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DMEPOS Competitive Bidding Program: Interim Evaluation Research Results

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1. Introduction

This document reports on interim findings from an evaluation study of Medicare's program of competitive bidding for durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS), originally enacted in the Medicare Prescription Drug Improvement and Modernization Act (MMA) of 2003 (Pub. L. 108-173. Information herein reflects work on the evaluation project completed through February, 2011 Selected findings from this report are included in the CMS Report to Congress required by Section 154 of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) (P.L. 110-275). After presenting background information on the DMEPOS competitive bidding program and related elements of Medicare and federal policy in Section 2, we provide an overview of the program requirements established by statute and implementing regulations (Section 3). Next, in Section 4, we describe the design of the entire evaluation project. We follow the design description with interim findings from baseline qualitative data collection (Section 5). Finally, in Section 6, we report on preliminary estimates of savings impacts in the first year of the program.

2. Background

The background section of this report contains information about the history of the program, the timing of program implementation, the role of the Payment Advisory and Oversight Committee, the accompanying quality assurance Accreditation program for durable medical equipment, prosthetics, orthotics, and supplies, and the role of the Medicare Ombudsman.

2.1. DMEPOS Competitive Bidding Program

Pursuant to Section 302 of the Medicare Prescription Drug Improvement and Modernization Act (MMA) of 2003 (Pub. L. 108-173), in 2008 the Centers for Medicare & Medicaid Services (CMS) began to phase in a competitive bidding program for durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS).[1] The program was established after the conclusion of successful demonstration projects conducted by Medicare from 1999 to 2002. Those demonstrations found that competitive bidding for DMEPOS reduced Medicare spending, reduced beneficiary out-of-pocket costs, and did not adversely affect beneficiary satisfaction with DMEPOS goods and services.

Under the MMA, the DMEPOS competitive bidding program was to be phased into Medicare, with the first round of auctions conducted in 10 metropolitan areas in 2007. Consistent with this statutory mandate, CMS issued a final rule implementing the program on April 10, 2007,[2] and conducted the Round One competition in 10 areas and for 10 DMEPOS product categories. Shortly after CMS implemented the program on July 1, 2008, the

[1] Public Law No: 108-173.

[2] The DMEPOS Competitive Bidding Final Rule can be found at: http://www.cms.gov/quarterlyproviderupdates/downloads/cms1270f.pdf

Medicare Improvements for Patients and Providers Act (MIPPA) of 2008 temporarily delayed the program, terminated the Round One contracts that were in effect, and made other limited changes.[3] On January 16, 2009, CMS issued an interim final rule with comment period that incorporated into regulation provisions of MIPPA necessary to re-conduct the competition[4]; that rule became effective on April 18, 2009. As required by MIPPA, CMS conducted the supplier competition again, referred to as the Round One Rebid, beginning October 21, 2009, and the new competitive bidding rates went into effect in nine Competitive Bidding Areas (CBAs) on January 1, 2011.

The timeline for the restart of the competitive bidding program is shown in Exhibit 1. One objective of the DMEPOS competitive bidding program is to reduce costs to both Medicare and beneficiaries, by contracting with efficient suppliers; the delay in the program postponed the anticipated savings. The MIPPA therefore implemented a 9.5% across-the-board reduction in the DMEPOS fee schedules, so that some of the expected savings could be realized even as the program was refined and restarted. This rate reduction became effective on January 1, 2009.

Exhibit 1: DMEPOS Round One Rebid Timeline

August 3, 2009	CMS announced timeline/schedule of education events, began supplier/bidder education in 9 CBAs
August 17, 2009	Registration for supplier/bidder user IDs and passwords began
September 14, 2009	Bidders encouraged to register no later than this date
September 30, 2009	Last day for DMEPOS suppliers to become accredited (nationwide requirement)
October 2, 2009	DMEPOS supplier surety bond deadline (nationwide requirement)
October 21, 2009	CMS opened 60-day bid window for Round One Rebid
November 4, 2009	Bidder registration closed at 9:00 p.m. EST
November 21, 2009	Covered Document Review Date for bidders to submit financial documents
December 21, 2009	60-day bid window closed
July 2010	CMS announced single payment amounts, began contracting process.
October 2010	CMS announced contract suppliers, began educating new contract suppliers
February 2010 – April 2011	CMS' supplier, referral agent, and beneficiary education campaign
January 1, 2011	Implementation of Medicare DMEPOS Competitive Bidding Program Round 1 Rebid contracts and prices

Source: Centers for Medicare and Medicaid Services

2.2. Payment Advisory and Oversight Committee

In order to obtain input and recommendations about the competitive bidding program, the statute requires Medicare to establish and administer a Program Advisory and Oversight Committee (PAOC). In public meetings, the committee provides advice on the development

[3] Public Law No: 110-275.

