

Designing Competitive Bidding for Medicare



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IBM Center for
**The Business
of Government**

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FOREWORD

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On behalf of the IBM Center for The Business of Government, we are pleased to present this report, “Designing Competitive Bidding for Medicare,” by John Cawley and Andrew B. Whitford.

This report adds to the Center’s growing body of work on market-based government. Earlier IBM Center reports that examined market-based regulatory approaches include “New Tools for Improving Government Regulation: An Assessment of Emissions Trading and Other Market-Based Regulatory Tools” by Gary Bryner and “An Assessment of Brownfield Redevelopment Policies: The Michigan Experience” by Richard Hula. More recently, a Center report by Jacques Gansler, “Moving Toward Market-Based Government: The Changing Role of Government as the Provider,” examined the continuum of approaches government can take in delivering market-based government services—ranging from competitive sourcing to privatization. Taken together, this body of research provides government executives with insights into the new challenges they face in managing the changing nature of work in the public sector.

In this study, Professors Cawley and Whitford provide a case study of how one government agency—the Centers for Medicare & Medicaid Services (CMS) in the U.S. Department of Health and Human Services—has been mandated by Congress to begin competitive bidding in 2006, a market-based approach to setting payments for the managed care portion of Medicare. The report offers strategies that CMS, as well as other federal agencies, can use as they move to competitive bidding and market-based government.

While this report focuses on the use of competitive bidding as a tool for managing the cost of healthcare, we trust that the insights and strategies set forth will be useful to other federal policy makers and government executives as they explore new ways of leveraging market-based approaches to improve the delivery of services and results to citizens.

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EXECUTIVE SUMMARY

The Centers for Medicare & Medicaid Services (CMS) is slated in 2006 to begin a process of competitive bidding to set payments in the managed care portion of Medicare, which was formerly known as Medicare+Choice, but is now called Medicare Advantage (MA). With the goal of better understanding the possible advantages of competitive bidding, this report documents the limitations of fiat pricing (in which the government sets prices directly). Specifically, CMS lacked the information critically necessary to set prices accurately: local healthcare utilization and costs for Medicare beneficiaries in each county of the United States. Lacking this information, the prices set by CMS were disconnected from the costs faced by managed care providers. This had two negative impacts: First, participation of managed care organizations was highly unequal geographically. Second, a large percentage of managed care plans dropped out of the program after 1998, and many vulnerable Medicare beneficiaries were involuntarily disenrolled from their managed care plans, losing prescription drug benefits and having to change doctors.

Competitive bidding represents an improvement over fiat pricing. When properly structured, competing bids from managed care organizations provide CMS with the information it currently lacks: how the utilization and costs of Medicare beneficiaries vary in different parts of the United States. This report describes the basic features of any competitive bidding process, and outlines lessons from three systems of competitive bidding in healthcare markets by the U.S. government: for health insurance for federal employees, for military dependents and spouses, and for durable medical equipment. We also draw con-

clusions from the demonstration projects for competitive bidding that Congress approved but were later blocked by local stakeholders.

This report also outlines constraints CMS faces in designing a competitive bidding system. It is constrained by law to accept bids for entire regions of the United States, and is also constrained in negotiating with plans and in the use of benchmarks for pricing.

Finally, we offer four major lessons from auctions and competitive bidding systems worldwide. These lessons are of critical importance to the design of CMS's bidding system, for previous experience makes clear that poorly designed systems result in taxpayer expense and misallocated resources. First, the credibility of CMS matters. If CMS threatens not to accept any bids above a certain amount, the credibility of CMS to do so will affect plans' bidding strategies. Second, bidders often engage in collusive behavior to deter other bidders from entering. Third, it is important to accurately set reserve prices (above which CMS will refuse to cover additional costs). Fourth, information asymmetries among bidders are important.

The competitive bidding in Medicare that is slated to begin in 2006 offers several possible advantages, including slowing the growth of spending in Medicare and increasing beneficiary choice. However, the extent to which these benefits will accrue will be determined by the specific design of the bidding process. This report offers strategies for smoothing the transition to competitive bidding in Medicare.

Understanding Competitive Bidding

Introduction

Medicare has historically delivered benefits to program beneficiaries through two channels: traditional fee-for-service Medicare (FFS) and Medicare+Choice (M+C). M+C allowed beneficiaries to enroll in a participating health maintenance organization (HMO) and was created with the goal of slowing the rate of growth of Medicare spending and of generating a richer set of benefits for Medicare beneficiaries.

Due to a flawed payment structure in which payments to HMOs for participating in each county of the United States are set by fiat by the Centers for Medicare & Medicaid Services (CMS), the M+C program has withered. Since 1998, large numbers of HMOs exited M+C in many U.S. counties, involuntarily disenrolling Medicare beneficiaries from their managed care plans, resulting in a loss of benefits and harming some of the most vulnerable Medicare beneficiaries.

The HMO exits from the program were due to the fact that program payments to HMOs, set by administrative fiat, corresponded only weakly to variations in costs over geographic area and time. As a result, CMS apparently set HMO payments below average costs in most counties and far above average costs in a few urban counties. Even with the growth of information technology, CMS did not have adequate resources to track the changes in healthcare costs in local markets in order to accurately set payments.

Acknowledging that the fiat system of payment in M+C was flawed, Congress in 2003 passed the Medicare Prescription Drug and Modernization

Act. This law renamed M+C as Medicare Advantage (MA). An important section of the law requires that in the year 2006 CMS use a system of competitive bids to set payments under MA. Under such a system, providers bid for the right to enter the market and enroll Medicare beneficiaries. If the bidding process is properly structured, the bids will reveal the provider's private information about the costs of healthcare delivery in local areas—the precise information that CMS currently lacks. The legislation is largely silent on how this competitive bidding process should be designed, yet the lessons from auction theory, and the experience of government-run auctions in the United States and Europe, prove that the success of competitive bidding processes depends heavily on their design.

This report is aimed at assisting federal policy makers in considering alternative designs for competitive bidding systems in the provision of social services. First, the report documents the limitations of fiat pricing in the old M+C. To understand the advantages of competitive bidding, one must first understand the limitations of fiat pricing. Second, the report outlines the advantages of using competitive bidding and provides case studies of competitive bidding in several markets by the U.S. federal government. Third, the report lays out the specific

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constraints CMS faces in designing a competitive bidding process for Medicare. Fourth, the report provides specific lessons learned from theoretical developments, other government auctions, and controlled studies of bidding mechanisms—lessons that will enable a smoother transition to competitive bidding in Medicare.

The competitive bidding in Medicare that is slated to begin in 2006 offers several possible advantages, including slowing the growth of spending in Medicare and increasing beneficiary choice. However, the extent to which these benefits will accrue will be determined by the specific design of the bidding process. Recent experience in the United States and Europe indicates that poorly designed auctions and competitive bidding processes can be major challenges for taxpayers and for resource allocation. This report is an attempt to sift the lessons from those experiences and the lessons from academic auction theory, and offer them to be used in smoothing the transition to competitive bidding in Medicare.

Understanding Competitive Bidding in General

Competitive bidding can take many forms. Competitive bidding procedures and auctions typically involve sales in which an auctioneer fixes a reserve price, invites bids, and awards the article (or resource or asset) that is being auctioned to the highest bidder. Of course, firms, governments, and individuals use auctions under any number of circumstances, but the key element is that there is usually an expectation that there will be a number of competing buyers for the object.

Much of the theoretical work and real-world experience with these types of processes focuses on auctions. Competitive bidding and auctions, while often different in practice, in theory are quite similar.¹

How the bidding framework is constructed—the way that bidders interact with one another and with the auctioneer—will heavily determine the outcome of the process. In this case, how we build the actual competitive bidding procedure for the provision of Medicare services will determine the extent to which tax revenue is saved and choices are made available to Medicare beneficiaries.

Forms of Bidding

Generally, auctions can be thought of as having two basic forms, in which the bidding takes place simultaneously or sequentially. We first review those mechanisms involving simultaneous decisions. The core question is who proposes the price of the good at auction: Is it the offerer of the good, is it the bidder, or are bids and offers posted simultaneously? For example, in a *posted offer auction*, offerers select a price and a maximum quantity limit. At that point, the prices are displayed, and then bidders are chosen randomly and allowed to make selections from the offerers at their posted prices; trading ends when all bidders have had an opportunity to shop or when all offerers are out of stock. In a *posted bid auction*, the roles are reversed, with bidders posting bids first and offerers making decisions afterward. The key difference between these two institutions is that they differently determine which side of the market can post terms of trade on a non-negotiable basis.²

A number of variants of these forms exist. For example, in a *discriminative auction* there is only one offerer (offering multiple units) and multiple bidders; in that case, bidders pay the price they bid, and so the offerer engages in price discrimination. Variants of this mechanism are used for the auction of Treasury bills each week. In a *first-price sealed-bid auction*, if there is only one unit, then the highest bidder wins the unit and pays the price bid; in a *second-price auction* with one unit, the highest bidder pays the price bid by the second-highest bidder. In a *clearinghouse auction*, both sides post bids and offers, with the price determined by the intersection of the array of bids and offers.

There are an equally broad number of mechanisms that involve sequential decision making by bidders and offerers. In an *offer auction*, sellers make sequential offers and buyers can accept any offer but are not able to make any bids. In a *bid auction*, buyers make sequential bids, but sellers are only able to indicate their acceptance of a bid. In a *double auction*, both bids and offers are publicly announced to the market. Bidders are free to accept a “standing offer”—the most attractive offer on the table at that moment—and offerers can accept a standing bid. Sometimes an “improvement rule” is added—that new bids must be greater than

the standing bid, and likewise for the new offers and the standing offer.

If there is only one offerer, in *English auctions* there is a public announcement of the highest bid at each stage, and bidders are allowed to make higher bids. It is important to note that bids are not announced in sealed-bid auctions until the auctioneer opens the bids and awards the asset to the highest bidder. In *Dutch auctions*, bidders face a decreasing series of prices called out by the auctioneer, and the first bidder who stops the series of called prices is awarded the asset. It is possible for the winning bidder to overestimate the value of the asset and thus overpay for it: to suffer what is known as the “winner’s curse.” This possibility can be mitigated by a *Vickrey auction*, in which the highest bidder wins but pays only the price offered by the next-highest bidder.

There is no single auction format that is ideal for all situations. The long and distinguished history of auction design shows clearly that the competitive bidding mechanism must be tailored to fit the needs of the bid taker.

The Federal Government Experience in Competitive Bidding for Healthcare

In this section, we survey a set of bidding systems put in place by the U.S. federal government for contracting for healthcare goods and services. We limit ourselves to bidding systems administered by the federal government because the geographic service region is an important design element. Unlike states, the federal government must design procedures that work across a very wide variety of areas, with greatly varying local economic and social experiences, and that are resilient to the political pressures that members of Congress can bring to bear.

We survey three systems used by the federal government to allocate healthcare goods and services. First, we examine the Federal Employees Health Benefit Plan (FEHBP), which has over 9 million enrollees. Second, we examine TRICARE, the U.S. Department of Defense Military Health System. Third, we discuss the CMS demonstration projects completed in 2002 for the acquisition of durable

(or home) medical equipment (DME). The DME demonstrations are particularly important for the current discussion because they represent CMS’s only direct experience to date with competitive bidding for healthcare goods and services. In the section that follows this one, we discuss competitive bidding demonstrations that were proposed (but not implemented) in M+C.

Federal Employees Health Benefit Plan (FEHBP)

FEHBP is administered by the federal Office of Personnel Management (OPM) and offers health insurance coverage to federal employees and their dependents; about 9 million people are enrolled in 350 different plans. A broad difference between FEHBP and Medicare is that the former oversees only contracts with private providers of health-care goods and services. It considers applications from comprehensive, prepaid medical plans only (HMOs, PPOs, and Point of Service plans). These health benefits carriers must offer a complete line of medical services, including doctor’s office visits, hospitalization, emergency care, prescription drug coverage, and treatment of mental conditions and substance abuse. The FEHBP does not contract with companies offering only services like dental and/or vision plans, prescription drug plans, or supplemental insurance and disability insurance. Nor does it write contracts with fee-for-service carriers.

A second important difference is that the FEHBP lists broad types of benefits that contracting plans may cover—not a mandatory set of basic benefits and services that CMS required under M+C. Beneficiaries are free to reduce the package of services that they receive and so reduce their exposure to premiums and cost sharing. OPM exercises discretion in negotiating with plans over benefits packages; these negotiations also impact beneficiaries as they can potentially reallocate costs between the program and subscribers over time.³ There are two broad types of plans, nationally rated and locally rated, which differ in how premiums are set to vary across local markets.

It should be noted that from 1997 on, the number of plans participating in FEHBP has also fallen, events interpreted by some to mean that plans are consolidating their operations in markets to enhance their bargaining power.⁴ Several states have been

What Are Market-Based Tools of Government?

By John M. Kamensky and Mark A. Abramson

President George W. Bush's management agenda calls for a "market-based government" that is rooted in "competition, innovation, and choice."^{*} University of Maryland Professor Jacques Gansler notes that market-based government shifts the role of government from being a provider of services to a manager of providers, and moves from a monopoly to a competitive environment.^{**} Recent studies describe a broad set of evolving "market-based" tools that attempt to mimic the dynamics created in the private-sector market. In general, these public-sector market-based tools create a set of incentives, rather than rules, to set the price of services or desired levels of performance. Incentives include the use of competition between providers, changes in entry-exit rules to markets, and the provision of service choices among providers. As a result, the role of the government becomes increasingly identified with overseeing the application of the incentives (like the Securities and Exchange Commission does with the stock market) rather than trying to deliver services directly or directing others to do so. This trend creates new challenges for how government executives will approach their jobs in coming years.

This report by Cawley and Whitford is a case study of an example of this trend. They describe an evolving approach for pricing healthcare, where the federal Centers for Medicare & Medicaid Services (CMS) will allow healthcare companies to competitively bid for healthcare business in the Medicare program. This will effectively use market mechanisms to set the price of healthcare rather than the traditional approach in which government uses rules and regulations to set prices by fiat. However, as the authors note, designing a competitive bidding system is tricky and presents many challenges.

This report expands the IBM Center's research on market-based government. A number of our recent reports focus on the delivery of services using market-based approaches. For example, our 2004 report by Jacques Gansler, "Moving Toward Market-Based Government: The Changing Role of Government as the Provider," describes a continuum of approaches government can take in delivering services. In that report, the continuum extends from traditional direct government service delivery, such as healthcare at veterans' hospitals, to complete privatization, where the government no longer plays a role in delivering a particular area of public service. An example of this cited in Gansler's report is the privatization of British Telecom, which moved telecommunication services and ownership from the public to the private sector.

