
**The Impact of Competitive Bidding on the Market for DME –
A One Year Update**

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About a year ago, the Centers for Medicare and Medicaid Services (CMS) was preparing to implement a competitive bidding program in ten new Metropolitan Statistical Areas (MSAs). The durable medical equipment (DME) industry mounted a unified effort against the implementation of this program – a program that many regarded as a necessary step to reduce Medicare spending. The purpose of the program was to create a more competitive outcome, highlighted by lower prices. This would occur, CMS predicted, if those wanting to be Medicare providers bid on the right to provide their products. Most economists find the theory of increased competition appealing. However, while this program appeared to encourage competition through bidding, on the supply side the number of sellers of DME were reduced. Since competition is characterized by many sellers, the laudable objective of reducing health care costs through competition seemed to be compromised.

Undeterred, and without regard to the economic impact this rule would have on the DME industry, CMS initiated Round 1 of the bidding program on July 1, 2008. Congress suspended the program on July 15, 2008.

One aspect of this report will be to evaluate the claims of two economic studies that critiqued both the theory behind, and the implementation of, CMS's bidding program. A second tactic will be to focus on new potential problems for the CMS program if the hold on the program is lifted. Primary among the concerns is that by limiting the number of suppliers in the market for DME, the industry would become more concentrated, bringing with it the ills inherent in a market characterized by a few firms with market power. The initial bid results confirm these fears and more, including

reduced quality, access, and service. The true consumers, the patients, are worse off for this plan.

New to the game are the questions of whether firms can survive being left out of the Medicare market. As a consequence, the market may simply devolve to the point where cheap products replace the higher quality models currently used by patients. Also at issue is whether the increased level of specialization will help or hurt customer service. Finally, it must be asked why the realities of the program deviated so far from the predictions of CMS. Large firms were supposed to win a larger percentage of the bids. Once the dust settled smaller firms won a higher percentage. The economies of scale of the larger firms were supposed to help ameliorate any disruptions in supply, but since there aren't enough large firms, the market is in trouble. Furthermore, it may be that CMS incorrectly identified the structure of the market itself leading to an undesirable outcome where CMS benefits at the expense of both DME firms and the patients they are trying to help.

COMPARISONS

Market power is defined as “the ability of a firm to affect market prices through its actions.” (Landsburg, 2008) The consequences of market power are myriad. By effectively reducing the number of sellers in a market to the degree seen in the short period of the bidding program's existence, we have seen that the DME market will cease to be competitive. **If the results of Round 1 had been allowed to stand, there would have been a reduction of 90% in the number of sellers of durable medical equipment in the included MSAs (CMS 2008 Round 1 bid data).** This is only a part

of the problem as detailed in evidence of winning bidders who were incapable of providing service in a timely fashion, if at all. This pattern was mirrored in every MSA in Round 1. The consequences were predicted in last year's studies and are confirmed by the results.

Service Cuts

Based on what was observed in the abbreviated program implementation in the test MSAs, consumers would be forced to deal with less experienced firms or firms that do not even operate in the MSA. For instance, in Pittsburgh, longstanding experienced providers were excluded from the winner's pool. In all, nearly 40% of DME companies awarded contracts in Pittsburgh were firms located *outside* of Pennsylvania. While this structure may work for the provision of clothing or consumer electronics, a steep learning curve—or lack of accessible service—in the provision of medical equipment can be a life or death issue.

In the Dallas-Fort Worth-Arlington area:

- Six of thirteen winners for liquid oxygen or enteral nutrition turned down the referrals flat-out.
- Three of these firms reported they did not have the products available.
- One winner said they could not provide service across the metro area as required by the program.
- Two of these firms were from out of state and reported that they could only provide enteral nutrition via mail service, prolonging a patient's hospital stay.

These, and many other examples, highlight the problems faced by winners who found themselves overwhelmed by their now much larger customer base. Had the program continued unabated, firms would have had no choice but to cut service, lengthen response times, and, in some cases, give up providing items all together. In other instances, contracts were awarded to unlicensed providers, which would have violated state standards in practice.

In a normal market where service is unavailable, a firm would enter the market to fill the void. In the world of CMS bidding, that would no longer be an option. **For example, a total of 4,127 DME companies currently serve the nine competitive bidding areas that were included in the program's initial bidding. Contracts were only awarded to a total of 376 unique companies, thus eliminating more than 90 percent of providers from serving the needs of Medicare beneficiaries and further erecting an absolute barrier of entry to these markets during the three-year term of the contracts. This led to a 239% increase in the patient burden per supplier. Since there is no conceivable way for these firms to grow that quickly to care for patients, and no way for new firms to enter the market, access to needed care would have become a serious concern.**

Reduced convenience and quality

In order to maintain the sanctity of the winning bids, competition from mail order sources would also have to be reduced. Patients using mail order diabetic supplies would have had to find alternative suppliers. An interesting question arises regarding what happens

to those patients who either cannot get out of the house, or live a long way from an approved provider.