[4] The interim final rule with comment period, January 2009, implemented MIPAA changes: http://edocket.access.gpo.gov/2009/pdf/E9-863.pdf

and implementation of the Competitive Acquisition Program. Section 302 of the MMA states that the goals of the committee are to provide advice on the following:

- The implementation of the Competitive Acquisition Program
- The establishment of financial standards that take into account the needs of small providers
- The establishment of data collection requirements for the efficient management of the program
- The development of proposals for efficient interaction among manufacturers, providers of services, suppliers, and individuals
- The establishment of quality standards

MIPPA extended the PAOC for two years, changing the termination date from December 31, 2009, to December 31, 2011. The term of the first committee members ended in 2008, and new PAOC members have been appointed to advise CMS as it proceeds with the restart of the competitive bidding program.[5]

2.3. Quality Assurance: Supplier Accreditation

The MMA required CMS to revise DMEPOS quality standards, and mandated that CMS work with the PAOC on the revisions. The MMA also mandated a DMEPOS supplier accreditation program. The purposes of the quality standards and accreditation program were to safeguard the quality of DMEPOS equipment and services for Medicare beneficiaries, reduce fraud, and protect against any erosion of quality when competitive bidding was implemented. The accreditation and quality standards were finalized in August 2006, in time for the first (aborted) round of competitive bidding, and revised in October 2008. The standards concern financial management, human resources management, consumer services, performance management, product safety, information management, and they incorporate several product-specific requirements. These standards are the foundation for the supplier accreditation program developed by CMS and implemented by 10 deemed Accrediting Organizations.[6]

Suppliers in the original 10 competitive bidding areas were required to become accredited prior to submitting bids in 2007. All other suppliers were required to be accredited by mid-2009, as a condition of participation in Medicare. During the delay in the competitive bidding program specified in MIPPA, accreditation moved forward nationwide: any supplier wishing

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[5] The list of PAOC members can be found at: https://146.123.140.205/DMEPOSCompetitiveBid/Downloads/paoc_member_list.pdf

[6] An Accreditation Fact Sheet can be found at: http://consultantsprn.com/wp-content/uploads/2010/08/DMEPOSAccreditiationDeadline.pdf

The list of deemed accrediting organizations can be found at: https://www.cms.gov/MedicareProviderSupEnroll/Downloads/DeemedAccreditationOrganizations.pdf

to participate in Medicare (whether in a competitive bidding area or elsewhere) must have been accredited by September 30, 2009, and maintain that accreditation.[7] The accreditation program is a permanent, nationwide component of CMS' quality oversight activities, and is not part of the competitive bidding program.

Accreditation Exemption for Pharmacies

DMEPOS products are often purchased by beneficiaries at local pharmacies; for purposes of the Medicare benefit, these pharmacies are treated as suppliers. An amendment to Title XVII of the Social Security Act, signed on March 23, 2010, allowed exemptions to DMEPOS accreditation for certain pharmacies. To be exempted from the DMEPOS accreditation requirement, a pharmacy must meet all of the following criteria:[8]

- Total billings by the pharmacy for DMEPOS are less than 5 percent of total pharmacy sales.
- The pharmacy has been enrolled as a Medicare supplier of DEMPOS, and has been issued a supplier number for at least 5 years.
- No final adverse action has been imposed on the pharmacy in the past 5 years.
- The pharmacy submits an attestation that the pharmacy meets the first three criteria.
- The pharmacy agrees to submit materials as requested during the course of an audit conducted on a random sample of pharmacies, selected annually.[9]