But the scope of market-based government, as this report shows, can be viewed as being much broader than just the tools associated with the delivery of services. Market-based government also examines regulatory and pricing mechanisms, which can substitute for direct government intervention. Earlier IBM Center reports on this dimension include "New Tools for Improving Government Regulation: An Assessment of Emissions Trading and Other Market-Based Regulatory Tools," by Gary Bryner (October 1999), and "The Auction Model: How the Public Sector can Leverage the Power of E-Commerce Through Dynamic Pricing," by David Wyld (November 2002). This report on competitive bidding adds to this growing body of research.

The range of market-based tools spans two dimensions. One is the delivery of government services; the other is the setting of regulatory standards or pricing levels.

The traditional approach in managing government programs (see box #1) is for government to deliver services directly itself, using its own employees and direct appropriations. When government costs are determined via the budget process, service recipients will receive more or less of the service, depending on the budget set by government policy makers (and how well the program is managed).

In contrast, a market-based approach to delivering services (see box #2) relies on a variety of tools or strategies that range from government involvement in the delivery of services (co-sourcing, public-private partnerships) to government management of the delivery of services (franchising, competitive sourcing, contracting out, outsourcing) to a complete break in government involvement (privatization, divesture). Using market-based tools to deliver government services has been the focus of much of the policy debates in recent years and seems to have great potential for improving the delivery of services in a cost-effective manner. For example, some agencies use competitive sourcing to compete functions that are commercial in nature—competing those in the government who are currently providing the service against potential providers in private-sector companies. Studies show that market-based competition reduces the costs of program delivery by about 30 percent regardless of whether government or private industry wins the work. These savings are attributed almost solely to the effects of the competition itself.

A second traditional approach is for government regulators to specify how a regulated entity must act or how high a price it can charge (see box #3). Examples include the Environmental Protection Agency (EPA) air quality regulations that specify "best available technologies" for pollution-scrubbing smokestacks on power plants, the Federal

Communications Commission's (FCC's) administrative granting of rights to use the public electromagnetic spectrum to private users, and CMS's historical approach of defining how much the government would be willing to pay doctors for specific medical procedures by administrative fiat.

In contrast, market-based mechanisms (see box #4) for setting regulatory standards or prices use various incentives for users of services to determine the price and quantity of services to be delivered. For example, EPA is moving from a reliance on requiring industry to use "best available technology" to reduce pollution, to the use of emissions pricing. Under emissions pricing, companies are given permissible levels of pollution that they can generate, but they can sell those rights to another company if they are able to reduce their own emissions below that target—or they can buy those rights if another company has a lower emissions rate. A similar effort by EPA to reduce emissions now allows industry to identify its own approaches for reducing pollutants in the atmosphere rather than impose government regulations aimed at reducing emissions below specified targets. This initiative—Project XL—resulted in industry reducing pollution substantially below agreed-upon targets long before the formal regulatory process would have done so. Likewise, the FCC now conducts auctions to sell licenses for the right to use spectrums of electromagnetic bandwidth to telecommunications companies or other users.

Because of increased acceptance of market-based approaches, Congress is now beginning to adopt such approaches more frequently as solutions to various public policy challenges. This report on CMS's competitive bidding initiative is an excellent case study of the challenges of applying this new approach. The CMS competitive bidding initiative should be followed closely and evaluated in future years to determine what lessons can be learned about the use of competitive bidding. Such knowledge will prove valuable to both CMS and other agencies in government that might want to follow step and use competitive bidding as a market-based tool.

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* Office of Management and Budget, "President's Management Agenda, FY 2002," August 2001, p. 17.

** Jacques Gansler, "Moving Toward Market-Based Government: The Changing Role of Government as the Provider," IBM Center for The Business of Government (March 2004), p. 6.

Traditional Tools of Government vs. Market-Based Tools

Dimension	Delivery of Services	Setting of Regulatory Standards or Price Setting
Government Sets Price or Service Level	#1 Traditional approach: <ul style="list-style-type: none"> • Government owns and operates programs or services, such as a veterans' hospital. • Government delivers programs via grants or contracts through third parties, such as workfare benefits delivered by state governments. 	#3 Traditional approach: <ul style="list-style-type: none"> • EPA's "best available technologies." • FCC's regulation of spectrum. • CMS's healthcare price setting by fiat. • Direct funding of highways. • GSA setting discounted prices for unused assets.
Market Sets Price or Service Level	#2 Market-based approach: <ul style="list-style-type: none"> • Government-operated franchise or revolving funds, such as the Treasury's fund that provides dozens of services for different agencies on a fee basis. • Public-private partnerships, such as the joint development and provision of flight training for the Royal Air Force. • Competitive sourcing, such as A-76 competitions in delivering lawn-care services on military bases. • Contracting out, such as the design and operation of a computer service center. • Outsourcing, such as the operation of a website. • Privatization, such as the spin-off of nuclear enrichment plants into a privately held corporation. • Divestiture or asset sale, such as the sale of on-base housing for military families. 	#4 Market-based approach: <ul style="list-style-type: none"> • EPA's emissions trading and Project XL, where industry agrees to meet specific pollution reduction targets. • FCC's electromagnetic spectrum auctions. • CMS's healthcare competitive bidding. • Toll-road charging for the use of highways. • GSA conducting online auctions of surplus assets.

left with no HMOs participating in FEHBP.⁵ Plans that do participate are selected by fairly basic criteria: meeting a set of qualifications and offering at least a minimum benefit package. OPM negotiates benefits and rates annually, but it does not solicit competitive bids.

However, competition by multiple plans in the same area may reduce costs to beneficiaries.⁶ In FEHBP, the federal government pays 75 percent of the costs of the plan up to a pre-specified national ceiling. It is not clear whether this national subsidy scheme affects the competition between plans in a local area, especially given the broad variation in plan costs across areas. Yet proposals for Medicare reform are often inspired by OPM's ability through FEHBP to serve so many beneficiaries across many different sites while retaining significant plan choice.⁷

For example, the National Bipartisan Commission on the Future of Medicare, jointly chaired by Senator John Breaux and Congressman Bill Thomas, offered several proposals based on concepts drawn from FEHBP. A key concern in most proposals was how the government's contribution ("reference premium") was set; competitive bidding was offered as an alternative mechanism. A primary reason for this difference is that a level-dollar subsidy creates incentives for plans to hold down premiums, but may lead to selection based on employee risk.⁸ Given the difference in the populations served by Medicare and FEHBP, this allows plans to build in "risk adjustment" in their bids. More importantly, under competitive bidding, plans would bear the risk of costs turning out to be higher than expected.

TRICARE

TRICARE is the U.S. Department of Defense (DoD) program for providing for the healthcare of members of the uniformed services, their families and survivors, and retired members and their families. Providers include Military Treatment Facilities (MTFs) as well as networks of civilian healthcare professionals. Three plans are offered: TRICARE Prime, a managed care option that integrates military and civilian healthcare into a single healthcare system; TRICARE Standard, a fee-for-service option that is the same as the former Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) benefit; and TRICARE Extra, which is

similar to TRICARE Standard but offers discounts to patients when they use TRICARE network providers. TRICARE For Life, an additional program added in 2002, serves the dual-eligible Medicare population. TRICARE serves almost 9 million total beneficiaries. Like Medicare, TRICARE delivers a defined benefit mandated in law; therefore, unlike FEHBP, beneficiaries cannot select plans with low coverage in order to reduce their premiums.

In TRICARE, authorized providers include facilities, doctors, or other healthcare professionals that meet the licensing and credentialing certification requirements in the state where service is rendered, and meet the TRICARE regulations and practices for that area of healthcare. TRICARE-authorized providers may or may not agree to accept the TRICARE Maximum Allowable Charge (TMAC) as payment in full for services. TRICARE-certified, non-network providers are those that do not accept the TMAC rate, but may accept assignment on a claim-by-claim basis. TRICARE-network providers have contract agreements with the Managed Care Support Contractor in one of the 11 TRICARE regions, and accept negotiated rates as payment in full for medical care or services. Currently TRICARE contracts with seven contractors in 11 regions; new contracting will reduce those numbers to three contractors in three regions.

Thus TRICARE is a peculiar mixture of government-provided services and government-funded service provision. Roughly equal amounts of dollars are spent to administer treatment at the DoD MTFs and through TRICARE network- and non-network providers. Of course, one reason DoD MTFs are retained and funded at these levels is that they must remain large enough to handle wartime casualties.⁹ Moreover, it appears that purchased care is 47 to 65 percent more expensive than care through MTFs.¹⁰ However, TRICARE reimbursement rates are pegged to Medicare reimbursement rates, and although they can be raised to ensure access, TRICARE has rarely done so.¹¹ As such, retention of providers in the TRICARE network is a growing problem.

In August 2002, TRICARE issued a request for proposals for new contracts through competitive bid. Potential contractors could bid on all regions (up to three) but win only one. This was an open

process with comments and questions incorporated into draft documents for public viewing. The presentations were oral, not written. Together the government and the contractors will share risk for costs; contractors are paid fixed prices per claim or per beneficiary for administrative services. The contracts include incentives for performance, and also for moving beneficiaries into MTFs. Thus, TRICARE's bidding process is substantially different from the situation for Medicare. Bidding is primarily for administrative oversight and contract management, not assembling and maintaining a base of providers. Moreover, only one bidder can win the prize of contract management.

Durable Medical Equipment

Two demonstrations were completed in 2002 on competitive bidding for durable (or home) medical equipment supplied under Medicare contracts. These demonstrations are important for competitive bidding for Medicare generally because DME payments are widely viewed as exorbitant, the bidding mechanism was designed to reduce those payments, and the demonstrations were actually carried out. These attributes mean that competitive bidding for DME should be closely studied when designing a Medicare bidding process.

DME is medical equipment that a doctor orders for use in the home. DME items must be reusable, such as walkers, wheelchairs, or hospital beds, and are paid for under Medicare Part B and Part A for home health services. In a number of important ways, the DME industry developed over time as Medicare became the primary mechanism for supplying the elderly and disabled with healthcare services. DME developed as a highly fragmented industry, one largely composed of small businesses.¹² The growth of home healthcare in the 1980s led to additional oversight of DME payments, a situation exacerbated by concerns about rental contracts. In the 1990s, oversight shifted to concern about fraud, and a number of high-profile cases increased the call for fluid and visible contracting mechanisms.¹³ While there is a significant non-Medicare market for DME, the DME industry has increased its dependence on Medicare for a share of its business because of the growth in the elderly population.¹⁴

The purpose of competitive bidding in this environment is presumably to reduce costs. A number of studies support the claim of reduced costs; the most recent estimates indicate savings of 18.1 percent at the Polk County, Florida, site and 21.8 percent at the San Antonio, Texas, site.¹⁵ Two rounds of bidding occurred in Polk County over three years; the fee schedule generated from the first round remained in effect for two years. The five product categories included in the first round dropped to four in the second. One round occurred in San Antonio over 23 months for five product categories.

The bidding occurred as follows. Each category required separate bids, and bidding took place in four stages. First, a screen selected suppliers on the basis of eligibility and quality standards. Second, each bid was calculated as a composite within product categories; CMS then chose a cutoff composite price. Elements in setting this price included the bidder's supply capacity and geographic coverage. Third, for those bids equal to or below the cutoff, CMS solicited references from referral agents and financial institutions. Last, CMS supplemented this with on-site visits to determine that the bidders could provide quality goods and services. Multiple suppliers were chosen for each product category. The fee schedule was developed from the bids received.

The response of suppliers prior to the demonstration was generally negative.¹⁶ Understandably, smaller suppliers anticipated the ability of larger suppliers to produce lower (or "low ball") bids.¹⁷ But CMS also recognized the need to retain significant competition in the market for succeeding rounds of bidding. At this point, the effect of the bidding process on the competitiveness of the market seems limited. Even so, after the fact, suppliers voiced concerns about the structure of the bidding process. While even some smaller suppliers are accustomed to bidding for managed care contracts, the demonstration did not offer bidders the benefits of exclusivity and therefore the promise of higher volume.¹⁸ In addition, suppliers have argued a number of times that competitive bidding reduces costs only at the expense of reduced service and quality to beneficiaries. Some argue that the primary use of the demonstration is to extract

information that can be used in setting fee schedules in those areas, if not other areas as well.¹⁹

The basis for these demonstrations was the Veterans Health Administration's (VHA) mechanisms for soliciting bids for DME. However, CMS has consistently voiced concerns that the scale difference between Medicare DME and VHA DME renders the comparisons incomplete. More importantly, though, the VHA is a large purchaser of DME, but is not the largest purchaser in most markets. Medicare in many cases can act as a monopsonistic purchaser of goods and services, so the state of competition in the local supplier market means that Medicare may not be able to—or even wish to—match the fees VHA can attain for DME. This means that even if VHA's bidding mechanism was portable to Medicare DME, the scale of the Medicare competitive bidding enterprise makes it difficult to act like the VHA.

Lessons Learned

This section surveyed some of the bidding systems previously used by the U.S. federal government to contract for healthcare goods and services. Because we have limited ourselves to surveying those bidding systems that are administered by the federal government (in part because the geographic service region is an important aspect of how CMS will design bidding for Medicare Advantage), none of the systems in this collection is a perfect analogy to what CMS has been asked to construct. While states have constructed experimental markets for state-supplied healthcare, CMS faces tougher challenges: to design procedures that work across a wide variety of areas, with greatly varying local economic and social experiences, and that are resilient to the political pressures that members of Congress can bring to bear.

Three existing government programs for the procurement or delivery of healthcare goods and services—FEHBP, TRICARE, and the CMS demonstration projects for durable medical equipment—each provide insights into the problems CMS faces.

FEHBP provides a broad array of healthcare goods and services, but there are important differences between FEHBP and MA. FEHBP engages mostly in direct negotiation of costs; bidding (as

it is conceived of in MA) is not present in FEHBP. Moreover, the service districts to be offered in MA are much larger, more diverse, and more intensely populated than those in FEHBP.

TRICARE serves a military (rather than an elderly) population, its structure is different, and its bidding process is unique. Because only one bidder can win the prize of contract management, the incentives to bidders are stronger than will be the case under MA. Importantly, TRICARE is also a system for providing—not just insuring—healthcare goods and services.

The DME demonstrations are particularly relevant since they represent the only CMS direct experience to date with competitive bidding for healthcare goods and services. An important lesson from the experience of these three programs is that CMS will face significant pressure to get the rules right before the process begins. In the next section, we describe how difficult this will be.

Acronyms

Area Advisory Committees (AAC): Created by the BBA of 1997 to facilitate interactions between CMS and local communities chosen for competitive bidding demonstrations.

adjusted community rate (ACR): A CMS term that refers to the premium an HMO would charge for providing Medicare services to a community-rated group, adjusted for the greater utilization associated with Medicare beneficiaries.