Just as troubling is how winners will be able to provide the same quality of products which patients are accustomed to with lower reimbursement rates. Cheaper and less effective glucose meters are available on the market, and would fit into these low bid cost structures; however, due to the unreliable nature of these devices the consequences for diabetics may not be worth the savings.

Less competition

The market for DME is characterized by the very things that illustrate a competitive market. There are many small sellers, free entry into and out of the market, and relatively homogeneous products. Since they are faced with price controls, sellers are price takers which serves to further limit any market power these firms may possess. While some small markets may face a concentrated seller base, larger markets like those in Round 1 have large numbers of providers who must compete on non-price attributes.

Once implemented however, the bidding would act as a classic example of an entry barrier. The ability to be a realistic player in the DME market is thus severely inhibited. Barriers to entry are the fundamental element of a non-competitive market, and the key to the success of a monopolist (Schiller, 2009). In any other market, such an attempt to restrict supply would be soundly defeated under the anti-trust laws of the United States.

SURVIVAL OF FIRMS

The deleterious effects of not winning a bid go far beyond simply reducing the firm's customer base by 30 to 60 percent. First, and most obviously, this will drive firms out of the market, thereby reducing supply and leading to higher, not lower, prices. These higher prices are likely to occur in three years when the contracts are re-bid. At that time bidders will face less competition and those remaining will be seeking to recoup any cost increases they experienced during the previous three years.

Once locked out of the Medicare program, firms will either go out of business, or seek to merge with other firms in the industry. While the CMS Fact Sheet (2007) lays out the groundwork for consolidation, and indeed their expectation of consolidation, this rule makes consolidation more likely if for no other reason than the survival of firms depends upon it. Since consolidation leads to less competition higher prices are likely.

THREE-YEAR PRICE GUARANTEE

CMS has placed winning firms in an unusual position in that they must guarantee prices for three years. In business no firm can succeed by locking in prices for this long. Economic cycles, businesses' and government's budgets, even updates to regulated prices do not occur on a three-year schedule. This part of the plan would actually provide an incentive to overbid at the outset since three years later, a lifetime of uncertainty, you would be stuck with the same price.

An even more unusual aspect of the three-year guarantee is that it comes at the retail end of the market. Retailers have perhaps the least amount of control over prices among those in the supply chain. Accurately measuring their costs of doing business on a

quarterly basis is difficult enough, let alone three years into the future. Additionally, retailers, especially the small retailers that dominate the DME market, have no control over input prices, the costs borne by the manufacturer, or transportation costs. These all get passed onto the retailer, who, in a normal market would use them as a basis for computing the price charged to the customer. To complicate matters even more, in the case of the bidding program, firms have no idea what their customer base will be ex ante.

If costs fall, then bidders are decried as opportunists. If costs rise bidders will experience large losses, and will likely cut service if they do not go out of business altogether. Higher costs would also lead sellers to look for other sources of products. One likely venue would be to explore overseas suppliers. Thus, once more quality would fall, and the consumer would suffer.

Curiously, the predictions of game theory imply that low price guarantees lead to more collusive behavior. (See Hviid and Shaffer (1994), Arbatskaya, Hviid, and Shaffer (2006), Colander (2008)) Firms in the DME industry who want to do business with Medicare are working in a price-controlled world. There is no ability to offer lower prices than anyone else. Firms are better off as a whole by keeping prices higher, in this case at the price controlled level, and competing on service, rather than trying to compete on price. Unfortunately, better service can be costly. Thus, when the next round of bidding is undertaken, prices will have to be higher to cover costs. This action, whether overtly or covertly collusive, is made all the more likely by the reduction in the number of participants in the market.

SPECIALIZATION

Economists view specialization as a good thing in terms of the ability to increase output and reduce prices. However, research on the effectiveness of specialization in health care is mixed. Brekke, Nuscheler and Straume (2007) show evidence that excessive gate-keeping leads to too much specialization in healthcare and too much of a focus on quality. Baicker and Chandra (2004) indicate that in areas where medical specialization is increased Medicare spending per Medicare beneficiary is higher, without the concurring increase in patient satisfaction, quality of service, or lower mortality rates. The bidding program is creating the same problem. Instead of being generalists in the provision of DME, firms will be forced to become specialists since most are unlikely to win a large number of categories.

