providing services. The complexities involved in the bidding process make such a conclusion inappropriate. Even though CMS may have overstated the demand in the CBAs, this act does not address the behavior of the bidders to calculate bids based on the promised increased volume or the complexities of the bidding process.

Because the SPAs are derived from bids that were based upon a promise of increased volume in a complex bidding environment, the SPA does not reflect the cost of services.

Conclusion

In sum, the CQRC cost survey data demonstrates that the cost of providing home respiratory therapy services in nonCBA and the lowest quartile of low population density areas is significantly higher than providing them in CBAs.

While the CQRC appreciates the expansion of the definition of rural areas finalized in November 2014, the adjustment does not address the full difference in

⁹Paul R. Milgrom & Robert J. Weber, “A Theory of Auctions and Competitive Bidding,” 50 *Econometrica* 1117, 1089-1122 (Sept. 1982).

¹⁰ *Id.*

¹¹ *Id.*

costs between CBAs and the lowest quartile of low population density areas, which under the ambulance fee schedule are defined as super rural areas.

In addition, the current policy remains tied to the assumption that SPAs equate to the cost of providing services not only in CBAs, but also throughout the country. As described in this paper, such an assumption is incorrect.

Therefore, we urge policy-makers to work more closely with suppliers and beneficiaries to identify the true of cost providing home respiratory therapy services for establishing Medicare payment rates.