2.4. Role of Medicare Ombudsman

As specified in the MMA and MIPPA, the implementation of the DMEPOS competitive bidding program will be monitored by the Competitive Acquisition Ombudsman (CAO), a unit within CMS' Medicare Ombudsman Group.[10] The purpose of the CAO is to serve as an advocate within the agency for suppliers, beneficiaries, and stakeholders, by identifying and responding to complaints. The CAO began its work related to DMEPOS competitive bidding by holding pre-implementation focus groups with beneficiaries and caregivers, and interviews with suppliers and referral agents, to identify their understanding of the competitive bidding program and their information needs. The CAO also conducted in-depth

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7 Accreditation must be renewed periodically and entails an unannounced on-site survey, repeated at least every three years, and periodic submission of application materials relating to quality standards for suppliers' business practices, products, and services.

8 Centers for Medicare & Medicaid Services, *DMEPOS Accreditation* (2010). http://www.cms.gov/MedicareProviderSupEnroll/07_DMEPOSAccreditation.asp Updated June 26, 2010. Accessed October 13, 2010.

9 Centers for Medicare & Medicaid Services, *DMEPOS Accreditation Exemption.* https://www.cms.gov/MedicareProviderSupEnroll/Downloads/DMEPOSAccExemptForCertainPharmaciesFactSheet.pdf Accessed October 13, 2010.

10 The CAO will work to resolve any program or policy issues, while the Competitive Bidding Implementation Contractor (CBIC) will be responsible for investigating and resolving beneficiary complaints concerning individual providers/suppliers.

interviews with national beneficiary advocacy organizations concerning their information needs. The CAO performed a demographic analysis of DMEPOS users, to help inform the beneficiary education process during the first and future rounds of the competitive bidding program.

During the transition, and throughout the first year of competitive contracting in the first nine CBAs, the CAO will monitor information needs of all stakeholders, especially beneficiaries and referral agents, respond to individual and supplier inquires and complaints, maintain a website explaining the complaint process, and submit annual Reports to Congress. The CAO will track the types of queries and complaints received about the program, by working with the CMS regional and central offices, the 1-800-Medicare helpline (the primary information source for beneficiaries), and the competitive bidding implementation contractor (the primary information source for suppliers). The information received from these sources will be used to identify issues and improve the content and distribution of educational materials about the program. Any complaints from suppliers, individuals, or advocacy groups will be resolved by the 1-800-Medicare helpline, the CBIC, or the appropriate CMS regional office; complaints will be further investigated if there is any indication of supplier or contract violation. Such issues will be escalated to the CAO for immediate attention, should suppliers or beneficiaries need urgent assistance. The CAO also plans to monitor DMEPOS utilization in the nine CBAs, to identify any places or products where utilization declines sharply in early 2011, perhaps indicating a need for more concentrated education and outreach. The CAO will also participate in PAOC meetings and calls, and will respond to PAOC questions and requests for information.

The CAO's annual Report to Congress will present data about the program and any systematic issues that the CAO has investigated, and will make recommendations for improvements in the competitive bidding program.

In addition to CMS' evaluation, and the CAO monitoring and reporting described above, the Government Accountability Office (GAO) has been tasked by Congress to submit a report by January 1, 2012, regarding the DMEPOS competitive bidding program.[11]

[11] MIPPA, Section 154, requires the GAO to submit a separate report on the following topics:

- Beneficiary access to items and services under the program
- Beneficiary satisfaction with the program and cost savings to beneficiaries under the program
- Costs to suppliers of participating in the program and recommendations about ways to reduce those costs without compromising quality standards or savings to the Medicare program
- Impact of the program on small business suppliers
- Analysis of the impact on utilization of different items and services paid within the same Healthcare Common Procedure Coding System (HCPCS) code
- Costs to the Centers for Medicare & Medicaid Services, including payments made to contractors, for administering the program compared with administration of a fee schedule, in comparison with the relative savings of the program
- Impact on access, Medicare spending, and beneficiary spending of any difference in treatment for diabetic testing supplies depending on how such supplies are furnished.

3. Overview of Program Requirements

In this section, we provide details about program operational policies governing DMEPOS competitive bidding and the rationale for those decisions.