If the bidding program is allowed to continue, firms that had provided multiple items to a single home would in many cases no longer be eligible to do so. This actually increases the costs of provision, similar to the scenario where different sewage companies were to be allowed in a neighborhood. If each firm were required to lay their own pipes the result would be considerable overlap. This externality is imposed on the homeowners when a new sewage company enters the market and has to dig up the street to lay their own set of pipes. If a patient has one firm supplying oxygen, a different firm providing a bed, and another firm providing and maintaining a wheelchair, rather than the same firm, it leads to more costs, not to Medicare, but to the patient. This added cost is not considered in the legislation. A single firm can, and currently does, provide multiple services and products to a single patient efficiently, without the redundancy that must occur with multiple providers.

WHY THE TARGETS ARE OFF

The composite bid structure of the CMS plan was predicted by Katzman and McGeary (2008) to lead to higher prices in some areas and lower prices – unsustainably low – in others. We may not have seen the higher prices yet, but the lower prices are unmistakably there. Prior to suspending the program, some firms revealed a reluctance or inability to supply some of the categories in which they won. During the brief Round 1 implementation, it was reported that over half of referrals to contracted suppliers resulted in turning down the order for various reasons related to a firm's inability to service patients.

Another possible reason why the results differed from expectations is that these small firms are more likely to take risks to retain a portion of their business. Thus, in a form of self-preservation, they are willing to bid low simply to stay in the game. Large firms are more likely to understand the pricing process over multiple categories and offered bids more in line with reality. Since some small firms were bidding on categories in which they had no experience, their bids were too low, and therefore they likely would have found themselves victims of the winner's curse.

In fact the expectations of CMS, namely that the firms would break down close to 70% large and 30% small, were nearly the reverse of what was seen in practice. This is not at all unexpected if for no other reason than that according to the CMS Fact Sheet (2007) 85% of DME firms enrolled in the Medicare program are small firms. How 15% of firms in an industry could account for 70% of the winning bids is an odd bit of math. The number of winning contracts alone would prevent these numbers from working out. There is also the probability that CMS mis-measured the market.

Traditional economic theory shows that when prices are determined by the market, the largest possible social welfare is created. Those who want the product can get it, and those who want to sell it can find a buyer. The bidding program assumes that government intervention into a market will lead to improved efficiency. In more economic parlance, there is a perceived market failure; although, CMS has completely failed to illustrate what that failure is. Prior to the bidding program, there did not appear to be any groundswell of discontent about the service provided by DME firms, nor was there a record of complaints about consumer price, especially since Medicare already controls price.

Market failures manifest themselves when too much or too little of a good or service is produced for society's interests. Fixing the failure would lead to a more optimal level of production. The price set in the market may not be to the liking of some parties, but that is the case whether you are talking about concert tickets or oxygen. Buyers always want to buy at a lower price and sellers always want to sell at a higher price. However, to fix a market failure, you need to understand who the participants in the market actually are.

In this case we have two different markets. The first is the market between the DME firm and the patients themselves. However, even here there is a problem in accurately measuring the patient's behavior since Medicare controls prices, and many patients' co-pays are covered by "Medigap" insurance policies. Regardless of who is actually paying, on this side of the market we see that patient demand is usually inelastic.² They need the products and will continue to buy them even if the price goes

² Elasticity refers to the degree of sensitivity a buyer or seller has to a change in price. For instance, a buyer has an elastic demand if, when price increases, the amount they buy goes down by a higher

up. The supply is comparably elastic. In such a market when value is reallocated between the parties in a trade it moves toward the side with a relatively more elastic position and away from those with the inelastic position. If this is the only market, the CMS plan is attempting to move some of the value back to the consumer by reducing price.

However, there is another market at work here. The seller is still the DME firm, but the buyer is Medicare.³ In this relationship the supply is more inelastic than the demand. If DME firms can't maintain Medicare business, their bottom line is in trouble so if the price paid to the firm from Medicare drops, they will continue to supply the good. Thus, the value is redistributed from the seller to the buyer.

In this sense the CMS plan has expanded the monopsony power of Medicare. In essence, Medicare can name this lower price due to its position as the sole buyer for a significant portion of the customer base in the DME market. The upside for a monopsonist is that they can use their market power to lower prices for themselves. This is in part a rationale for the increased level of regulation of the DME market. However, one important downside is that by artificially deflating prices, you eventually drive firms out of business. Thus, even bid winners are substantially at risk. This leads to less trade and, from an economic perspective, less benefit for all parties involved. If the CMS program is a policy designed for the public interest, it is not achieving its objective.

percentage than the percentage change in price. Demand is inelastic if the change in the amount bought goes down by a smaller percentage than the percentage change in price.