Balanced Budget Act of 1997 (BBA): Legislation that changed the formula for HMO payment in M+C, divorcing it from local healthcare costs.

Civilian Health and Medical Program of the Uniformed Services (CHAMPUS): See TRICARE.

Centers for Medicare & Medicaid Services (CMS): The agency that administers Medicare. Prior to 2001, CMS was known as the Health Care Financing Administration (HCFA).

Competitive Pricing Advisory Committee (CPAC): Created by the BBA of 1997 to implement competitive bidding demonstrations in M+C.

durable medical equipment (DME): Medical equipment, such as a wheelchair or hospital bed, that is prescribed by a physician. Medicare has sponsored competitive bidding demonstrations for DME purchases.

Federal Employees Health Benefits Plan (FEHBP): The health insurance plan for federal employees.

fee-for-service Medicare (FFS): The traditional manner of receiving Medicare benefits. Beneficiaries may visit any qualified and willing provider, who will be paid for each service rendered. For Medicare beneficiaries, FFS is an alternative to Medicare Advantage (MA).

Health Care Financing Administration (HCFA): The agency that administered Medicare. Renamed the Centers for Medicare & Medicaid Services (CMS) in 2001.

Department of Health and Human Services (HHS): The federal department that includes CMS.

health maintenance organization (HMO): One type of managed care organization (MCO). HMOs typically pay providers on a salary or capitated basis, and offer patients a limited choice of providers. As part of the M+C program, CMS has contracted with HMOs to deliver healthcare services to Medicare beneficiaries since 1982.

Medicare Advantage (MA): MA is one method (in addition to traditional fee-for-service Medicare) for Medicare beneficiaries to receive program benefits. In MA, beneficiaries enroll in and receive health insurance coverage through a managed care organization (MCO). Prior to 2004, MA was called Medicare+Choice (M+C).

Medicare+Choice (M+C): M+C was one method (in addition to traditional fee-for-service Medicare) for Medicare beneficiaries to receive program benefits. In M+C, beneficiaries enroll in and receive health insurance coverage through a managed care organization (MCO). In 2004, Medicare+Choice was renamed Medicare Advantage (MA).

managed care organization (MCO): An organization that assumes the financial risk of providing healthcare services to a set of patients. In most cases the MCO does not itself provide patient care, but contracts with providers to render such services. MCO is a general term that includes health maintenance organizations (HMOs) and preferred provider organizations (PPOs).

Metropolitan Statistical Area (MSA): Geographic areas consisting of one or more counties that are defined by the Office of Management and Budget based on Census data.

Military Treatment Facilities (MTF): Providers of healthcare to members of the U.S. military.

Office of Personnel Management (OPM): The government organization that administers the Federal Employees Health Benefit Plan (FEHBP).

Private fee-for-service (PFFS): One of several options under Medicare managed care. A PFFS product must cover all Medicare benefits.

preferred provider organization (PPO): One type of managed care organization (MCO). PPOs differ from HMOs in that PPO physicians are paid on a fee-for-service basis while HMO providers are typically paid on a salary or capitated basis. PPOs typically offer the patient greater flexibility in choosing a provider than an HMO offers. In 2003, CMS began a demonstration to incorporate PPOs into the Medicare+Choice program.

provider-sponsored organization (PSO): An MCO formed by a group of providers. The PSO form was created by the BBA of 1997 with the intent that CMS would contract with PSOs to provide services to beneficiaries through M+C.

Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA): Legislation that created the fiat payment system used in M+C from 1982 to 1997.

TRICARE Maximum Allowable Charge (TMAC)

TRICARE: A program that provides members of the U.S. military with coverage that supplements the military's medical care system. Eligible persons include military retirees and their dependents. TRICARE is not an acronym; it refers to the three plan options: TRICARE Prime (an HMO), TRICARE Extra (a PPO), and TRICARE Standard (the same as the original fee-for-service CHAMPUS plan with provider choice).

Veterans Health Administration (VHA)

The CMS Experience in Moving from Fiat Pricing to Competitive Bidding

In order to understand the advantages of competitive bidding, one must first understand the limitations of fiat pricing. This section describes the system of fiat pricing used to set payments in Medicare+Choice (M+C) and documents two major limitations of the current pricing system: a set of plan options and benefits that is highly unequal geographically, and large numbers of plans exiting the program.

Medicare, established in 1965, provides healthcare to elderly and disabled Americans. Medicare beneficiaries receive program benefits in one of two ways. In the traditional Medicare program, a beneficiary visits any qualified and willing provider and the federal government pays the provider for each covered service rendered. Roughly 88 percent of the beneficiary population choose fee-for-service Medicare. The second way to receive Medicare benefits is Medicare+Choice (M+C), in which beneficiaries enroll in a participating HMO and allow it to manage their healthcare. The program was intended to contain costs and expand the set of benefits available to Medicare beneficiaries. As of May 2003, 4.6 million beneficiaries, or 11.7 percent of all Medicare beneficiaries, were enrolled in M+C.²⁰ Roughly \$37 billion was spent on M+C in 2002.²¹

M+C was created by the Balanced Budget Act of 1997 with the hope that introducing managed care to Medicare would slow the rate of growth in program expenditures. While enrolling in a managed care organization through M+C might result in less choice of providers, millions of beneficiaries enrolled because M+C plans offered supplemental benefits not guaranteed under Medicare, such as prescription drug coverage.

Since 1998, large numbers of HMOs have exited Medicare+Choice, involuntarily disenrolling hundreds of thousands of Medicare beneficiaries from their managed care plans. These exits are due to the fact that program payments to HMOs, which are set by administrative fiat, respond only weakly to variation in costs over geographic area and time. The system of setting M+C payments required the CMS to set HMO payments for each county of the United States that accurately reflect the costs of serving Medicare beneficiaries in the local market. The fundamental problem with this system is a lack of information. While HMOs exit some counties, there has been healthy participation of HMOs offering a rich set of benefits in other counties, which suggests that CMS underestimates the costs of HMOs in many counties and overestimates costs in others. Even with the growth of information technology, decision makers do not have adequate resources to track the changes in healthcare costs in local markets in order to accurately set payments.

The Medicare Prescription Drug and Modernization Act of 2003 renamed Medicare+Choice as Medicare Advantage (MA) and mandates a schedule for transitioning to a system of competitive bidding. Generally, under such a system, providers would bid for the right to enter the market and enroll Medicare beneficiaries. If the bidding system is properly structured, their bids will reveal the provider's private information about the costs of healthcare delivery in local areas—information that CMS currently lacks. Advocates argue that competitive bidding will use market forces to more accurately set prices, increase provider participation in the program, and expand the choice

of healthcare delivery for elderly and disabled Medicare beneficiaries.

The Limitations of Fiat Pricing in Medicare+Choice

Since 1997, enrollment in M+C and the number of participating HMOs have fallen each year. Increasing numbers of counties have been left without any HMO option for Medicare. The crisis in M+C was due in large part to the setting of prices by administrative fiat.

Despite the limitations of M+C, Thomas A. Scully, former administrator of CMS, stated that the Bush administration's goal was to raise the percentage of Medicare beneficiaries enrolled in programs like MA to 30 percent by 2005.²² President Bush has called for strengthening the MA program to provide greater choice of plans for senior citizens.²³ Congress expanded the program by allowing preferred provider organizations (PPOs) to partici-

pate.²⁴ The institutional commitment within CMS and the current administration to this program makes it especially important to understand how it can best be managed.

The M+C Payment System

Faced with rapidly rising Medicare costs, Congress in 1982 directed the Centers for Medicare & Medicaid Services²⁵ to contract with HMOs to provide managed care to Medicare beneficiaries. Under this program, titled Medicare+Choice,²⁶ HMOs furnished all Medicare-covered services in exchange for a per-capita prospective payment. Under current law, those eligible for Medicare Part A (hospital insurance) and enrolled in Medicare Part B (supplementary medical insurance) may enroll in a managed care plan if one is active in their county of residence.²⁷ Participation in the M+C program is optional for both HMOs and Medicare beneficiaries (who may opt for traditional fee-for-service Medicare).

Timeline of M+C

1982: The 1982 Tax Equity and Fiscal Responsibility Act (TEFRA) directs the Health Care Financing Administration (HCFA)—now called the Centers for Medicare & Medicaid Services (CMS)—to contract with health maintenance organizations (HMOs) to provide managed care to Medicare beneficiaries. This program is now called Medicare Advantage (MA) and was previously called Medicare+Choice (M+C). HMOs were paid 95 percent of the projected average fee-for-service costs of Medicare beneficiaries in that county, multiplied by a risk-adjustment factor based on the enrollee's age, sex, Medicaid eligibility, institutional status, and working status.

1996: CMS initiates a competitive bidding demonstration in M+C in Baltimore. In response to local and congressional opposition, it is later abandoned.

1997: The Balanced Budget Act changes the formula determining the amount HMOs are paid under M+C. Starting in 1998, CMS pays HMOs the greatest of the following three rates: A blend of a national rate and an area-specific rate (very rarely paid), a national minimum, and a minimum percent increase over the previous year's payment. This change is significant because it divorced payments to HMOs from underlying local costs of delivering healthcare. In the years after the BBA of 1997 takes effect, large numbers of managed care plans exit M+C, involuntarily disenrolling hundreds of thousands of Medicare beneficiaries.

The BBA also created the Competitive Pricing Advisory Committee (CPAC), and charged it with designing and implementing between four and seven competitive pricing demonstrations in M+C. CMS selects Denver as the site of a new competitive bidding demonstration in M+C, but these plans are abandoned due to local and congressional opposition.

1999: The Balanced Budget Refinement Act mandates that CMS, starting in the year 2000, pay bonuses of 5 percent the first year and 3 percent the second year to HMOs that offer M+C in previously unserved counties.

Also, CPAC designates Kansas City and Phoenix as the sites of competitive bidding demonstrations for M+C; again, local and congressional opposition lead to the cancellation of the demonstrations.

2003: The Medicare Prescription Drug and Modernization Act renames Medicare+Choice (M+C) as Medicare Advantage (MA) and requires that in 2006 CMS use a system of competitive bids to set payments under MA.

From 1982 through 1997, county CMS payments were set according to the 1982 Tax Equity and Fiscal Responsibility Act (TEFRA). Under TEFRA, HMOs were paid 95 percent of the projected average fee-for-service costs of Medicare beneficiaries in that county, multiplied by a risk-adjustment factor based on the enrollee's age, sex, Medicaid eligibility, institutional status, and working status. HMOs were paid only 95 percent of projected local costs because CMS expected that HMOs could save 5 percent by operating more efficiently. Subject to CMS approval, HMOs were allowed to charge a premium to enrollees in exchange for services not covered by Medicare.

The TEFRA payment formula was criticized for overpaying HMOs. Despite the strategy of paying HMOs 95 percent of projected average fee-for-service costs, it cost CMS more to enroll beneficiaries in M+C than if they had remained in fee-for-service Medicare.²⁸ The reason is that enrollees in M+C have proven to be systematically healthier than fee-for-service Medicare beneficiaries, and as a result the medical expenses of the M+C enrollees were far lower than 95 percent of average fee-for-service costs.

The TEFRA payment formula was also criticized for creating disparities in payments across counties; in particular, few HMOs entered rural counties. It was also argued that tying managed care payments to

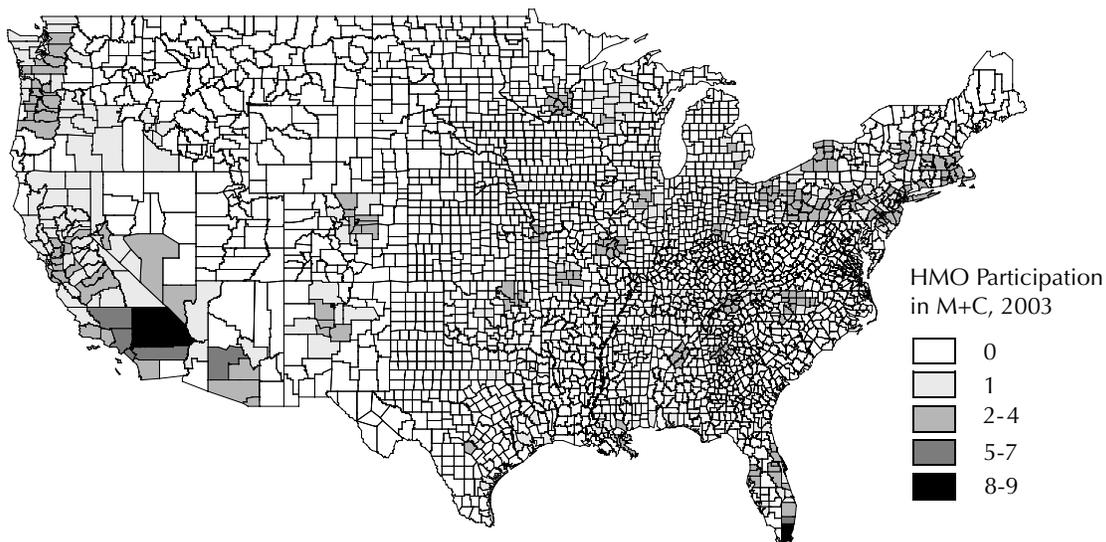
local fee-for-service charges rewarded counties that were inefficient at providing fee-for-service care.

Concerned about the rising cost of caring for Medicare beneficiaries, Congress passed the Balanced Budget Act of 1997 (BBA), which changed the formula for HMO payment in M+C.²⁹ Since 1998, CMS has paid HMOs the greatest of the following three rates:

1. A blend of a national rate and an area-specific rate. The blend was intended to reduce the variation in payments across counties by increasing the lowest rates. If total projected payments exceed a budget limit, the blended rate was reduced. The budget limits have typically been binding, forcing reductions so great that rarely has any county received the blended payment.
2. A national minimum payment, adjusted annually, intended to increase the rates in historically lower-rate counties where M+C plans generally have not been offered.
3. A minimum increase of 2 to 3 percent over the previous year's payment, intended to somewhat protect high payment areas.