The MMA required that CMS develop a formula-driven approach for selecting the first round of metropolitan areas for competitive bidding (called competitive bidding areas, or CBAs). From among the metropolitan areas with the largest total populations, CMS identified those with the highest Medicare allowed charges for DMEPOS items. CMS computed a numerical score for each CBA, using criteria that equally weighted the allowed charges per beneficiary and the number of suppliers per beneficiary. In selecting the first set of CBAs, CMS excluded the largest metropolitan areas (New York City, NY; Los Angeles, CA; Chicago, IL), in order to gain more experience with competitive bidding before including these very large cities. CMS also excluded areas that span more than one of the Durable Medical Equipment Medicare Administrative Contractors (contractors that process DMEPOS claims). Ten CBAs were announced for the first round of competitive bidding. The MIPPA specified that the Round One Rebid should include nine of the tenfirst-round CBAs CMS had selected, but excluded Puerto Rico. The following nine CBAs were therefore selected for the Round One Rebid:

- Cincinnati–Middletown (Ohio, Kentucky, and Indiana)
- Cleveland–Elyria–Mentor (Ohio)
- Charlotte–Gastonia–Concord (North Carolina and South Carolina)
- Dallas–Fort Worth–Arlington (Texas)
- Kansas City (Missouri and Kansas)
- Miami–Fort Lauderdale–Pompano Beach (Florida)
- Orlando (Florida)
- Pittsburgh (Pennsylvania)
- Riverside–San Bernardino–Ontario (California)

The MMA specified that competitive bidding should begin with high cost and high volume DMEPOS items, or those with the largest savings potential. It further instructed that competitively bid items that are related and used to treat a similar medical condition should be grouped into product categories, for example, hospital beds grouped with bed accessories. Suppliers would not be required to submit bids for all product categories, but if they chose to bid on a product category they had to offer a bid price for every item in that product category. CMS used the most recent years of available data to select ten product categories for the first round of competitive bidding. The MIPPA accepted nine of these ten product categories for the Round One Rebid, but excluded the tenth category: negative wound

pressure therapy products. The following nine DMEPOS product categories were specified for the Round One Rebid:

- Oxygen Supplies and Equipment
- Standard Power Wheelchairs, Scooters, and Related Accessories
- Complex Rehabilitative Power Wheelchairs and Related Accessories (Group 2[12])
- Mail-Order Replacement Diabetic Supplies
- Enteral Nutrients, Equipment, and Supplies
- Continuous Positive Airway Pressure (CPAP) and Respiratory Assist Devices (RADs), and Related Supplies and Accessories
- Hospital Beds and Related Accessories
- Walkers and Related Accessories
- Support Surfaces (Group 2[13] mattresses and overlays) in Miami[14]

CMS contracted with a Competitive Bidding Implementation Contractor (called the CBIC), Palmetto GBA. The CBIC implemented the first round of competitive bidding that was aborted in 2008, and also the Round One Rebid that took place in 2009–2010. The CBIC created an online bidding system, checked each bidder's eligibility, received bidders' required documents (both electronic and hardcopy), created a database and system for calculating the single payment amount for each product in each CBA, and supported suppliers throughout the bidding process. The CBIC website also offers information to patients and families, and to referral agents, who are individuals such as hospital discharge planners and home health nurses that help patients connect with suppliers to meet their needs.

The remainder of this section reviews key program requirements overseen by the CBIC and CMS, pursuant to the statute and implementing regulations.

3.1. Eligible Suppliers

CMS requires that a bidder must be a DMEPOS supplier in good standing with an active National Supplier Clearinghouse Number (i.e., supplier number), to be eligible to submit a bid in the competitive bidding program. Each bidding supplier must also be accredited by a

[12] Group 2 complex rehabilitative power wheelchairs and accessories are for patients who meet the medical necessity criteria for a powered mobility device, and have additional needs for postural positioning due to stroke, muscular dystrophy, or another health condition, or require pressure relief (to prevent pressure ulcers) due to inability to shift position.

[13] Group 2 support surfaces, mattresses, and overlays are pressure reducing, and designed to meet the needs of patients with large, severe, and/or numerous pressure ulcers.

[14] A list of the Round One Rebid items contained in each product category and the associated Healthcare Common Procedure Coding System (HCPCS) codes are available on the CBIC website at: http://www.dmecompetitivebid.com/palmetto/cbic.nsf/DocsCat/Home

CMS-approved DMEPOS accreditation organization for all relevant product categories (except for certain pharmacies, as explained previously in Section 1.3).