³ The DME firm receives a payment from Medicare making the firm the seller.

IS THIS PLAN DOING WHAT IT IS SUPPOSED TO?

Somewhat unsettling is the hope that this bidding program will slow the growth of spending. Using data from 2000-2005, the most recent comparable data available, the consumer price index rose 13.4%. During this time spending for non-prescription medical equipment and supplies rose only 1.4%, in part due to price controls. Prescription drugs and medical supplies spending rose 22.4%.⁴ To put this in context with another regulated industry, the increase in prices in the cable industry over these years was 24.4%. While these industries are very different, the idea that price regulation cures price increases cannot be made empirically. (See Brennan (1996), DeFraja (1997), Keeley and Elzinga (2003)) The problem is that once regulated, there is even less incentive to maintain a control on cost. If costs increase too much, you simply go to the regulating agency and ask for an increase. The regulator has no financial incentive to limit price increases, and unless there is an unusually large request, the regulator is more than likely to agree with the increase, especially if it can be shown to be necessitated by cost.

Who really benefits from this plan? CMS should benefit to some extent. The claims of the Fact Sheet (2007) is that patients will pay less out of pocket since the 20 percent they pay will be on a smaller cost basis. However, this claim is dubious because, as previously noted, most claims are paid by Medigap policies, so most beneficiaries never actually pay anything out of pocket. Winning bidders of course will benefit because they now work in a world of less competition. Another, more subtle victor would be private insurance firms. These firms rely on the CMS revised price schedule to

⁴ These breakdowns in medical spending are admittedly broad, but these are the most relevant price categories for DME available through the CPI reports of the Bureau of Labor Statistics. (Dept. of Health and Human Services, 2006)

determine reimbursement rates. If the price schedule falls, then the insurance firm's costs fall too. Unfortunately, this may lead to the dismantling of the DME industry. At some point costs overwhelm revenues and firms can no longer stay in business. If Medicare reimbursement rates are below the marginal cost of supplying a wheelchair, that chair is unlikely to be provided. Firms may decide providing their services to Medicare is not worth the expense, and pull out of the program leaving the most needy patients without service, or sub-standard service. This could lead to one other unintended consequence which would likely raise the cost of care for CMS.

Those patients who can no longer acquire their needed equipment, or whose service, including access to repair services, declines significantly, may be forced into institutionalized care. Studies have shown, and CMS has agreed, that homecare is preferred and has the potential to be less costly (see Kitchener, (2007), LaPlante, Kaye, and Harrington, (2007), Alexih (2006) and Bishop (1999)). However, if patients can no longer access equipment or service they may not have a choice but to enter a long term care facility. This will lead to higher costs for Medicare not lower as the bidding suggests.

Who are the losers? Economically, it might be thought that by reducing supply the industry can be more carefully controlled, thereby reducing waste and fraud. Any negative externalities imposed on the consumer, who in this case is the government, not the patient, could be stamped out. However, this result is suspect as government already controls price. Reducing supply can only lead to a more undesirable outcome. DME firms who fail to win the bidding lose out as they go out of business, or reduce the quality of their products and service. Patients experience lower quality, less service, and the

negative externalities. Finally, and surprisingly, CMS could also lose out, especially if more patients end up hospitalized or in long term care as a result.

CONCLUSION

Other red flags were raised by earlier economic studies, such as the concern of industry capture and job losses. We have not seen these consequences manifested as of yet, but those studies predicted a 5 to 20 year window for such impacts. What is disturbing is how quickly interference with this market has led to the desultory results even with the suspension of the program. Despite all of the bad press free markets have received recently, markets, when left to their own devices, increase the well being of those who participate in them. Correcting perceived market failures with government action is not a guarantee of success. Without a thorough understanding of the unintended consequences – those changes in behavior or outcomes that are not expected to occur, but nevertheless are the logical outcome of an action – even larger problems will result. We are therefore left to ask yet again: what is the purpose of this program?

Of course, none of the analysis here addresses the sharp increases in demand that are projected as baby-boomers' needs for DME increase – just one unintended consequence. This will lead to one of two conclusions. First, there will be tremendous shortages of quality equipment due to the reduced number of firms providing it. Second, when the new bids come in three, six or nine years down the road, those prices will be much higher with no competitive forces to temper those increases.

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