There was one final component of HMO payment in this program. The Balanced Budget Refinement Act of 1999 mandated that CMS, starting in the

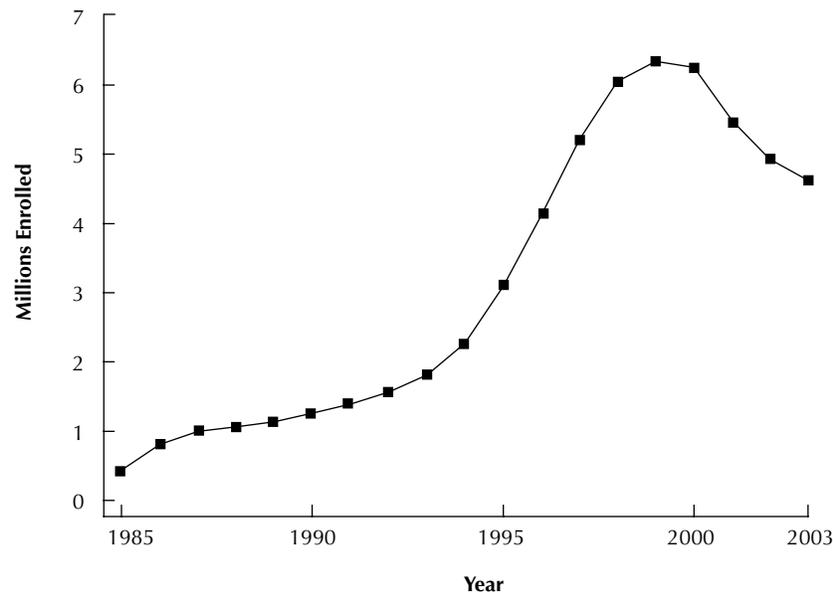
Figure 1: Number of HMOs Participating in Medicare+Choice Per County in 2003



Notes:

1. Data: CMS Medicare state-county-plan market penetration file, March 2003.

2. We define a managed care plan as participating in a county M+C market if CMS market penetration files indicate that the plan has enrolled at least 0.5 percent of the county's Medicare-eligible residents.

Figure 2: Medicare+Choice Enrollment, 1985–2003

Data: HCFA/CMS Medicare Managed Care Contract Reports, 1985–2003.

year 2000, pay bonuses of 5 percent the first year and 3 percent the second year to HMOs that offer M+C in previously unserved counties.³⁰ Before any bonuses, per-enrollee monthly payments in 2003 ranged from \$513.63 to \$872.46.

A critically important aspect of the BBA is that it divorced M+C payments from market prices. Prior to the BBA, HMOs were paid 95 percent of fee-for-service costs in a particular county. Afterwards, payments were independent of local costs. This increased the burden on policy makers to continuously update payments based on changes in costs in local markets—information that policy makers lack.

Limitations of the M+C Payment System

There are two pieces of evidence that the system of setting prices by administrative fiat has failed. First, participation of HMOs in this program has been highly unequal geographically. Figure 1 depicts the number of HMOs participating in M+C by county of the U.S. in the year 2003. The map indicates that more populous counties are more likely to support HMO participation in M+C.

The geographic distribution of plans has remained quite constant over time; some areas have six or more HMOs routinely participating, while oth-

ers have zero HMOs participating year after year. Because M+C plans compete for enrollment on the basis of benefits, inequities in the number of M+C plans become inequities in benefits. Beneficiaries living in counties with many competing M+C plans enjoy a rich set of benefits (such as prescription drug and eyeglass coverage), while those living in counties with little competition between plans receive only the statutory minimum Medicare benefits and pay higher premiums.³¹ As a result, there are glaring disparities between Medicare beneficiaries; some have no choice of health coverage at all, while others enjoy great choice and a rich set of benefits. As a rule, beneficiaries living in rural areas have had few if any choices of coverage, while those living in urban areas enjoyed more choice and better benefits under M+C.³² The geographic disparity in program participation and benefits is the first piece of evidence that fiat pricing in this program has failed.

The second piece of evidence is that the Balanced Budget Act of 1997, enacted in part to eliminate geographic inequalities in program outcomes,³³ had the unintended effect of causing a massive exit of HMOs from the M+C program.

Figure 2 depicts the number of Medicare managed care enrollees from 1985 to 2003, a period during

which enrollment grew from 440,000 in 1985 to a peak of 6.35 million in 1999. The peak in enrollment in 1999 coincides almost perfectly with when the BBA took effect in 1998. Since the BBA was enacted, enrollment has fallen from over 6 million to 4.6 million in 2003.³⁴ In 2003, 11.7 percent of all Medicare beneficiaries chose M+C.³⁵

Figure 3 shows that after the BBA took effect in 1998, the number of participating plans fell dramatically from 346 in 1998 to 149 in 2003.

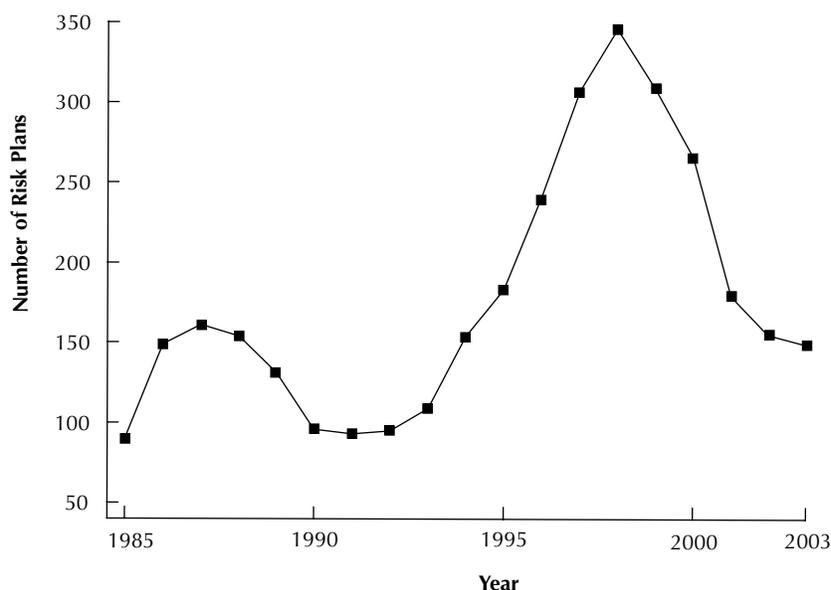
When a participating HMO withdraws, its Medicare enrollees are involuntarily disenrolled. For each year since 1998, hundreds of thousands of Medicare beneficiaries have been involuntarily disenrolled from the program for this reason; see Table 1. The peak occurred at the end of 1999, when 934,000 beneficiaries, or 14.9 percent of all Medicare beneficiaries, were involuntarily disenrolled from their managed care plan as a result of HMO withdrawals from M+C.

Beneficiaries involuntarily disenrolled from a M+C plan were forced either to find another HMO in their county with a risk contract from Medicare or to return to traditional fee-for-service Medicare. Laschober et al. (1999) surveyed Medicare benefi-

ciaries whose HMO withdrew from Medicare at the end of 1998 and Booske et al. (2002) surveyed Medicare beneficiaries whose HMO withdrew at the end of 2000. Laschober et al. (1999) found that a third of those involuntarily disenrolled experienced a decline in benefits, 39 percent reported higher monthly premiums, and one in seven lost prescription drug coverage. The more recent results of Booske et al. (2002) are similar; 37 percent of those involuntarily disenrolled report being less satisfied with their new insurance coverage, 56 percent reported higher monthly premiums, and 51 percent paid more for prescription medicines. These adverse impacts of disenrollment have tended to fall on the most economically vulnerable. Those who have been involuntarily disenrolled are, on average, lower-income, less educated, and in worse health than the remaining Medicare+Choice enrollees.³⁶ In addition, involuntary disenrollment may also be more damaging to rural Medicare beneficiaries.³⁷

The withdrawal of HMOs from M+C also affected Medicare beneficiaries who were not disenrolled. The withdrawal of HMOs decreases the set of options for all Medicare beneficiaries in a county. The participation of a single HMO in an M+C market offered Medicare beneficiaries in that market an alternative to fee-for-service care. The participa-

Figure 3: Number of Medicare+Choice Plans, 1985–2003



Data: HCFA/CMS Medicare Managed Care Contract Reports, 1985–2003.

Table 1: Number of Medicare Managed Care Enrollees Involuntarily Disenrolled, 1998–2002

Year	Number of Beneficiaries Disenrolled
1998	407,000
1999	327,000
2000	934,000
2001	536,000
2002	198,000

Sources: HCFA (1999), Laschober et al. (1999), HCFA (2000b), *Healthcare Financial Management* (2001, 2002). The year in the first column indicates the last year the HMOs participated in the market.

tion of several HMOs in a market results in greater competition for enrollment, which has the salutary effect of increasing benefits and/or lowering costs for managed care enrollees.³⁸ When HMOs withdraw, choice is lost, competition diminishes, and benefits may be reduced. Beneficiaries and policy makers emphasize the importance of the number of plans serving a market. A recent poll indicates that four out of five senior citizens believe that it is important for seniors to have a choice of health plans.³⁹ Moreover, President Bush called for greater choice of plans in the MA program.⁴⁰

Competitive Bidding as a Better Way to Manage M+C

The fundamental problem for the Medicare+Choice payment system was a lack of information. Even with the growth of information technology, the federal government does not have the resources to track cost changes in every local healthcare market in the United States in order to accurately set payments in this program. Moreover, it is difficult to predict how the costs of M+C enrollees differed from those for the overall Medicare population. This lack of information was the root cause of the BBA's unintended effect of driving HMOs out of the M+C market. Moreover, it is this lack of information that causes an unequal distribution of benefits across

the United States; while some counties go years without an HMO in this program, other counties consistently enjoy a healthy participation of HMOs offering a rich set of additional benefits. This suggests that CMS underestimates the costs of HMOs in many counties and overestimates their costs in others. Even with the growth of information technology, decision makers do not have adequate resources to track the changes in healthcare costs in local markets they need to accurately set payments.

Freidrich Hayek observed in 1945 that a lack of information is a critical problem for attempts to manage the economy by fiat. He wrote that the knowledge necessary to govern by fiat is never held by one person; it is dispersed across many firms and consumers. Since markets involve constantly changing prices and conditions, he concluded that the lack of centralized information necessitates that economic decisions be left to those who have the information: the participants in the market.⁴¹ In the context of Medicare, information about changing healthcare costs in specific local markets is something that different HMOs learn in the course of their business, but is never well known by policy makers in Washington; this is why a system of fiat pricing is likely to fail.

A number of studies recognized the problems with the system of administrative fiat used to set payments in M+C. In the early 1990s, the University of Minnesota, under contract from CMS, studied the payment system in Medicare managed care and proposed replacing it with a system of competitive pricing.⁴² A key insight of the Minnesota study about the fiat M+C payment system is that information about the costs of care flows in the wrong direction: from the federal government, which knows little about local M+C costs, to the M+C plans, which have the most information about such costs.⁴³ The limitations of the current system are widely acknowledged; Dowd, Coulam, and Feldman report: "There is general agreement that the current payment system for M+C plans is seriously flawed. In almost 20 years of research and comment on administrative pricing, it is difficult to find any analyst who expresses a positive view of the current system."⁴⁴

Under a system of competitive bidding, providers could bid for the right to enter the market and enroll Medicare beneficiaries. Their bids would reveal

providers' private information about the costs of healthcare delivery in local areas—information that CMS currently lacks. As the Minnesota researchers pointed out, a well-functioning system of competitive bidding would reverse the flow of information about local healthcare costs; providers would inform the federal government of local healthcare costs. Competitive bidding would use market forces to more accurately set prices, would likely increase provider participation in the program, and would expand the choice of healthcare delivery for elderly and disabled Medicare beneficiaries. It would also relieve CMS of the need to obtain information on the changing healthcare costs of Medicare beneficiaries in each county healthcare market of the United States. Competitive pricing is already widely used in the health sector, in the commercial insurance market, and by employers seeking health insurance coverage for their employees.⁴⁵

Previous Competitive Bidding Demonstrations in Medicare+Choice

If the M+C payment system was so widely reviled, why was it not replaced by competitive bidding at an earlier time? In fact, four demonstrations of competitive bidding in M+C were scheduled, but each was cancelled due to local opposition. The history of these demonstrations is detailed in Dowd et al. (1992), Dowd, Feldman, and Christenson (1996), and Dowd, Coulam, and Feldman (2000).

Acting on its statutory authority (i.e., without a specific directive from Congress), CMS initiated a competitive pricing demonstration in Baltimore in 1996. Local stakeholders quickly mobilized opposition and enlisted their congressional delegations. Recognizing that Congress would block the Baltimore demonstration, CMS abandoned it.⁴⁶

In 1997, CMS selected Denver for a new competitive bidding demonstration. Although CMS attempted to learn from its failed demonstration in Baltimore, opposition again quickly formed at the new site; specifically, CMS was sued by the Colorado HMO Association. Following that, the Senate delegation from Colorado placed language in a disaster relief bill that effectively killed the demonstration.⁴⁷ Emotions ran high during these debates; organizers of the Baltimore and Denver demonstra-

tions have accused local stakeholders of disingenuousness and Congress of demonizing CMS.⁴⁸

Despite the fact that local congressional delegations were able to block demonstrations, Congress supported the concept of holding a competitive bid demonstration somewhere. The Balanced Budget Act of 1997 created the Competitive Pricing Advisory Committee (CPAC), and charged it with designing and implementing between four and seven competitive pricing demonstrations in M+C. In 1999, CPAC designated Kansas City and Phoenix as the sites of demonstration programs for competitive bidding that were to begin in January 2000. To address the local concerns that killed the earlier demonstrations, the BBA also mandated that an Area Advisory Committee (AAC) be established in each site to facilitate interaction between CMS and the local community. However, local stakeholders, fearing that the experiment would cost them either money or benefits, again quickly convinced their congressional delegations to block the demonstrations.⁴⁹ Although Congress as a whole supported the idea of a competitive bid demonstration, the attitude of individual delegations seemed to be NIMBY: Not In My Backyard.

This illustrates a difficult tradeoff in designing a demonstration. Local stakeholders would not tolerate a demonstration that threatens to lower benefits or payments. If stakeholders are risk averse, they might have even required additional benefits or payments in order to participate. However, the purpose of demonstrations was to find ways to reduce Medicare costs, not keep them constant or raise them.⁵⁰ Even if stakeholders were guaranteed that they would not have been made worse off, a demonstration project in a limited area may not have been politically feasible, as local stakeholders would likely have objected to being the subjects of an experiment.

A demonstration project would have been ideal, as it would have served as a test-run that could have indicated improvements for a competitive bidding system.⁵¹ If such a demonstration is politically impossible, the question is how to proceed with a nationwide system of competitive bidding⁵² without the learning experience of doing so in smaller areas. On one hand, bidding is not so risky

or without precedent that it would be impossible to do nationally without demonstration; lessons could be learned from systems that are used by the FEHBP and by the state governments of Wisconsin and Minnesota for their employees. A nationwide, simultaneous rollout might be more politically viable because no one area is singled out for experimentation: All local markets take the leap together.