Suppliers submitting a bid for a product category in a CBA are required to meet all applicable state licensure requirements for the sale and/or distribution of that specific product category, in every state in that CBA. Moreover, every supplier location is required to demonstrate licensure in each state in which it submits a bid.[15] A supplier with only one location in a multi-state CBA must meet the license requirements of each state in the CBA to provide competitive bidding items and services throughout the CBA. Suppliers need not maintain a physical location in a CBA to submit a bid for that CBA, unless physical presence is otherwise required to obtain a state license. If a supplier plans to use a subcontractor to provide services throughout a CBA, that subcontractor too must be accredited and licensed to provide those services in each state in which it is acting as subcontractor.

Two or more locations of a single supplier cannot bid against each other for the same product category in a CBA. Therefore, CMS instructed commonly-owned or controlled suppliers to submit just one bid for all locations owned or controlled by the supplier in a single CBA. Any commonly-owned or controlled locations outside of the CBA, that will furnish competitively bid items to beneficiaries inside the CBA, must be identified in a bid. If a contract is awarded to a commonly-owned or controlled supplier, then the contract will include all locations in the CBA that had an ownership or control interest in each other. Bidding suppliers must agree to furnish competitively bid items to any beneficiary who maintains a permanent residence in, or who travels to, a CBA.[16] Contracts are for full contract periods, not to exceed three years.

3.2. Special Provisions

Exemptions for Low-Density and Rural Areas

The competitive bidding legislation allows CMS to exclude rural portions of a CBA or low-density urban areas, based on low competition in the CBA or in national mail-order markets. Factors that may lead to an area being excluded from a CBA include: low utilization of DMEPOS items by Medicare beneficiaries relative to similar geographic areas; low number of DMEPOS suppliers relative to that of similar geographic areas; or low number of Medicare fee-for-service beneficiaries relative to that of similar geographic areas.[17,18]

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[15] Mail-order suppliers of products such as diabetic test strips and enteral nutrition products are not required to be licensed in every state, or to have physical locations in every state.

[16] The only exception to the rule on non-exclusionary service applies to a skilled nursing facility or nursing facility that elects to become a specialty supplier to furnish competitively bid items only to its own residents to whom it would otherwise furnish Part B services.

[17] National Archives and Records Administration, *Electronic Codes of Federal Regulations.* http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=b2a87ab88b1435426279006a18a5f7e3&rgn=div6&view=text&node=42:3.0.1.1.1.6&idno=42 Updated October 8, 2010. Accessed October 13, 2010.

CMS used this discretionary authority to exempt a portion of eastern Riverside and San Bernardino counties in the Riverside CBA, as well as entire counties in the Dallas, Cincinnati, and Kansas City CBAs. These areas were exempted because they had population densities lower than other parts of the CBA, and the allowed charges for DMEPOS items attributed to these areas were also lower than for the CBA as a whole, indicating that the areas were not part of one DMEPOS market.

Preserving the Physician-Patient Relationship

Under existing Medicare law and policies, physicians and other treating practitioners sometimes supply certain items of DMEPOS to their patients, as part of their professional service. The competitive bidding program preserves this physician-patient relationship by allowing physicians and other treating practitioners to continue supplying certain items to their patients without participating in the bidding process. The MIPPA expanded this exemption to include hospitals furnishing DMEPOS items and services to their patients during an admission or on the date of discharge.

Consistent with these exceptions permitted under MIPPA, walkers (one of the competitively bid product categories) can be furnished by hospitals to their own patients, at or before hospital discharge, and Medicare will reimburse the hospital even if it is located within one of the nine CBAs and did not submit a bid.[19] Similarly, Medicare physicians and treating practitioners in a CBA who are enrolled as Medicare DMEPOS suppliers, have the option to furnish walkers to their own patients, and may bill Medicare for these walkers without submitting a bid. Medicare will reimburse for walkers under these exemptions, at the new single payment amount for the CBA. These exceptions for walkers are intended to assure that patients who have difficulty ambulating are able to obtain walkers without making a separate visit to a DMEPOS supplier or waiting for home delivery.

