

17 June 2011

President Barack Obama
The White House
1600 Pennsylvania Avenue
Washington DC 20500

Cc: Austan Goolsbee, Chairman, President's Council of Economic Advisors
Cass Sunstein, Administrator, White House Office of Information and Regulatory Affairs
Kathleen Sebelius, Secretary, Department of Health and Human Services

Dear President Obama,

We are economists, computer scientists and engineers with expertise in the theory and practice of auctions.¹ In September 2010, many of us signed a letter to Congressional leaders pointing out the numerous fatal flaws in the current Medicare competitive bidding program for durable medical equipment (DME). We also emphasized that the flaws could easily be fixed by adopting modern auction methods that have been developed over the last fifteen years and are now well-understood.

The flaws in the auctions administered by the Centers for Medicare and Medicaid Services (CMS) are numerous. The use of non-binding bids together with setting the price equal to the median of the winning bids provides a strong incentive for low-ball bids—submitting bids dramatically below actual cost. This leads to complete market failure in theory and partial market failure in the lab. Another problem is the lack of transparency. For example, bidder quantities are chosen arbitrarily by CMS, enabling a wide range of prices to emerge that have no relation to competitive market prices.

We write today, nine months later, to report that—much to our dismay—there are to date no signs that CMS has responded to the professional opinions of auction experts or taken any serious steps to fix the obvious flaws to the competitive bidding program. Rather CMS continues to recite the mantra that all is well and that CMS does not plan to make any changes to the program as it expands from nine pilots to the entire United States.²

We find this especially distressing and unreasonable given your Executive Order of 18 January 2011 on regulation. In that order, you lay out numerous sensible principles of regulation that administrative agencies must follow. The CMS competitive bidding program violates all of the principles, especially the principles of transparency and of basing regulations on the best available science. Indeed, the current program is the antithesis of science and contradicts all that is known about proper market design.

Since the writing of our letter in September, several of us have done further detailed scientific study to explore the properties of the CMS design and contrast it to modern efficient auctions. The

¹ The views expressed here are our own and do not represent the views of any organization. None of us are paid to provide our views; we provide our independent views as experts who understand the advantages and challenges of market methods. For additional information please contact [Peter Cramton](mailto:pcramton@gmail.com), University of Maryland, pcramton@gmail.com.

² For example, "Laurence Wilson, a Medicare official overseeing the bidding process, said his agency is 'very pleased' with how the nine-city rollout has gone and has no major changes scheduled before the new system starts in large cities." (CaliforniaWatch.org, 26 May 2011, Christina Jewett)

findings are dramatic and illustrate the power of science to inform auction design. Specifically, auction theory was used to demonstrate the poor incentive properties of the CMS design and how these lead to poor outcomes.³ Laboratory experiments were conducted at Caltech and the University of Maryland that demonstrate that these poor theoretical properties are observed in the lab. Moreover, simple efficient auctions perform extremely well in both theory and in the economic laboratory.⁴ Finally, some of us have studied extensively the Medicare setting, speaking with hundreds of DME providers and beneficiaries, and have developed a modern auction design for the setting that is consistent with the best practice and market design methodologies.⁵

This design step was far from a theoretical exercise. On 1 April 2011, a Medicare auction conference was conducted at the University of Maryland to show how the modern auction methods work and to conduct a nearly full-scale demonstration of an efficient auction. Over 100 leaders in government and the DME industry attended the event. The results are documented at www.cramton.umd.edu/health-care, including a complete video and transcript of the event. The mock auction achieved an auction efficiency of 97%.⁶ In sharp contrast, the CMS auction exhibited efficiencies well below 50% in the laboratory, even in simplified environments. Despite these sharp results, CMS continues to assert that all is well and that no significant changes are required.

The problems with the CMS auction grow worse upon closer inspection. The complete lack of transparency is inappropriate for a government auction. For example, we now know that CMS has almost complete discretion with respect to setting prices in a nontransparent way. CMS can and did manipulate the quantities reported by bidders during qualification.⁷ These quantities are essential to forming the supply curve, which ultimately sets the price in each product-region. To this date we know little about what quantities were used in the price determination. As a result of this lack of transparency, it is now clear that the CMS design is not an auction at all but an arbitrary pricing process.