On the other hand, nationwide competitive bidding puts a premium on getting the design right the first time. There are five parties to this process: the designers of the bidding scheme, overseers in Congress and the administration, potential bidders for contracts to provide services, beneficiaries from the program, and taxpayers/voters. If the design is infeasible in the first run, providers may not bid, beneficiaries may not be served, and overseers and voters may voice concern about the long-term viability of the program. If the design changes too frequently, bidders may question the efficiency and equity of the bidding process, with accompanying concerns for beneficiaries as bidders choose to opt in and out of the program. If the design does not anticipate the ability of bidders to collude, and thus extract high payments, the benefits of bidding—reduced growth in spending—will not materialize. This means that designers face tough choices: how to simultaneously find a bidding scheme that encourages participation, provides benefits, and reduces costs—and to do it the first time, without direct past experience.

Constraints CMS Faces in Designing Competitive Bidding for Medicare

Over the next several years, CMS will make important decisions about the competitive bidding process that will dictate how potential entrants into the MA market will gain access to millions of beneficiaries. As Joseph Antos notes about the Medicare Prescription Drug and Modernization Act, “The legislation just describes the outline of what can be. The regulations will be fairly detailed proposals”—which will themselves be open to the entire notice and comment process dictated by the Administrative Procedures Act.⁵³ Given the history of blocked demonstration projects, and the concern by political representatives that any demonstrations take place in another district, any choices made by CMS in the design process will have great implications for the long-term credibility and performance of MA markets for the private provision of Medicare benefits.

In this section, we document the legislated requirements CMS faces in designing a bidding system for Medicare Advantage. The importance of these legislated requirements is that they form the institutional framework—the constraints—within which CMS operates in trying to reconcile a broad set of fundamental concerns about service provision, efficient allocation of resources, optimal health provision, and the democratic construction of the most significant healthcare system currently operating in the United States. CMS will find that these legislated requirements form a set of formidable constraints on their delegated discretion to create a market for healthcare provision for America’s seniors.

Legislated Changes to Medicare+Choice

Under M+C, plans were open to only those beneficiaries living in a service area specified by the secretary of the Department of Health and Human Services (HHS), typically counties. The service areas specified by plans were sets of counties or parts of counties denoted at the ZIP code level. Entire states could be defined as service areas, although that was never done.

Regional Definition

Under the new regional plan program, which will begin in 2006, the secretary will establish between 10 and 50 regions across the nation; plans will be required to serve an entire region. The secretary of HHS will determine those regions after a market study has been conducted so that regions could be constructed to provide maximum plan participation and plan availability to beneficiaries. Regions are to include at least one state, states are not to be divided across regions, and multi-state MSAs are not to be divided across regions. The regional definition will not be fixed in time, so that the secretary may revise definitions based on participation and market performance. Plans are now to be defined on a regional basis, and may be offered in more than one region, but individual regions cannot be subdivided.

Risk Mitigation

The legislation also includes mechanisms to reduce the risk for plans in the near term, including “risk corridors” for plans in the program’s first two years, a stabilization fund to reduce the likelihood of plan withdrawal, a blended benchmark so that plan bids influence but do not entirely determine the benchmark amount, and additional funds to help plans construct sufficient networks in rural areas.

Competition and Proposals

The core of the program, given the definition of the regions by the secretary and conditional on the existence of mechanisms intended to reduce the near-term risk of the plans, is competition beginning in 2006. In the past, M+C plans were paid a rate set by administrative fiat that is the highest of the three relevant amounts: the floor rate, the blended rate of the local (area-specific) rate and the national rate, or the rate reflecting a minimum percentage increase from last year’s rate. Plans submitted yearly proposals for the adjusted community rate (ACR) that documented the estimated proposed costs of serving Medicare beneficiaries and the comparable costs of providing Medicare services for a commercial population. In submitting a proposal to serve a local population, the organization now submits the ACR; the M+C monthly basic beneficiary premium; a schedule of the deductible, coinsurance, and copayments beneficiaries pay under the plan; and a description of any other required additional benefits. *Plans will be paid a fixed amount regardless of their efficiency or the costs of providing the services in the proposal that is targeted at a specific Medicare local population.*

Bid Components

In 2006, instead of submitting an ACR, MA organizations will submit bids to provide services on either a regional (for new coordinated care plans) or a local (for grandfathered existing M+C local plans) level. That bid will be composed of specific required information:

- An aggregate bid amount that will cover the provision of all required items and services, expressed on a monthly basis, in the local or regional payment area for an enrollee with a national average risk profile. That profile is based on demographic risk factors and health status, among other items.

- The proportion of the aggregate bid amount that can be attributed to providing benefits required under the original Medicare FFS program, the new required basic prescription drug coverage, and other supplemental healthcare benefits.
- The actuarial basis or information used for determining these two pieces of information with sufficient detail that that information can be verified.
- The deductibles, coinsurance, or copayments required under the plan.

When implemented, the copayments required for Medicare Parts A and B, the drug benefits, and supplementals will be integrated so that a beneficiary pays only a single premium.

Negotiation

For bidding purposes, the legislation requires the HHS secretary to reduce paperwork so that regional plans find it in their interest to bid in multiple regions. Once a bid is made, the law authorizes the secretary to negotiate bid amounts and the proportions. This is exactly the situation described earlier in the case of FEHBP, where bids are starting points in negotiated bargaining processes between the Office of Personnel Management and plan administrators.

Benchmarks

Under M+C, ACR proposals were used by M+C plans to show their compliance with the minimum provision of all Medicare-covered services, and to determine the minimum amount of additional benefits they will provide to beneficiaries given the administratively set reimbursement rate. In 2006, this is replaced in Medicare Advantage with a bidding process in which MA plan bids are compared to a benchmark amount. This procedure makes the benchmark similar to a reserve price in an auction.

The reserve price varies depending on the coverage of the plan, which can be either local (holdovers of the current M+C system) or regional (new entities created under the auspices of MA). The purpose of this is to produce a benchmark that is more responsive to market conditions in a region and allow the MA plans’ bids to influence the final

benchmark amount against which all of the plans will be compared.

The benchmark for MA local plans will be the MA payment rates. The regional benchmark will be a blended one composed of a statutory component (which is determined by the area-specific benchmarks, the size of the local MA markets, the size of the regional markets, and the penetration of MA plans into the local markets) and a plan-bid component (which is the weighted average of the plan bids for an MA region).

Again, the purpose of this complicated regional blended benchmark is to make the reserve price, the basis upon which plan bids are compared, responsive to the market conditions in place (bids and market shares) at the point bids are weighed by the secretary.

Comparison of Bids

The secretary will compare the plan bids to the benchmark. Once a full comparison is made and all negotiations completed, plans that submit bids below the benchmark will be paid those bids—the monthly aggregate per-beneficiary payment they submitted as part of the bid—plus 75 percent of the difference, which must be returned to the beneficiary as additional benefits or reduced premiums. If a plan bids above the benchmark, any enrollees must pay the difference as a premium.

In the M+C program, when plan ACRs are below the administered payment amount, that amount—100 percent—must be returned in total to the beneficiaries as cost sharing, additional benefits, or reduced Part B premiums. As an alternative, plans can place those funds in a stabilization fund or return them to the Treasury.

Under MA, 75 percent of the monthly rebate is given to the enrollee in the form of higher benefits. Generally, that rebate is based on a benchmark and bid that have both been risk adjusted, either on the state level (for local plans) or regional level (for regional ones). The secretary has the discretion to risk adjust both amounts on a plan-specific basis. The remaining 25 percent is returned to the government. For plans providing rebates, the basic MA monthly premium will be zero. At this point, it appears that

plans placing bids above the benchmark will be required to charge MA premiums.

Regarding bidding for providing services in 2006, the secretary will announce the MA capitation rate for each payment area, and the risk and other factors used in adjusting such rates, in April 2005. The secretary will announce the actual regional benchmark amount—based on the statutory component and the plan-bid component—before 2006 for those regions where plan bids actually occur.

Four Peculiar Institutional Features

In this section, we address how, by law, the bidding process that CMS will design, and which the secretary of HHS will implement, is constrained by four peculiar institutional features:

1. Transforming the system of administrative fiat to one based on a bidding process is an experiment.
2. The bidding process will take place in segmented markets, which are marked by varying degrees of existing competition problems.
3. The legislation requires a bidding process that has a unique role for the equivalent of a reserve price—the benchmark reimbursement rate.
4. CMS must determine the structure of the asset for which coordinate care plans will bid, and it does so with some knowledge of the capabilities of bidders to participate.

Bidding as Experimentation

Congress has required that CMS promulgate rules to implement two basic changes in the construction of managed care regional markets for Medicare. First, in 2006, regional markets will be created and new, redefined market operations will be required. No coordinated care plans currently exist to fill the requirements that Congress has set in the changes made to M+C; this means that it is also possible that no such plan may exist in 2006 when bidding is fully required. Second, in 2010, in selected sites, the bids of MA plans will be blended with the rates for traditional FFS Medicare to create a new benchmark for competitive bidding and FFS reimbursements. This demonstration is intended to

create incentives for beneficiaries to enroll in the most efficient plan. It also means that that process, which will likely exist for only a short period of time, will act as an “experiment within an experiment,” and may alter the incentives for plans bidding in those special regions.

Market Structure

The changes that will occur will not change traditional FFS Medicare, which will continue to exist, and individuals will continue to be able to choose from that market segment in their use of healthcare services. The use of competitive bidding does not change Medicare wholesale; it continues the MA program, at a regional level, with an experimental method for setting reimbursement benchmarks. For a large number of Medicare recipients, however, MA currently provides no viable alternative to FFS Medicare. The purpose of these changes is to increase the number of MA plans, and the regional nature of these created markets is intended to ensure that rural areas have some coordinate care plan service. The difficulty for coordinate care plans, of course, is that this makes the nature of the MA regional market highly uncertain, especially because traditional FFS Medicare now includes a prescription drug component. In addition, presumably doctors that contract with coordinated care plans like PPOs will reimburse at traditional FFS rates for those individuals they serve who are enrolled in that plan.

More importantly, however, the entire healthcare industry has been marked over the last decade by fundamental realignments that have strong antitrust implications, including concerns about the role of collusion and the relative need for enforcement by the Federal Trade Commission.⁵⁴ When combined with the uncertainty attached to the size of the MA regional market, collusion becomes a rational strategy for potential bidders as a way of reducing uncertainty about the effect of competing bids on the size of the market. Similarly, if uncertainty drives down participation by existing coordinated care plans, or if uncertainty delays the creation of new coordinated care plans, then CMS (acting as a bid taker) may have incentives to increase the number of bids by allowing additional bidders to form cartels and

make joint bids. If CMS faces a lone bidder and that lone bidder knows it is the only applicant, then CMS faces what is known as the ultimatum bargaining game.

Role of Reserve Prices

The legislation requires a bidding process in which the reserve price—the benchmark reimbursement rate—plays a unique role. Specifically, CMS will notify all potential bidders of the benchmark for their region. A plan that submits a “winning bid” (a bid below the benchmark) can enroll beneficiaries and those beneficiaries need pay no supplemental premium. If a bid is below benchmark, the coordinated care plan must give 75 percent of the gap between the bid and benchmark to enrollees in the form of higher benefits; the remaining 25 percent of the savings returns to CMS. Even plans that submit bids that do not “win” (if the bid is above the benchmark) can still enroll beneficiaries, but those beneficiaries must pay the difference between the plan’s cost and the benchmark. The reimbursement rate will be a blend between the stated benchmark and the plan bids.

This bidding process means that all plans know what the reserve price essentially will be ex ante (before placing bids), what prospective enrollees will be required to pay given their bid (zero, if less than the reserve price), what they must provide to the enrollees in the form of extra benefits (a portion of the difference between their bid and the reserve price), what they must return to CMS as a payment for market access (the remaining portion of the difference between their bid and the reserve price), and what they receive from participation in the bidding process (the difference between their costs of production and their bid). All bids win, no bids are excluded, and the reserve price provides little information for bidders about the “true valuation” of the asset on the block (which is basically the right to market entry).

It is important to note that this was not the original role proposed for the reimbursement rate (reserve price) in the original legislation. Prior to the conference agreement between the House and Senate, a maximum of three plan bids would have been accepted, allowing a plan to operate in a given region; under that proposal, the bids and

the reserve price would have fully determined the right of a plan to enter this market. Under the plan agreed to and detailed in the conference agreement, and included in the final legislation, the bids and the reserve price have no effect of excluding specific plans' participation.

The Structure of the Asset

In this bidding process, CMS must determine the structure of the asset for which coordinate care plans will bid (specifically, the right to enter the market by defining the size and shape of the market) with some knowledge of the capabilities of bidders to participate. Given the nature of the reserve price or benchmark, coordinated care plans will choose to participate knowing that their bid will not determine whether they have unique access to this local MA market. Instead, their bid will probabilistically determine the enrollment of Medicare recipients in their plan. The likelihood of enrollment is also determined by the bids of the other plans that choose to participate, by both creating competition and changing the blended reimbursement rate.

The single most important determinant of the valuation of the right to market entry is most likely to be the size and scope of the regional market. CMS will construct this based on the secretary's determination of the regions after a market study has been conducted, so that regions could be constructed to provide maximum plan participation and plan availability to beneficiaries. Even the number of regions is yet to be decided. Presumably, CMS will make these decisions—how many regions, where they are located, and their size and scope—with knowledge of the number of potential bidders for provision of services under MA in that region. At the same time, potential bidders have strong incentives to shape these choices to advantage themselves in the bidding process that follows. This is particularly important because the bidders are bidding for the right to access a market at a specific reimbursement rate, with a given rate of required benefits provision, and with exact knowledge of the number of enrollees that a bid will claim.

Note also that CMS will be able to subsidize bidders both before and after they have chosen to participate, or to encourage participation by non-participating bidders after it has seen which bidders chose to participate.

Four Major Challenges to Competitive Bidding in the Health Arena and Their Possible Solutions

Bidding systems have been employed for many different uses and under many different circumstances. Historically, the role of government has been largely to use bidding systems for procurement—purchases of goods from private firms, which often account for about 10 percent of the gross domestic product of industrialized economies.⁵⁵ But the use of bidding systems is not just limited to the procurement of goods or the sale of assets. The use of bidding has been employed or suggested for such uses as the sale of rights to a natural monopoly instead of regulation,⁵⁶ the sale of import quotas,⁵⁷ the location of noxious facilities,⁵⁸ and the allocation of time slots in airports.⁵⁹ These uses exist and are offered in addition to other more traditional uses, such as bidding systems for lumber, off-shore oil leases, cellular telephone spectrum, Treasury securities, and defense products.

In this section, we center our discussion on the four challenges to success of competitive bidding in CMS based on lessons from the past 50 years' experience with designing and implementing bidding systems across a wide range of goods, services, exchange environments, and political systems. Our discussion offers these broad lessons as a way of encapsulating the importance of formal design choices in the process of establishing and running fair and efficient bidding procedures. A broader and more detailed list of concerns would offer many more than just four lessons; in fact, a litany of lessons is available to anyone examining the theoretical literature and empirical record. We center on these four challenges because they offer the best guidance for the secretary of HHS to match a congressional mandate about the kind of bidding procedure to establish with the market realities of Medicare provision in the United States.

