

26 September 2010

The Honorable Pete Stark
Chairman
Subcommittee on Health
Committee on Ways and Means
239 Cannon Building
Washington, DC 20515

Dear Chairman Stark:

We are economists, computer scientists, and operation researchers with expertise in the theory and practice of auctions.¹ We write to express our concerns with the Medicare Competitive Bidding Program for Durable Medical Equipment operated by the U.S. Department of Health and Human Services. We believe that competitive bidding can be an effective method of controlling Medicare costs without sacrificing quality. However, the current auction program has flaws that need to be fixed before it can achieve the objectives of low cost and high quality.

Four main problems

The first problem is that the auction rules violate a basic principle of auction design: *bids must be binding commitments*. In the Medicare auction, bidders are not bound by their bids. Any auction winner can decline to sign a supply contract following the auction. This undermines the credibility of bids, and encourages low-ball bids in which the supplier acquires at no cost the option to sign a supply contract.

The second problem is a flawed pricing rule. As is standard in multi-unit procurement auctions, bids are sorted from lowest to highest, and winners are selected, lowest bid first, until the cumulative supply quantity equals the estimated demand. What is odd is that rather than paying winners the clearing price (the last-accepted bid), the auction pays winners the unweighted median among the winning bids. This is unique in our collective experience. The result is that fifty percent of the winning bidders are offered a contract price *less than* their bids. This median pricing rule further encourages low-ball bids, since a low bid guarantees winning, has a negligible effect on the price and gives the supplier a free option to sign a supply contract. Even if suppliers bid their true costs, up to one-half of the winning suppliers would reject the supply contract and the government would be left with insufficient supply. Others may accept the contract and cross-subsidize public patients with the revenue from private patients, or just take a loss. This pricing rule does not develop a sustainable competitive bidding process or healthy supplier pool.

The third problem arises from the use of composite bids, an average of a bidder's bids across many products weighted by government estimated demand. This provides strong incentives to distort bids away from costs—the problem of bid skewing. Bidders bid low on products where the government overestimated demand and high on products where the government underestimated demand. As a result, prices for individual products are not closely related to costs. Bid skewing is especially

¹ The views expressed here are our own and do not represent the views of any organization. For additional information please contact [Peter Cramton](mailto:pcramton@gmail.com), University of Maryland, pcramton@gmail.com.

problematic in this setting, since the divergence between costs and prices likely will result in selective fulfillment of customer orders. Orders for low-priced products are apt to go unfilled.

The fourth problem is a lack of transparency. It is unclear how quantities associated with each bidder are determined. These quantities are set in a non-transparent way in advance of the auction. Bids from the last auction event were taken in November 2009, and now more than ten months later, we still do not know who won contracts. Both quality standards and performance obligations are unclear. This lack of transparency is unacceptable in a government auction and is in sharp contrast to well-run government auctions such as the Federal Communications Commission spectrum auctions.

This collection of problems suggests that the program over time may degenerate into a “race to the bottom” in which suppliers become increasingly unreliable, product and service quality deteriorates, and supply shortages become common. Contract enforcement would become increasingly difficult and fraud and abuse would grow.

Key features of a good auction design

Competitive bidding techniques have improved dramatically over the past twenty years and especially in recent years. Complex auctions like the Medicare competitive bidding program can be designed to achieve the objectives of low cost and high quality with little implementation risk. Successful government auctions emphasize transparency, good price and assignment discovery, and strategic simplicity. The result is sustainable long-term competition among suppliers which reduces costs while maintaining quality.

We recommend that the government fix the flaws in the current auction program and develop a new design that emphasizes the key features of successful designs. Implementation of the current design will result in a failed government program. There is no need for a bad outcome. With state-of-the-art auction methods and careful implementation, the auction program can succeed in reducing costs while maintaining quality—a win-win for both taxpayers and Medicare beneficiaries.

Respectfully submitted,

[The following are economists, computer scientists, and operation researchers with expertise in the design of auctions and market mechanisms. Information on each of us, including our auction-related research, can be found with an Internet search of name and affiliation.]