Given that nine months have passed and given the disregard by CMS of the market design recommendations received from recognized experts, we call upon the executive branch to direct CMS to proceed otherwise. We also ask that you consider supporting new legislation that requires the Secretary of Health and Human Services to conduct efficient Medicare auctions, consistent with the best practice and the best science.

³ Cramton, Peter, Sean Ellermeyer, and Brett E. Katzman, "Designed to Fail: The Medicare Auction for Durable Medical Equipment," Working Paper, University of Maryland, March 2011. [\[pdf\]](#)

⁴ Merlob, Brian, Charles R. Plott, and Yuanjun Zhang, "The CMS Auction: Experimental Studies of a Median-Bid Procurement Auction with Non-Binding Bids," Working Paper, California Institute of Technology, April 2011. [\[pdf\]](#)

⁵ Cramton, Peter, "Auction Design for Medicare Durable Medical Equipment," Working Paper, University of Maryland, June 2011. [\[pdf\]](#)

⁶ Cramton, Peter, Ulrich Gall, and Pacharasut Sujarittanonta, "An Auction for Medicare Durable Medical Equipment: Evidence from an Industry Mock Auction," Working Paper, University of Maryland, April 2011. [\[pdf\]](#)

⁷ Tom Bradley, Chief of the Medicare Cost Estimates Unit at the Congressional Budget Office, describes this manipulation in his remarks at the Medicare Auction Conference at minute 49:13, "What they did was they selected bidders up to the quantity well over the amount needed to clear—to serve the given market, and then from that vastly expanded pool, they selected the median. Fundamentally, that's an arbitrary number. It's a number that bears no relationship to the market clearing price." [\[pdf\]](#)

There is much at stake. Unfunded Medicare expenses are estimated to be in the tens of trillions of dollars going forward. Medicare is unsustainable without the introduction of innovative market methods and other fundamental reforms. The DME auction program represents an important first step, especially since failures in homecare will inevitably lead to much more expensive care at the hospital.

We believe that proper design and implementation of market methods can bring gains to all interested parties: Medicare beneficiaries benefit from receiving the quality goods and services they need, Medicare providers benefit from being paid sustainable competitive prices for the quality goods and services they deliver, taxpayers benefit by paying the least-cost sustainable prices for these products, and CMS benefits from the numerous efficiencies that result from conducting an effective program, largely free of complaint, fraud, and corruption.

We believe that government plays an important role in establishing effective market rules. For the Medicare auctions, the impediments to reform are not special interests or a lack of knowledge, but bureaucratic inertia. This is an important setting and change of the prior administration's regulations is required to contain Medicare costs and assure quality services for Medicare beneficiaries. We are counting on your leadership to bring effective reform.

Many thanks for your thoughtful consideration of our concerns.

Sincerely,

[The following are economists, computer scientists, and engineers 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

Nikhil Agarwal
Harvard University

Victor Aguirregabiria
University of Toronto

Anand Anandalingam
University of Maryland

Kenneth Arrow
Stanford 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 Bajari
University of Minnesota