We concentrate on four basic lessons drawn from the theoretical and empirical record on bidding systems:

1. The credibility of the rules and the process itself will help determine the performance of the competitive bidding reform.
2. Bidders may engage in collusive behavior, entry deterrence, and predation.
3. Getting the reserve prices “right” is important.
4. CMS must account for asymmetries among bidders and the information they hold.

Challenge 1: Credibility Matters—The Effect of Political Problems and Loopholes

The central problem for any bid taker designing a rational bidding system is to find a way to “bind their own will”—to limit their range of discretion—as a way of showing potential bidders that the rules of the game are fixed, stable, and fair. In fact, the key aspect of all bidding systems, what distinguishes them practically from situations in which bidders face either posted prices or a setting in which prices are negotiated or haggled over, is that the bid taker commits to the use of a specific, credible bidding mechanism whose operation and rules are known in advance to all bidders and for which the likelihood of change mid-game is minimal.

Auctions, and bidding systems generally, are used mainly when the bid taker is either a monopolis-

tic provider of a good or asset, or a monopsonistic purchaser of a class of goods or assets. In the case at hand, the secretary of HHS, and CMS as the agent, represent a monopoly supplier of the right of market entry into the large and potentially lucrative market for the provision of healthcare services to elderly and disabled enrollees. It may be, of course, that in certain local markets HHS is the monopoly purchaser of certain organized healthcare products—such as the services of a PPO network—although that is in fact unlikely for large markets with large non-elderly populations. Generally, HHS is the monopoly supplier of the right of market entry.

HHS seeks to organize a mechanism for allowing market entry by PPOs by establishing competitive bidding for that right—reflected in this case through the willingness of a PPO to provide services to that market segment at a fixed and prespecified reimbursement rate. Thus, HHS auctions the right to enter the market by reference to its reimbursement rate analogue of the reserve price—the price the PPO expects to have to meet in order to enter the market. If there were perfect competition for that right, bidders presumably would express willingness to be reimbursed at the level where they would just break even in their provision of Medicare services to the local population.

Table 2: Meeting the Challenge of Competitive Bidding: Recommended Responses

Challenges	Recommended Responses
<p>Challenge 1: Credibility Matters—The Effect of Political Problems and Loopholes</p>	<ul style="list-style-type: none"> • HHS should immediately begin assessing the suitability of various bidding procedures. • Once the most appropriate bidding procedure has been identified, HHS should credibly commit to it in a public forum. • HHS should consider the use of closed bidding systems because they may be more credible than open, sequential bid systems. If open bidding is unavoidable, then it should be constructed such that bids will be kept secret until the final decision by the secretary of HHS.
<p>Challenge 2: Bidders May Engage in Collusive Behavior, Entry Deterrence, and Predation</p>	<ul style="list-style-type: none"> • CMS should gain significant expertise in the economics of healthcare antitrust to anticipate where and when collusion among bidders is most likely, and to construct the system of competitive bidding to minimize the likelihood of it. • HHS should seriously consider the lessons learned from such open bidding processes as the OpenBook system, which is W. R. Hambrecht and Co.’s system constructed expressly for the open and anonymous sale of debt securities. • HHS should avoid systems that include the ability to withdraw offers.
<p>Challenge 3: Getting the Reserve Prices “Right” Is Important</p>	<ul style="list-style-type: none"> • CMS and HHS should not worry about having too high of a benchmark, and plan for any long-term savings from competitive bidding to come in subsequent rounds of bidding. • HHS should recognize that the size of the benchmark will determine market entry and exit.
<p>Challenge 4: Asymmetries Among Bidders and the Information They Hold Must Be Considered</p>	<ul style="list-style-type: none"> • HHS should build expertise in bidding theory and design, and create a process for updating staff on new developments in these areas. • HHS should design the regions so that either no coordinated care plan will bid in multiple adjacent regions or that many will do so. • CMS should strategically release information about the shape, construction, demographics, etc., of a given region.

However, in almost all cases, bid takers do not face perfect competition among bidders, but instead oligopsonistic or oligopolistic competition among bidders. This means that there are only a few bidders who are willing to express interest in the market, and that the central problem for the bid taker is to identify a mechanism that efficiently allocates the right to compete in the market given thin competition among potential suppliers of the Medicare healthcare service. This, in fact, is a problem in classical economics: “Any outcome between all of the gains from trade going to the buyer and all of the gains going to the seller was seen as possible.”⁶⁰ It is a problem that has no exact solution if the problem is seen as one where the bid taker engages in multilateral bargaining with a finite and small set of interested bidders.

Bidding theory addresses this indeterminacy by assuming—as is the case in this situation—that the bid taker has all of the bargaining power. HHS can, and indeed now it must, allocate the right to compete in these markets. The central problem for the bid taker in this situation, then, is to commit to a set of policies so that procedures do not change after CMS and HHS (and by implication Congress) observe bids *even if it is in their interest to change them*. Technically, this means that the bid taker acts as a Stackelberg leader by moving first. This is, of course, a peculiar political problem in the current environment, given the demonstration projects to occur in 2010, and the history of Congress (through the BBA) dramatically slowing the growth of payments to HMOs.

Even under simple and straightforward bidding systems, bid takers have incentives to renege on agreements to accept bids and reward assets like market-entry rights after observing the bids. The bid taker may do so because the bidding process actually provides substantial information about the valuation of the asset—or, more precisely in this case, exactly what bidders expect to be their true cost. Use of that information in ways not consistent with the stated procedures would allow the bid taker to restate the final offering price of market entry (stated as a reimbursement rate) and then extract greater concessions from the bidders.

Bidders who know this in advance will not state their true valuation of the asset—because they

know that information will be used against them *ex post*. If they do not know this, but if the bid taker acts in that way after the fact, then bidders will likely be unwilling to submit bids in the future.

Studies of credible commitment offer many ways for governments to provide this assurance to bidders. One traditional way is for government officials to follow a rulebook that is explicit, precise, and public. This is exactly the job of the secretary of HHS and agencies within HHS right now. A second way is for the bid taker to stake a reputation on their acceptance and following of this procedure.⁶¹ This may be more difficult, given the diverse preferences of individual members of Congress and past behavior of canceling bidding experiments.

In fact, another source of pressure to change the rules will come from those engaged as bidders in the process. Historically, bidders have looked for ways to bend, change, or circumvent the bidding rules. On occasion, for example, it has been documented that winning bidders can withdraw winning bids to allow their associates to win with less aggressive bids,⁶² or that they make insincere bids that they then default on if there are no penalties for doing so.⁶³ This is possible if other rules allow for bankruptcy protection. In a number of circumstances (notably Treasury auctions), rules may be put in place against “unbalanced bidding” (the bidder cannot win more than a certain percentage of the final allocation of the asset) as a way to limit the likelihood of gaming behavior by bidders. It is uniquely difficult to make credible rules that effectively exclude this,⁶⁴ especially given uncertainty on the part of the bid taker *ex ante* about the number and size of bidders, and their individual valuations.

One solution to many of these credibility problems is to build overtly non-sequential bidding systems—systems where the process ends abruptly at the end of bids being received. However, even if bidding processes are isolated (“single shot”), bidders may have incentives to treat the auction as the first step in a negotiation process. For CMS, negotiations are authorized and expected after bids have been received. Knowing this, bidders will not make sincere bids in the first round.

Alternatively, suppose that bidders “break the rules” by making intentionally attractive offers that do not conform to the rules laid down by the bid taker *ex ante*, such as offers that span allowed bidding periods or multiple locations. For example, following World War II, Shell Chemical Company placed bids for government chemical plants that explicitly broke the established rules about bidding, and then lobbied to have the rules suspended by persuading the bid taker to accept the “illegal” bid.⁶⁵ Klemperer documents that even in the private sector, losing bidders may petition a bid taker to “reopen” rounds of sealed bidding.⁶⁶ In a third example, in 1973–74, the U.S. Treasury redesigned its bond sales to include uniform-price auctions, but the hostility of traders to the auction led to changes in the auction structure, which themselves were reversed in September 1992 after the Salomon Brothers trading scandal.⁶⁷

In these circumstances, bid taking is complicated for the implementing agency because Congress and the president may be less committed to the bid-taking procedure (and, in fact, have less “reputation” on the line) than the agency itself. Bidders, knowing this, can engage in behavior intended to alter the rules, and other bidders, observing this behavior, will be unwilling to provide true valuations to the bid taker.

Another form of loophole can come when bidders cheat by providing bids that may be rigged as part of an ongoing conspiracy to allocate market share.⁶⁸ Specifically, oral auctions or any bidding procedure where intermediate bids are observable allow stable collusion.⁶⁹ It is argued that bid rigging is common in many types of auctions,⁷⁰ and that while there are a number of ways to detect cheating, it is often difficult to obtain that information in part because of its potential use in future bidding.⁷¹

In fact, collusive behavior is enough of a concern that we treat it separately below, but it has specific implications for the credible construction of a system of bidding by an independent bid taker. Bid takers like government agencies are multiple-task agents; establishing bidding systems is just one of a set of general concerns they bring to the market environment that may include things like industry promotion, regulation, and consumers affairs, as well as financial concerns linked to fiduciary responsibilities. When constructing a bidding sys-

tem, government agencies should be careful to consider how these responsibilities overlap, and how their bidding choices affect and are affected by those other choices.

Another problem for the treatment of rigged bids or bidding procedure violations is the situation when the pool of bidders is thin. In this case, it may be that no fine would be both credible and sufficient to deter such behavior. Klemperer reports that in Dutch bidding for cellular telephony licenses, rules against unbalanced bidding (a limitation to each bidder winning only a single license) encouraged one bidder to use threats to drive another bidder out of the entire process.⁷² The government chose not to investigate the incident, and although the “market cleared” (all licenses received bids), there were strong revenue implications of that outcome.

Theoretical and empirical studies of bidding and auctions uniformly claim that bid takers must offer credible, fair, and consistent rules. The problem for government agencies is that they have little control over these rules, unless their principals—the president and Congress—speak with a single mind. Political problems are endemic; agency choices will be second-guessed, overturned, and litigated. The Administrative Procedures Act makes this especially difficult, given that potential bidders have more than equal roles in creating the rules, including laying ground for potential loopholes, and have potential substantive or procedural grounds for questioning those rules after bidding has occurred. The history of demonstration projects under Medicare+Choice shows exactly how difficult it will be for the government to credibly commit to a bid system.

Recommended Response

The key decisions faced by HHS generally and CMS specifically revolve around the procedures that the agency will follow in calling for bids. HHS should quickly choose a suitable procedure and defend its appropriateness for bidding. This is made more difficult by the Act’s presentation of the bidding as a sequence of open bids. HHS should strive to frame that open bidding process as in fact representing closed bids that will be kept secret until the final decision by the secretary.

The ideal management solution would be to fully commit to a specific bidding procedure immedi-

ately, with a credible commitment by HHS to follow that procedure. This means that HHS would lose reputation, or some more tangible reward (for example, budgetary authority) for renegeing on that commitment. This ideal management solution is limited by the power of the president or Congress to alter that procedure once HHS has made the commitment. The 2004 elections may bring a change in administration, and concomitant changes at HHS would reduce the power of any immediate commitment. Instead, CMS should target a commitment date that is after the 2004 elections because of the perception that current commitments are noncredible.

To a degree, Congress has committed to a form of bidding through the passage of the Act, and this commitment is enhanced by the difficulty of gaining agreement in such a large, diverse decision-making body with its specific constitutional structure. Managers can bet on that difficulty, but a date after the 2004 elections and well before the 2006 elections would provide maximum credibility for potential bidders.

Bidders may fear that HHS is extracting information in a way that reveals confidential business information to alternative bidders, or that HHS is extracting information for its own uses (in which case even dominant bidders may choose not to participate). By its commitment to a particular system (for example, closed versus open bidding), HHS may mitigate the concern that it will change the rules along the way once it has extracted sufficient information for restating the benchmark for FFS payments. Our managerial advice for CMS and HHS is to pick a system early—and try to pick the right one.

Challenge 2: Bidders May Engage in Collusive Behavior, Entry Deterrence, and Predation

The auction theorist Paul Klemperer argues that “what really matters in auction design are the same issues that any industry regulator would recognize as key concerns: discouraging collusive, entry-detering, and predatory behavior.”⁷³ CMS would do well to heed his advice, not only because of continuing concerns about anti-competitive behavior in healthcare markets across the country, but also because of the unique segmentation of this market as discussed earlier.

For example, we believe that collusive behavior is particularly troubling in the case of ascending auctions where multiple units are available. The problem is that bidders can use early stages of the process, when prices are still low, to signal to one another which bidder should win which object. When bidders engage in such behavior, the long-run effect is that they tacitly agree not to push prices up, with attendant revenue implications for the bid taker. If CMS were to use this kind of bidding, it could mean that the bids made will be higher—the reimbursement rates required would be higher—than the benchmark, that premiums would be required for those enrollees choosing to use Medicare Advantage, and that external observers would grade the process a failure.

This, Klemperer claims, is exactly what happened in a number of spectrum auctions in Europe. In 1999, Germany’s sale of 10 blocks of spectrum in a simultaneous ascending auction led to coordinated behavior by two bidders: T-Mobile and Mannesman. The rule put in place to govern bids was that any new bid on a block had to exceed the previous high bid by a minimum of 10 percent. Mannesman bid 18.18 million deutsche marks per megahertz on one cluster of blocks, and 20 million on the remaining cluster of blocks. T-Mobile bid less than Mannesman in the first round of bidding for either cluster. However, T-Mobile interpreted Mannesman’s first bid as an offer: that 18.18 plus 10 percent equaled 20 million. Accordingly, T-Mobile bid 20 million on the first cluster and nothing on the second cluster; Mannesman’s original bid remained for the first cluster, and the two companies divided up the blocks for a fairly low price.

This example introduces an interesting problem for CMS: how to determine the sequence of bidding across the regions. Suppose that bidding across regions is simultaneous, but that bids are offered sequentially. This would mean that bidders could signal to one another their willingness to “carve up” the regions, with limited competition for any one region and limited revenue savings for CMS.

As Klemperer notes, the problem with ascending price auctions is that they offer mechanisms for punishing rivals—such as the possibility of retaliatory bidding if T-Mobile had chosen to bid on the second cluster of blocks. This was also apparent in

the U.S. spectrum auction in 1996–97 when U.S. West and McLeod competed for a lot (#378) in Minnesota. In that case, U.S. West bid \$313,378 and \$62,378 for two licenses in Iowa that McLeod had initially been the primary high bidder for. McLeod recognized that U.S. West’s bids were a message about Rochester lot #378, and responded by dropping out of the Rochester bidding process, and then bid high enough in Iowa to claim the spectrum rights.