Dilip Abreu
Princeton University

Itai Ashlagi
MIT

Susan Athey
Harvard University

Lawrence M. Ausubel
University of Maryland

Chris Avery
Harvard University

Ian Ayres
Yale University

Kerry Back
Rice University

Patrick L. Bajari
University of Minnesota

Sandeep Baliga
Northwestern University

Michael Ball
University of Maryland

David Baron
Stanford University

Michael Baye
Indiana University

Coleman Bazon
Brattle Group

Dirk Bergemann
Yale University

Gary A. Biglaiser
University of North Carolina

Sushil Bikhchandani
UCLA

Kenneth Binmore
University College London

Andreas Blume
University of Pittsburgh

Simon Board UCLA	Jeffrey Ely Northwestern University	Thomas D. Jeitschko Michigan State University
Gary Bolton Pennsylvania State University	Itay Fainmesser Brown University	John Kagel Ohio State University
Tilman Borgers University of Michigan	Emel Filiz-Ozbay University of Maryland	Charles Kahn University of Illinois
Eric Budish University of Chicago	Dan Friedman University of California Santa Cruz	Ehud Kalai Northwestern University
James Bushnell Iowa State University	Douglas Gale New York University	Michael L. Katz University of California Berkeley
Estelle Cantillon Université Libre de Bruxelles	Lawrence R. Glosten Columbia University	Brett E. Katzman Kennesaw State University
Andrew Caplin New York University	Theodore Groves University of California San Diego	Paul R. Kleindorfer University of Pennsylvania
Marco Celentani Universidad Carlos III	Philip A. Haile Yale University	Kala Krishna Pennsylvania State University
Kalyan Chatterjee Pennsylvania State University	Milton Harris University of Chicago	Michael Landsberger University of Haifa
Yeon-Koo Che Columbia University	Ronald M. Harstad University of Missouri	John Ledyard California Institute of Technology
In-Koo Cho University of Illinois	Oliver Hart Harvard University	Jonathan D. Levin Stanford University
Peter Coles Harvard University	Jason Hartline Northwestern University	David K. Levine Washington University in St. Louis
Peter Cramton University of Maryland	John Hatfield Stanford University	Gregory Lewis Harvard University
Vincent Crawford University of Oxford	Donald Hausch University of Wisconsin	Tracy R. Lewis Duke University
Jacques Cremer Toulouse School of Economics	Robert Hauswald American University	Kevin Leyton-Brown University of British Columbia
Robert Day University of Connecticut	Thomas W. Hazlett George Mason University	Yuanchuan Lien Hong Kong Univ. of Science & Tech.
Luciano I. de Castro Northwestern University	Kenneth Hendricks University of Wisconsin	Barton L. Lipman Boston University
Francesco Decarolis University of Wisconsin	Karla Hoffman George Mason University	John List University of Chicago
George Deltas University of Illinois	William W. Hogan Harvard University	Jeffrey K. MacKie-Mason University of Michigan
Peter DeMarzo Stanford University	Charles A. Holt University of Virginia	W. Bentley MacLeod Columbia University
Raymond J. Deneckere University of Wisconsin-Madison	Ali Hortacsu University of Chicago	George J. Mailath University of Pennsylvania
Nicola Dimitri University of Siena	Daniel Houser George Mason University	Timothy Mathews Kennesaw State University
David Dranove Northwestern University	Nicole Immorlica Northwestern University	Steven A. Matthews University of Pennsylvania
Marc Ducey Rice University	R. Mark Isaac Florida State University	David McAdams Duke University
Gregory M. Duncan Brattle Group	Philippe Jehiel Paris School of Economics	Mark J. McCabe University of Michigan

Flavio Menezes University of Queensland	Andrew Postlewaite University of Pennsylvania	Martin Shubik Yale University
Paul Milgrom Stanford University	Marek Pycia UCLA	Matthew Shum California Institute of Technology
Eugenio J. Miravete University of Texas	S. Raghavan University of Maryland	Andrzej Skrzypacz Stanford University
John Morgan University of California Berkeley	Eric Rasmusen Indiana University	Joel Sobel University of California San Diego
Stephen Morris Princeton University	Stephen J. Rassenti Chapman University	Tayfun Sonmez Boston College
Herve Moulin Rice University	Philip J. Reny University of Chicago	Richard Steinberg London School of Economics
Roger Myerson University of Chicago	John Riley UCLA	Steven Stoft Global Energy Policy Center
Dana S. Nau University of Maryland	Michael Riordan Columbia University	Jeroen M. Swinkels Northwestern University
Axel Ockenfels University of Cologne	Jacques Robert HEC Montreal	Robert J. Thomas Cornell University
Shmuel Oren University of California Berkeley	Donald John Roberts Stanford University	Utku Unver Boston College
Michael Ostrovsky Stanford University	Gregory Rosston Stanford University	Eric Van Damme Tilburg University
Erkut Ozbay University of Maryland	Al Roth Harvard University	Timothy van Zandt INSEAD
Marco Pagnozzi University of Naples	John Rust University of Maryland	S. Viswanathan Duke University
Mallesh Pai University of Pennsylvania	Maher Said Washington University in St. Louis	Rakesh Vohra Northwestern University
Ariel Pakes Harvard University	Larry Samuelson Yale University	Michael Waldman Cornell University
Thomas Palfrey California Institute of Technology	William Samuelson Boston University	Mark Walker University of Arizona
David Parkes Harvard University	Tuomas W. Sandholm Carnegie Mellon University	Ruqu Wang Queen's University
David Pearce New York University	Mark A. Satterthwaite Northwestern University	Steven R. Williams University of Illinois
Motty Perry University of Warwick	Thomas C. Schelling University of Maryland	Bart Wilson Chapman University
Nicola Persico New York University	William Schulze Cornell University	Robert Wilson Stanford University
Martin Pesendorfer London School of Economics	Alan Schwartz Yale University	Catherine Wolfram University of California Berkeley
Michael Peters University of British Columbia	Jesse Schwartz Kennesaw State University	Dennis Yao Harvard University
Charles R. Plott California Institute of Technology	Michael Schwarz Yahoo! Labs	Pai-Ling Yin MIT
David Porter Chapman University	Ilya Segal Stanford University	Jaime Zender University of Colorado
Robert Porter Northwestern University	Yoav Shoham Stanford University	