Sandeep Baliga
Northwestern University

Michael Ball
University of Maryland

Ravi Bapna
University of Minnesota

Oleg Baranov
University of Colorado

David Baron
Stanford University

Johannes Bauer
Michigan State University

Michael R. Baye
Indiana University

Coleman Bazelon
Brattle Group

Damian Beil
University of Michigan

Dirk Bergemann
Yale University

Steven Berry
Yale University

Martin Bichler
Technical University of Munich

Gary Biglaiser
University of North Carolina

Sushil Bikhchandani
UCLA

Kenneth Binmore
University College London

Andreas Blume
University of Pittsburgh

Simon Board
UCLA

Aaron Bodoh-Creed
Cornell University

Gary Bolton
Pennsylvania State University

Tilman Borgers
University of Michigan

Timothy Brennan
University of Maryland, Baltimore
County

Sandro Brusco Stony Brook University	Marc Dudey Rice University	Robert Hall Stanford University
Eric Budish University of Chicago	Gregory Duncan Brattle Group	Barry Harris Economist Inc.
James Bushnell University of California, Davis	Federico Echenique California Institute of Technology	Milton Harris University of Chicago
Estelle Cantillon Université Libre de Bruxelles	Aaron Edlin University of California Berkeley	Pavithra Harsha IBM Research
Andrew Caplin New York University	Jeffrey Ely Northwestern University	Ronald Harstad University of Missouri
Marco Celentani Universidad Carlos III	Richard Engelbrecht-Wiggans University of Illinois	Oliver Hart Harvard University
Kalyan Chatterjee Pennsylvania State University	Itay Fainmesser Brown University	Jason Hartline Northwestern University
Yeon-Koo Che Columbia University	Gerald Faulhaber University of Pennsylvania	John Hatfield Stanford University
In-Koo Cho University of Illinois	Emel Filiz-Ozbay University of Maryland	Donald Hausch University of Wisconsin
Dominic Coey Stanford University	Jeremy Fox University of Michigan	Robert Hauswald American University
Peter Coles Harvard University	Dan Friedman University of California Santa Cruz	Thomas Hazlett George Mason University
Vincent Conitzer Duke University	Drew Fudenberg Harvard University	Kenneth Hendricks University of Wisconsin
Peter Cramton University of Maryland	Douglas Gale New York University	Brent Hickman University of Chicago
Gregory Crawford University of Warwick	Ian Gale Georgetown University	Karla Hoffman George Mason University
Vincent Crawford University of Oxford	Lawrence R. Glosten Columbia University	William Hogan Harvard University
Ettore Damiano University of Toronto	Jacob Goeree University of Zurich	Charles Holt University of Virginia
Sanjukta Das Smith State University of New York at Buffalo	Brent Goldfarb University of Maryland	Ali Hortacsu University of Chicago
Robert Day University of Connecticut	Dries R. Goossens Katholieke Universiteit Leuven	Jean-Francois Houde University of Wisconsin
Luciano de Castro Northwestern University	Brett Green Northwestern University	Daniel Houser George Mason University
Francesco Decarolis University of Wisconsin	Eric Greenleaf New York University	Nicole Immorlica Northwestern University
George Deltas University of Illinois	Theodore Groves University of California San Diego	R. Isaac Florida State University
Peter DeMarzo Stanford University	Emmanuel Guerre Queen Mary, University of London	Charles Jackson JTC, LLC
Raymond Deneckere University of Wisconsin-Madison	Isa Hafalir Carnegie Mellon University	Philippe Jehiel Paris School of Economics
Nicola Dimitri University of Siena	Robert Hahn University of Oxford	Thomas D. Jeitschko Michigan State University
	Philip A. Haile Yale University	Ramesh Johari Stanford University