Small Business Provisions

Any supplier that generates gross revenue of $3.5 million or less in annual receipts, including Medicare and non-Medicare revenue, is categorized as a small supplier. Small suppliers that could not independently service the entire geographic area of a CBA were permitted to form networks for purposes of competitive bidding. Individual network members were not required to service the entire geographic area of a CBA, but the network as a whole must have been able to demonstrate the ability to service the full CBA.[20] CMS structured the

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[18] Excerpts from this Section can be found on page 61895 of the Federal Register, Vol. 74 No. 226, November 2009. http://www.dmecompetitivebid.com/Palmetto/Cbic.nsf/files/Federal_Register_Medicare_DMEPOS_Rules_to_Take_Effect_in_2010.pdf/$FIle/Federal_Register_Medicare_DMEPOS_Rules_to_Take_Effect_in_2010.pdf

[19] This exception does not apply to hospital-owned DMEPOS suppliers or suppliers that are only affiliated with a single hospital.

[20] Centers for Medicare & Medicaid Services, Request for Bid (RFB) Instructions for the Medicare Durable Medical Equipment, Prostetics, Orthotics, and Supplies (DMEPOS) Competitive Bidding Program (2009), pg 6. http://www.dmecompetitivebid.com/Palmetto/Cbic.nsf/files/Request_for_Bid_Instructions.pdf/$FIle/Request_for_Bid_Instructions.pdf Accessed October 12, 2010.

supplier selection process so that no fewer than 30% of suppliers for each product category, in each CBA, would be small businesses.[21] If there were not enough small businesses below the pivotal bid to comprise 30% of contractors for a product category in a CBA, CMS further increased small business participation by offering contracts to small businesses with bids above the pivotal bid. The offers were made according to the composite bid, beginning with the lowest one. CMS did not revise the pivotal bid when making additional contract offers.

3.3. The Bidding Process

Online Bid Submission System

The application for the Round One Rebid consisted of two forms: Form A requested information about the bidder's organization and its locations; Form B requested information about services provided by the supplier and included the bid price sheet. Bidding suppliers completed and submitted these forms using the CBIC's on-line bidding system (DBidS).[22]

The DBidS online system assigned a bidder number to each bidder as soon as the necessary information was entered to identify the unique organization, verify the NSC number, and match accreditation to the lists maintained by DMEPOS accrediting organizations. Bidding suppliers also submitted financial and non-financial hardcopy documents, including:

- Financial statements for the last operating year (calendar or fiscal year)
- Income statement
- Balance sheet
- Statement of cash flow
- Credit report with numerical credit score (completed within 90 days prior to the date on which the supplier submitted its bid)
- Tax return extract for the last operating year (calendar or fiscal year)
- Small Business Networks: legal agreement and network certification signed by each member
- Subcontractor: signed letter of intent to enter into an agreement (if bidder planned to use subcontractors)
- Settlement agreement and corporate integrity agreement, if applicable[23]

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[21] The 30% target for small businesses does not guarantee that small businesses will receive 30% of the DMEPOS orders, since CMS does not direct patients or referral agents to use one contracted supplier over another.

[22] See DBidS flowcharts at http://www.dmecompetitivebid.com

[23] The Office of Inspector General (OIG) often negotiates compliance obligations with health care providers and other entities as part of the settlement of Federal health care program investigations arising under a variety of civil false claims statutes. A provider or entity consents to these obligations as part of the civil settlement and in exchange for the OIG's agreement not to seek an exclusion of that health care provider or

Bidders who submitted financial documents on or before an early document submission deadline were notified in writing if any financial documents were missing, and had 10 business days to submit the missing documents.[24] Once the full 60 day bidding window closed, all bids were considered final and could not be amended. Bidders could check the DBidS home page, for at least 15 days after the bidding closed, to verify that their bid was certified as valid and their hardcopy documents were received.[25]

Makes and Models of Equipment

CMS requires that suppliers offer Medicare and non-Medicare customers the same selection of DMEPOS brands and models, to prevent discrimination against Medicare patients. To address this issue, the CBIC required bidding suppliers to state the makes and models of equipment they would offer, for each HCPCS. Winning contractors are required to file quarterly reports detailing the makes and models actually supplied to Medicare beneficiaries.