The difficulty is that it is also possible to have similar collusion in the uniform-price sealed-bid auction, where bidders who violate a collusive agreement to divide up the assets at block in the auction are punished when their collaborators submit unreasonable bids that all will have to pay.⁷⁴ A solution that bid takers may choose to follow is to make the supply of the asset uncertain as a way of reducing the ability of collaborators to pose credible threats.

These examples indicate how difficult it is to account for the possibility of collusive behavior. In one case, collusion occurs in part because the bidding process allows for complex signaling among potential colluders as they make sequential bids. In the second, bidders can collude when the structure of the asset and the auction form allow them to make punishment bids given knowledge about the structure, if not the content, of their collaborators’ bids. Repeating a bidding process—such as what occurs for electricity markets—only expands the set of strategies for collaborators to use in signaling and punishment. This is always the case in repeated strategic settings.⁷⁵ Regarding government procurement auctions, George Stigler notes: “the system of sealed bids, publicly opened with full identification of each bidder’s price and specifications, is the ideal instrument for the detection of price cutting ... collusion will always be more effective against buyers who report correctly and fully the prices tendered to them.”⁷⁶ One solution for bid takers is to set appropriate and sufficient reserve prices.⁷⁷

CMS will undertake bidding for these regions on an annual basis, making this one of the most important repeated bidding settings in government in the United States. This means that bidders will have ample opportunity to employ extremely sophisticated bidding and signaling strategies. On

an annual basis, CMS will also set a reserved price for each of these regions. We will discuss reserved prices below, but the problem for CMS if it chooses to rely on “getting the price right” for solving the collusion dilemma is getting the price right the first time, given that it has never had the opportunity to do so even on a demonstration basis.

Presumably, the fundamental question for participants is whether they want to participate in the first place, which includes issues of whether they are willing to engage in the costs of preparing a bid, obtaining information for bid preparation, and calculating strategies for winning a round of bidding. It is common for bid takers to provide information on the expected number of bidders,⁷⁸ which may increase or decrease the number of bidders who choose to participate. Sometimes a smaller number of bidders can advantage the bid taker, suggesting that he or she may increase the costs of participation and be rewarded for doing so,⁷⁹ but in other cases having too few bidders may make the bidding process unprofitable for the bid taker.⁸⁰ Indeed, theorists have shown that there is an optimal balance between designing a bidding process that produces efficiency gains from having additional bidders, and the additional costs of bid preparation.⁸¹

It may be that while the bid taker has taken steps to increase participation, the bidders themselves will take similar steps to decrease competition by reducing participation. For example, ascending price auctions are almost always won by the bidder having the highest valuation of the good; as such, other bidders may not choose to participate, especially if the costs of preparing a bid are substantial. In the bidding for Wellcome by Glaxo, other companies held positive valuations of Wellcome but failed to make bids because they knew Glaxo had the highest valuation, and the costs of preparing a bid were very substantial. The selling price was lower than it would have been had all potential bidders participated.⁸²

Paul Klemperer documents additional problems with other bidding processes that involve sealed bids, such as TV franchise sales in the United Kingdom in 1991. The sales prices in some markets were very small fractions of those in other markets in large part because of the required detail of the

programming plans that had to accompany a bid. When bidders realized that no other bidders had submitted a plan, they reduced the monetary bid that accompanied the plan.

On one hand, CMS will seek to expand the set of potential bidders by reducing the costs of participation across multiple regions; doing so will increase the likelihood of “insincere” bids that overstate a firm’s willingness to serve the market after bids are received. Those bids could form the basis for the complex signals detailed earlier that firms use to implicitly collude. On the other hand, not reducing these costs of participation—especially given the complex actuarial details that coordinated care plans will be required to file along with the numerical reimbursement rate bid—might reduce participation to the point that only one or two plans could bid for a region. Similarly, requiring these actuarial details, if they become part of the public record, provides a point at which plans could converge on a stable collusive agreement for dividing up regions or market share with a region.

Firms may be advantaged when they have special knowledge about the true value of the asset. Advantaged firms can bid more aggressively than other bidders because the others fear the “winner’s curse,” and therefore bid less aggressively, with the advantaged firm usually winning the asset for a lower than expected price. This happens when the true value of the asset is difficult to estimate. An example of this is the bidding on the Los Angeles cellular telephone license in 1995, where Pacific Telephone already operated a landline telephone service and so had the advantages of being an existing franchise.⁸³ “Toeholds” reduce the risk of facing competing bidders.⁸⁴

Bidders accentuate advantaged positions by being aggressive prior to providing bids. As Klemperer notes, the examples of Glaxo’s pre-bid statements, Pacific Telephone’s announcements in the *Wall Street Journal*, and the prominent hiring of auction theorists to give seminars on the winner’s curse to other bidders provide evidence that advantages are built on reputation-building strategies, and that both offer a means for predation. This is particularly troublesome when bidders bid aggressively in sequential auctions.⁸⁵

Again, CMS faces a particularly difficult set of decisions given the regionalization of the national healthcare market. The number of MCOs competing across these regions, serving both rural and urban areas, with sufficient interest in bidding for a Medicare contract is limited. More importantly, within any one region—the boundaries of which CMS will shortly be required to construct—there is often thin competition among coordinated care plans. This means that existing coordinated care plans at the regional level will carry significant advantages into the bidding process simply because they currently operate. Any coordinated care plans operating broadly within a region will hold significant information advantages, even if they do not cover the entire region (most likely currently covering only the urbanized areas). Any HMOs considering forming PPOs will carry significant advantages. Any existing hospital care networks will hold advantages. Most importantly, CMS will determine the extent of these advantages, or at least their incidence, when it determines the size and scope of the regions for bidding.

Of course, one way to reduce the costs of entry and counterbalance existing market advantages is to allow consortia, but that has similar implications for antitrust and collusion to those documented above. Equally troubling is the fact that advantaged bidders may also collude against weaker ones, especially if the rules for allowing joint bids do not specify who may collude with whom. Klemperer documents the case of Swiss mobile-phone license auctions in which, first, smaller bidders dropped out, and then larger firms were allowed to assemble joint bids. In the end, the number of bids equaled the number of licenses for sale, and the price was determined by the reserve price. Again, assuming rules are not in place to limit the role of firm advantages in deterring entry and reducing competition, the onus is on the bid taker to set appropriate reserve prices.

Recommended Response

Our ideal management solution is that CMS gain significant expertise in the economics of healthcare antitrust to anticipate where there will be problems with collusion and which firms will present those problems, and to reduce the likelihood of collusion by constructing bidding regions so that poten-

tial colluders' incentives are restructured. Given this expertise, which would have to be assembled almost immediately (probably with the direct help of the Antitrust Division of the Department of Justice and the Federal Trade Commission), the bidding procedure can be designed so as to reduce the incentives for collusion. For example, the concentration on first- or second-price closed auctions may help enhance the credibility of HHS decisions, and there is strong evidence that closed bidding reduces the availability of collusion.

HHS should seriously consider the lessons learned from such open bidding processes as the OpenBook system, which is W. R. Hambrecht and Co.'s system constructed entirely for the open and anonymous sale of debt securities. In that case, the creators have mixed the ability to observe other bids by investors (but not their identities) and the ability of investors to make improvements (which are not observable) to their opening bids within a specific range. New bids that are outside the range (which is set at the beginning) are given a new "time stamp," which is itself used to choose between competing tied bids (in the case of a limited amount of asset for distribution). In sum, OpenBook is a hybrid that reflects the need for closed auctions to reduce the ability for investors to collude, and for open auctions that allow for the learning that firms may gain from one another about the value of the asset on the market. Managers should be especially cognizant of this tension for potential bidders: This is a new process and these are new markets, and few bidders will have the specialized information necessary to make good guesses about the value of making one bid or another.

HHS should be very careful about any system that includes the ability to withdraw offers. For example, it would be tempting to put in place a system that approximates a Swiss auction (Von Ungern-Sternberg 1991), which is a first-price sealed-bid form of bidding process. These auctions, which are used in bidding for construction projects, allow designated winners that do not wish to accept the project to withdraw the bid; the bid itself cannot be modified, but the winner can accept or reject the project. This form acknowledges that for these types of projects, timetables

and specifications nearly always require modification, and a bid taker does not want to contract with a firm that does not want a certain job. Any such notice for firms—either explicitly in the written procedures or implicitly through back channels—will increase the likelihood of collusion and cheating. Losers could approach winners and offer side payments (perhaps through merger) to induce the winner to withdraw. The Swiss auction will increase aggressive bidding, but that bidding will be accompanied by aggressive collusion.

Challenge 3: Getting the Reserve Prices "Right" Is Important

The problem for the bid taker in the first case was to credibly commit to a process that ensures that when bidders reveal their private information in the form of bids, that information will not be used to retroactively set the price of entry even higher. In the case of collusion, theoretical and empirical studies show that bid takers can reduce the potential revenue effects of colluding bidders by getting the reserve prices right. This is sufficiently general to make the point clearly and separately from our concerns about CMS's ability to commit to a credible process and to mitigate the effects of anti-competitive behavior in the healthcare marketplace: The setting of reserve prices is a fundamental and important choice for bid takers.

Klemperer argues that improper reserve prices are responsible for many past problematic bidding processes.⁸⁶ Thus it is critical that CMS choose the "right" benchmark reimbursement rate. As we have detailed in this report, CMS will notify all potential bidders of the regional benchmark, plans submitting bids below the benchmark will be able to enroll beneficiaries who pay no supplemental premium, and a portion of the difference between the bid and the benchmark is returned to CMS, with the remainder going to the enrollee in the form of additional benefits. The "final" benchmark reimbursement rate will be a blend between the stated benchmark and the plan bids.

The benchmark does not play the role of a traditional reserve price to screen out unreasonable bids; any screening will take place at the enrollee level, when individuals choose which plan to

accept, with a specific benefits package and premium requirement. Plans “bid” for market entry, and the size of their market share will be determined by a combination of all plans’ bids, the choices of individual enrollees based on their tastes and endowments, and the benchmark set by CMS.

The history of CMS and its ability to set reimbursement rates suggest that in some markets it sets reimbursement rates too low and in others too high. Presumably CMS will have no better information for setting reserve prices in the first round of bidding. On the other hand, after the first year of bidding, CMS will have much better information to set benchmarks for reimbursement in additional rounds of bidding. One possibility is that stronger plans are better able to weather a benchmark that falls over time—the reimbursement rate falls as bids repeatedly come in below the initial benchmark. If stronger plans are able to do so, then CMS faces the possibility that weaker plans fall out of the market as they learn that their bids will not be sufficient to claim the prize, that the only way they could claim the prize of increased market share would be to drastically increase their valuation of the market (and cut costs, too), and that plans doing so might fall into the trap of the “winner’s curse.” A strong plan that sees such a possibility would find it in their interest to practice predation early and often, restricting entry into the bidding process and then increasing bids in subsequent rounds of bidding when there is limited competition.

Alternatively, plans that face a benchmark that is set too high will choose to collude—explicitly or implicitly—and shadow-price the benchmark. The benchmark in this case makes the problem of collusion trivially easy and costless by creating a focal point for plan bids, especially since plans know that the entire difference between their bid and the benchmark will be returned to either the enrollee or CMS.

There is an odd juxtaposition in recent studies between the usefulness of announcing a reserve price and the willingness of bid takers to actually do so. Reserve prices are often not even used by bid takers, not announced if they are used, and not revealed when it is announced that they are employed.⁸⁷ On the basis of optimal auction design, bid takers should always set reserve prices,

should set them optimally, and never sell the asset if it fails to make the reserve price.⁸⁸

In the case of the bid taker facing a possible bid-rigging scheme by members of an active and collusive cartel, the optimal reserve price should in fact increase (for the sale of an asset) or decrease (in the case of CMS’s awarding of the right of market entry) as the number of cartel members increases.⁸⁹ The anti-cartel price is uniquely different from the optimal reserve price when the bid taker does not face collusion.

This means that CMS, in setting the benchmark rate, must estimate the likelihood of, and the rents bidders expect from, collusion. Benchmarks must account for the likelihood of cartel-like behavior by bidders. Historically, bid takers tend not to use them, and when they do they do not reveal them. The most likely reason is the simplest one: that in the face of uncertainty about the likelihood of collusion, it is easier not to use a reserve price (or not to reveal it if it is used) than to announce the reserve price in advance that accounts for collusion among bidders.

But CMS is required by law to provide a benchmark in the first period of bidding—one that is just as ill-informed as the reimbursement rates currently set by administrative fiat. Moreover, even if decision makers are willing to assume that the first round of bidding is a “wash” (that it is better to engage in competitive bidding than to return to the traditional setting of rates by fiat at CMS), the problem for CMS is to bind its own hands and not use the information in the first round of bidding to alter subsequent benchmarks. The best evidence is that CMS cannot credibly do so. The reasons are the long history of reducing reimbursements to Medicare+Choice HMOs without reference to any production cost rationale, and the overt rationale for the 2010 demonstrations: to reduce the amounts paid to FFS providers under traditional Medicare. The purpose of competitive bidding is to reduce cost, and the easiest way to reduce cost in the long run is to ratchet down the benchmark over subsequent bidding demonstrations.

So rational bidders may use the first period to shadow-price the benchmark—or, worse yet, to shadow-price a point above the benchmark reim-

bursement rate because of their perception that the benchmark will move down over time. This means that bids may be too high in the first periods, and generally higher over subsequent periods if shadow pricing had been accounted for.

Recommended Response

CMS and HHS should simply not worry about having too high of a benchmark, and plan for any long-term savings from competitive bidding to come in subsequent rounds of bidding. Having too low of a benchmark is more of a problem for CMS, HHS, and competitive bidding in general at this point: Too low of a benchmark will mean that no bidders enter and that the credibility of the entire process is at stake. It would be easier, and simpler, to put in place the average cost of the enrollee in FFS as the benchmark for the first period of bidding.

HHS should recognize, though, that a high benchmark in the first rounds of bidding can increase the number of bidders. In addition, when the benchmark falls over time, some of those bidders will leave the market, leaving beneficiaries with the need to change coverage. This means that the importance of setting benchmarks is not really for the first time period; as long as enough bidders enter the process, and the benchmark is the FFS payment for the area, then the only cost to CMS and HHS is any costs of administering the bidding process. Presumably those costs would be outweighed by the information gained from actually running a bidding process with real, live bidders and real, live beneficiaries. The second and following rounds of bidding will put significant pressure on HHS not to shift the benchmark to such a degree that either firms or beneficiaries drop out of the bidding model for Medicare.