Terry Johnson University of Notre Dame	John List University of Chicago	Shmuel Oren University of California Berkeley
John Kagel Ohio State University	Giuseppe (Pino) Lopomo Duke University	Michael Ostrovsky Stanford University
Charles Kahn University of Illinois	Jeffrey MacKie-Mason University of Michigan	Marion Ott RWTH Aachen University
Ehud Kalai Northwestern University	W. Bentley MacLeod Columbia University	Erkut Ozbay University of Maryland
Jakub Kastl Stanford University	George Mailath University of Pennsylvania	Ali Haydar Özer Bogazici University
Elena Katok Penn State University	Eric Maskin Princeton University	Marco Pagnozzi University of Naples
Sachin Katti Stanford University	Timothy Mathews Kennesaw State University	Mallesh Pai University of Pennsylvania
Brett Katzman Kennesaw State University	Steven Matthews University of Pennsylvania	Ariel Pakes Harvard University
Eiichiro Kazumori The State University of New York	David McAdams Duke University	Thomas Palfrey California Institute of Technology
Bryan Keating Compass Lexecon	Mark McCabe University of Michigan	Minjung Park University of California Berkeley
Paul Kleindorfer University of Pennsylvania	Flavio Menezes University of Queensland	David Parkes Harvard University
Fuhito Kojima Stanford University	Paul Milgrom Stanford University	David Pearce New York University
Scott Duke Kominers Harvard University	Eugenio Miravete University of Texas	Sasa Pekec Duke University
Kala Krishna Pennsylvania State University	John Morgan University of California Berkeley	Motty Perry University of Warwick
John Lai Harvard University	Thayer Morrill North Carolina State University	Nicola Persico New York University
Michael Landsberger University of Haifa	Stephen Morris Princeton University	Martin Pesendorfer London School of Economics
John Ledyard California Institute of Technology	Herve Moulin Rice University	Michael Peters University of British Columbia
William Lehr MIT	Rudolf Müller Maastricht University	Charles Plott California Institute of Technology
Jonathan Levin Stanford University	Roger Myerson University of Chicago	Dave Porter Chapman University
David Levine Washington University in St. Louis	Tymofiy Mylovanov Penn State University	Robert Porter Northwestern University
Gregory Lewis Harvard University	Barry Nalebuff Yale University	Andrew Postlewaite University of Pennsylvania
Tracy Lewis Duke University	Dana Nau University of Maryland	Marek Pycia UCLA
Kevin Leyton-Brown University of British Columbia	Alexandru Nichifor University of Maastricht	Daniel Quint University of Wisconsin
Yuanchuan Lien Hong Kong Univ. of Science & Tech.	Roger Noll Stanford University	S. Raghavan University of Maryland
Barton Lipman Boston University	Axel Ockenfels University of Cologne	Eric Rasmusen Indiana University

Stephen Rassenti Chapman University	Yoav Shoham Stanford University	Steven R. Williams University of Illinois
Philip J. Reny University of Chicago	Martin Shubik Yale University	Bart Wilson Chapman University
John Riley UCLA	Matthew Shum California Institute of Technology	Robert Wilson Stanford University
Michael Riordan Columbia University	Andrzej Skrzypacz Stanford University	Brad Wimmer University of Nevada, Las Vegas
Jacques Robert HEC Montreal	Joel Sobel University of California San Diego	Catherine Wolfram University of California Berkeley
Donald Roberts Stanford University	Tayfun Sonmez Boston College	John Wooders University of Arizona
James Roberts Duke University	Jan Stallaert University of Connecticut	Glenn Woroch University of California Berkeley
Gregory Rosston Stanford University	Richard Steinberg London School of Economics	D.J. Wu Georgia Tech
Marzena Rostek University of Wisconsin	Steven Stoft Global Energy Policy Center	Dennis Yao Harvard University
Al Roth Harvard University	Jeroen Swinkels Northwestern University	Lixin Ye Ohio State University
John Rust University of Maryland	Steven Tadelis University of California Berkeley	Pai-Ling Yin MIT
Maher Said Washington University in St. Louis	Robert J. Thomas Cornell University	Jaime Zender University of Colorado
David Salant Toulouse School of Economics	Utku Unver Boston College	
Larry Samuelson Yale University	Eric Van Damme Tilburg University	
William Samuelson Boston University	Timonhony van Zandt INSEAD	
Tuomas Sandholm Carnegie Mellon University	S. Viswanathan Duke University	
Pallab Sanyal George Mason University	Rakesh Vohra Northwestern University	
Mark Satterthwaite Northwestern University	Michael Waldman Cornell University	
Scott Savage University of Colorado	Mark Walker University of Arizona	
Thomas C. Schelling University of Maryland	Ruqu Wang Queen's University	
William Schulze Cornell University	Robert Weber Northwestern University	
Alan Schwartz Yale University	Gabriel Weintraub Columbia University	
Jesse Schwartz Kennesaw State University	Michael Wellman University of Michigan	
Ilya Segal Stanford University	Marek Weretka University of Wisconsin	
Sven Seuken Harvard University	Simon Wilkie University of Southern California	