Challenge 4: Asymmetries Among Bidders and the Information They Hold Must Be Considered

The core theoretical and empirical results on optimal bidding design center on the key roles of information and asymmetric behavior and endowments among bidders. The discussion above should make clear that enhancing the credibility of the process, accounting for potential collusion among bidders, and relying on well-chosen reservation prices require a full consideration of how bidders provide

and obtain information, and how their differences determine how they approach this process.

The key choices that CMS has no direct control over at this point are the willingness of an existing coordinated care plan to place a bid, the development of a new coordinated care plan to respond to the new regional bidding structure of Medicare Advantage, and the expectations of plans for how the bidding process will shape their future involvement in providing medical services to America's seniors and disabled population. But every choice that CMS makes now interacts with the key roles of information, asymmetric behavior and endowments.

For example, bidders will be concerned about their provision of private information (such as cost-of-care information) to both other bidders and third parties. All bidders are aware that it is possible that other bidders can infer asset-specific information that they have obtained through the bids they made. This is only possible if the bids are public, not private, but even sealed bids can provide information for other bidders for future rounds of bidding. A key indicator of the performance of the bidding process—which can be measured in terms of extracting the best possible outcome for the bid taker—depends explicitly on the form of the auction, if bidders can infer information about optimal bidding from what their rivals communicate with other bidders; this is the core of many concerns about collusion.⁹⁰ However, future rounds of sealed bids provide opportunities for bidders to engage in punishment—or at least updating information about their rivals' business practices. Should these sealed bids be treated as confidential business information? The problem, of course, is that doing so would mean that enrollees would have no way of grading plans when making choices. If bidders must, after bidding successfully, then negotiate agreements with third parties (such as, in this case, doctors' groups), this will on average reduce the amount of the surplus in the system captured by the bid taker.⁹¹

Individual bidders that are bidding across a set of bidding opportunities (regions) that occur simultaneously may become concerned that the price bid for one region will help determine the price that must be bid for a second region. Theory has struggled with finding the best choice for a bid

taker trying to design a bidding mechanism in this situation. For example, it is difficult even in theory to find a neat solution to the situation when a bidder simultaneously bids across multiple auctions and is constrained on the resources that can be allocated.⁹² For CMS, reducing paperwork costs may enable bidders to bid in multiple regions by reducing information costs, but having a bidder bid in a second region may change the bid made in the first region. Coordinated care plans may be especially susceptible to this problem due to their unique organizational structure.⁹³

It is especially difficult to predict what will happen when each bidder forms expectations about the future bidding strategies of the rivals from how their rivals have bid in past situations. This is the case for three reasons.⁹⁴ First, bidders can take virtually an infinite number of different actions in a given round of bidding, meaning that it is difficult to predict from one round to another how they might react to the infinite range of bids others may also take. Second, auctions change form over time, meaning that how one behaved in the past may not be a good predictor of the future. Third, bidders drop in and out of auctions over time.

If CMS fails to appreciate that bidders will learn from their past experiences with each other and adjust their bidding strategies, then CMS may produce a naive bidding design and may be overly optimistic about the results of the bidding process. In some cases, bidders who know that their current behavior is observable will make suboptimal bids so as not to make their competitors' bids more competitive in the future.⁹⁵ If one bidder is slightly advantaged, he will bid more aggressively and create a reputation, forcing other bidders to bid unaggressively and avoid the winner's curse.⁹⁶ This can lead to suboptimal results for the bid taker. CMS faces exactly this predicament: how to frame the bidding process so that bidders provide useful information in any one round of bidding and over time. This need will be particularly acute in 2010 under the special demonstration.

It also means that CMS is under considerable pressure to get the design right the first time. An example of this is changes to offshore oil leases under the Reagan administration that lowered revenues

by an estimated \$2.6 billion.⁹⁷ Specifically, the change from a form of leasing that required bidders to nominate tracks for bidding to another under which the government designated the tracks *ex ante* caused the price of leases to decline. This happened because the faster rate of leasing reduced the amount of bids per tract. In fact, the lower price of leases also caused the prices received by the states in their own leasing programs to fall. It is also likely that bidding processes chosen for Medicare Advantage will have subsequent effects on the information that coordinated care plans employ in making bids for the provision of state-level Medicaid contracts.

If the information among bidders is distributed asymmetrically, then not all auction designs produce the best possible outcome for the bid taker. This happens even in laboratory experiments the auction designer can control symmetric information *ex ante*,⁹⁸ in part due to the incentives of bidders in some types of auctions (for example, *n*-bidder English auctions).⁹⁹ If the bidders are differently risk-averse or risk-seeking (which can be the case among mixtures of large, diversified corporations and smaller specialized ones), the type of bidding process chosen does not seem to matter as much, but the problem is that many different things can happen in the bidding process—so the bid taker cannot know what to expect before bidding starts.¹⁰⁰ Moreover, when bidders hold very different information, if one bidder has a known relative cost advantage, then what changes is participation: Other less-informed bidders are less likely to participate, and the bid taker generally receives only the reserve price.¹⁰¹ Knowing that, bid takers have one more reason to think carefully about the reserve price they set for the bidding process.

Recommended Response

As noted, the technicalities of asymmetries among bidders and the information they hold are complicated, and ideal solutions to the resulting problems are unclear in part because of the lack of final answers from theoretical studies. We know that these asymmetries can be crucial in determining the final performance of the bidding process, and that accounting for such asymmetries (or even attempts by bidders to create perceptions of such asymmetries) is an important managerial problem

for HHS and CMS. We suggest that, as a first practical matter, HHS build expertise in bidding theory and design, and put in place a program for regularly learning about new developments in theory and practice. A simple and valuable solution would be to seed the development of the theory necessary for understanding these types of bidding settings by encouraging graduate-level students in economics with strong interests in auction design to spend time at CMS.

A more immediate solution is to do the best that can be done with regard to the design of the regions that will be put in place for the bidding processes. It may be possible to design the regions so that no coordinated care plan will bid in multiple adjacent regions, or that many coordinated care plans will do so. CMS should try to avoid the trap of a single or a few coordinated care plans bidding across multiple regions, particularly if those plans are able to “carve up” the regions by using their information pool to their advantage—or at least using that pool of information to change the bidding behavior of other firms.

CMS should also consider carefully how much information it will release about the shape, construction, demographics, and so on of a given region. In those cases where information is poor about a region because it has been constructed so as not to have a single dominant player, CMS may become a supplier of information that fills the gaps in any one firm’s information about the region’s makeup. We strongly encourage CMS and HHS to take on the role of information assembler and provider to the collection of bidders they want to encourage in a given region. The reason is that HHS and CMS may be the only organization with extensive knowledge of a given region because they will actually use such information for creating the region itself. Providing geographic information is not enough. Just as with other regulated markets, having a source of such information will increase the likelihood of entry by new and innovative organizational forms—ones that will arise in response to this bidding process. That market entry will serve as a protector of the people’s interest in seeing strong and extensive competition for Medicare’s dollars.

Endnotes

1. Rothkopf and Harstad 1994.
2. Davis and Holt, *Experimental Economics*, Princeton University Press (1993), 37. If there is only one offerer, one bidder, and only one unit to be exchanged, then this is known as an *ultimatum bargaining game*.
3. This stands in marked contrast to other large purchasers of health benefits—such as CalPERS, General Motors, and the Pacific Business Group on Health—which negotiate with plans based on standardized benefits packages to ease comparison of costs across plans.
4. Feldman, Thorpe, and Gray 2002. Withdrawal can also be linked to other unrelated issues. In 2003, Blue Cross Blue Shield (which carried around half of all FEHBP participants) threatened to end its participation in FEHBP due to a proposed amendment to require FEHBP contractors to comply with government cost accounting standards (“Blues threaten exit from FEHBP over proposed accounting change.” *Managed Care Overview Newsletter*, January/February 2003).
5. The following states currently do not have HMOs in the FEHBP Program: Alaska, Arkansas, Delaware, Nebraska, New Hampshire, and North Carolina.
6. Feldman, Thorpe, and Gray 2002.
7. For example, Butler 2003, Caplan and Foley 2000.
8. Feldman, Thorpe, and Gray 2002.
9. DoD 1999.
10. DoD 2001.
11. Philpott 2003.
12. Gray 2001.
13. Pieratt 2001.
14. Gray 2001.
15. Hoerger et al. 2003.
16. Karon et al. 2002.
17. Williams 2002.
18. Raflo 2002.
19. Raflo 2002.
20. Center for Medicare & Medicaid Services 2003.
21. Center for Medicare & Medicaid Services 2002.
22. Pear 2001a.
23. PR Newswire 2002.
24. PPOs have preferred networks of providers such as hospitals and physicians, but unlike HMOs, they provide some coverage for services provided out of network but this coverage is less than if the services were rendered within the network. A distinct advantage of PPOs is that in urban areas (which are where most M+C HMOs operated) they act like HMOs, while in rural areas they act like private FFS networks.
25. In 2001 the Health Care Financing Administration was renamed the Centers for Medicare & Medicaid Services (CMS). For the sake of consistency, the agency is referred to as CMS throughout the remainder of this report.
26. The Medicare managed care program was named Medicare+Choice (M+C) by the Balanced Budget Act of 1997; however, for the sake of consistency we shall refer to the program throughout its history as M+C.
27. Under M+C, Medicare beneficiaries could enroll only in those HMOs with a risk contract from CMS to serve the beneficiary’s county of residence. Medicare beneficiaries suffering from end-stage renal disease were not eligible for Medicare managed care.
28. GAO Report 00-161 (2000). Favorable selection occurred even though HMOs are prohibited by law from selecting enrollees on the basis of health status.
29. Some provisions of the BBA were amended by the Balanced Budget Refinement Act of 1999 and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000.
30. The bonus is paid to the first HMO to enter a previously unserved county, but if several HMOs enter on the same date they each receive the bonus.
31. Pizer and Frakt 2002.

32. Liu 2002; Cawley, Chernew, and McLaughlin 2004.
33. Gold 2001.
34. HCFA Medicare Managed Care Contract Reports are the source of the data shown in Figures 1 and 2.
35. HCFA Medicare Managed Care January Contract Report 2001.
36. Gold and Justh 2000.
37. Casey, Knott, and Moscovice 2002.
38. Pizer and Frakt 2002, Physician Payment Review Commission 1996, GAO Report 97-113 (1997).
39. PR Newswire 2003.
40. PR Newswire 2002.
41. Hayek 1945.
42. Dowd et al. 1992; Dowd, Feldman, and Christianson 1996.
43. See, for example, Dowd, Coulam, and Feldman 2000.
44. Dowd, Coulam, and Feldman 2000, 9.
45. Dowd, Coulam, and Feldman 2000.
46. Dowd, Coulam, and Feldman 2000; Nichols 2001.
47. Dowd, Coulam, and Feldman 2000.
48. Cooper and Vladeck 2000.
49. Nichols 2001; Dowd, Coulam, and Feldman 2000; Nichols and Reischauer 2000.
50. Cooper and Vladeck 2000.
51. Nichols and Reischauer 2000; Nichols 2001.
52. Dowd, Coulam, and Feldman 2000.
53. Quoted in Freudenheim 2003.
54. See, for example, "The Health Care and Antitrust Interface in an Era of Fundamental Industry-Wide Realignment," a speech by Christine A. Varney, Commissioner of the FTC, at the SMS Health Executives Forum, Naples, Florida. See also the Federal Trade Commission and Department of Justice Hearings on Health Care and Competition Law and Policy, Washington, D.C., on February 26, 2003.
55. McAfee and McMillan 1987.
56. Demsetz 1968, Williamson 1976.
57. Pickford 1985.
58. Kleindorfer and Kunreuther 1986.
59. Rassenti, Smith, and Bulfin 1982.
60. McAfee and McMillan 1987, 703.
61. Schelling 1960, Dixit and Nalebuff 1991.
62. For example, Rothkopf 1991.
63. This occurred in the case of Australian satellite-television licenses (see McMillan 1994) and in both the American and Indian spectrum auctions (Klemperer 2002).
64. Rothkopf and Harstad 1994.
65. Rothkopf 1983.
66. See Klemperer 2002. Burrough and Helyar (1990) show this to have been the case for the RJR-Nabisco sale.
67. Rothkopf and Harstad 1994.
68. Comanor and Schankerman 1976.
69. Robinson 1985, Graham and Marshall 1987, Mailath and Zemsky 1991.
70. American Society of Civil Engineers 1985.
71. See Rothkopf and Harstad 1994. For example, it is likely that Vickrey auctions are used rarely because of the bidder's incentive to rig bids and insert insincere bids between the best and second-price bids (Rothkopf et al. 1990).
72. Klemperer 2002.
73. Klemperer 2002, 169.
74. Klemperer and Meyer 1989.
75. This is commonly known as the Folk Theorem (Aumann 1981).
76. Stigler 1964, 8.
77. McAfee and McMillan 1987.
78. Rothkopf and Harstad 1994.
79. Harstad 1990.
80. Bulow and Klemperer 1996.
81. Rothkopf and Harstad 1994.
82. Wighton 1995.
83. Klemperer 1998.
84. Betton and Eckbo 1995.
85. Bikhchandani 1989.
86. Klemperer 2002, 8.
87. Cassady 1967, 26–27.
88. This is a core result in the development of the Revenue Equivalence Theorem. See Laffont and Maskin 1980, Harris and Raviv 1981, Myerson 1981, Riley and Samuelson 1981, Milgrom 1985.
89. McAfee and McMillan 1987.
90. Rothkopf and Harstad 1994.
91. Rothkopf, Teisberg, and Kahn 1990.
92. Stark and Mayer 1971.
93. In fact, the bidders' behavior—how they will bid in the auctions—depends on very simple differences in the constraints they face, such as whether they are constrained by resources that can be bid (dollars) or the total number of bids (perhaps due to time or resource constraints in bid preparation) (Engelbrecht-Wiggans 1987, Rothkopf and Harstad 1994).
94. Rothkopf and Harstad 1994.
95. Hausch 1986.
96. Bikhchandani 1989.
97. Moody and Kravant 1990.
98. Rothkopf and Harstad 1994.
99. Bikhchandani and Riley 1990.
100. Technically, this means that second-price auctions with asymmetric risk propensities will almost approximate their common-value cousins, but that there are a multiplicity of equilibria (Harstad, 1991); unfortunately, this is not always the case for first-price auctions.
101. Harstad 1989.

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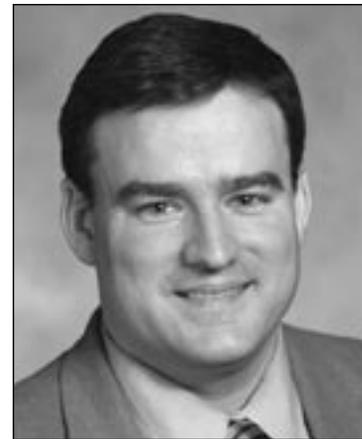
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