4. Evaluation Design

The MMA instructed CMS to conduct an evaluation of the impact of competitive bidding on beneficiary access to and satisfaction with DEMPOS products and services, and on cost savings for both Medicare and beneficiaries. CMS contracted with Abt Associates Inc. to collect and report information for this evaluation.

Results of the evaluation will be released in phases, as evaluative information is developed. Results of site visits and other primary data collected in 2010 were reported to CMS in baseline case studies in the fall of 2010. The current report covers all evaluation data collected through October 21, 2010 (key findings of the 2010 data collection appear below). Follow-up reports on qualitative information to be gathered from the study sites are planned for 2011 and 2012, respectively. The complete results of the evaluation will be presented in a detailed final report, expected in early 2013.

The basic design of the DMEPOS competitive bidding evaluation is to compare data from the CBAs before and after the Round One Rebid, with similar data from other metropolitan areas that were not among the first nine CBAs. This before-after, CBA-comparison design will allow the evaluators to measure differences attributable to the competitive bidding program. The evaluation design includes beneficiary surveys, case studies, and analysis of Medicare DMEPOS claims, before and after competitive bidding, in CBAs and comparison areas. The evaluation components are described below.

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entity from participation in Medicare, Medicaid and other Federal health care programs. The typical term of a comprehensive corporate integrity agreement (CIA) is five years. See: http://oig.hhs.gov/fraud/cias.asp

[24] All of the bidding requirements, forms and instructions are available on the CBIC website at: http://www.dmecompetitivebid.com/Palmetto/Cbic.nsf/files/Request_for_Bid_Instructions.pdf/$FIle/Request_for_Bid_Instructions.pdf?Open&cat=Suppliers~Bidding%20Guidelines

[25] This bidding procedure was specified in the MIPPA.

4.1. Evaluation Components

4.1.1. Impact on Access, Service, Quality, and Satisfaction: Beneficiary Surveys

In preparation for the 2007 competitive bidding program, we conducted baseline surveys of beneficiaries using DMEPOS in five product categories: walkers, power mobility devices (wheelchairs), hospital beds, oxygen equipment, and continuous positive airway pressure (CPAP) machines. These five products were chosen because they are not national mail-order items and thus reflect the experiences of beneficiaries with their local suppliers, and because enough beneficiaries use these products to support a valid survey sample.

Following the long delay before the Round One Rebid, and the accreditation and fee reduction that took place in the interim, CMS instructed the evaluation contractor to repeat the baseline surveys in 2010 with a new sample of DMEPOS users. The baseline survey sample included beneficiaries who began using their DMEPOS products during the nine months ending in April 2010. The 2010 baseline surveys explored issues related to beneficiary access to suppliers carrying the DMEPOS products they require, satisfaction with suppliers' service and responsiveness, satisfaction with the products these suppliers provide, out-of-pocket costs for DMEPOS products and services, and patient demographics.

The 2010 baseline surveys were conducted in four CBAs (Dallas, Cleveland, Orlando, and Riverside) and three non-CBAs for comparison (Houston, Tampa and San Diego). Analyses will pool survey responses from the four CBAs and compare them with responses from the three comparison areas, before and after competitive bidding. This research design will allow evaluators to estimate changes attributable to the competitive bidding program. The results of this analysis will appear in a final evaluation report in 2013.

4.1.2. Impact on Beneficiaries, Suppliers, and Referral Agents: Case Studies

In preparation for the 2007 competitive bidding program, baseline case studies were conducted to learn about the market characteristics in which DMEPOS products and services were offered. During the delay imposed by MIPPA, two important changes occurred that altered the environment observed during the baseline case studies. First, accreditation became a Medicare condition of participation for all DMEPOS suppliers. Second, the fee schedule for DMEPOS was reduced by 9.5%. Due to these two substantial changes that may have altered market conditions and the long delay before the Round One Rebid, CMS instructed the evaluators to repeat the baseline case studies in 2010.

The 2010 baseline case studies were conducted in the same four CBAs and three comparison non-CBAs as the beneficiary surveys. Case studies consisted of focus groups with suppliers and with referral agents, the latter being individuals such as hospital discharge planners and home health nurses, who help patients locate suppliers to meet their DMEPOS needs. Interviews were also conducted with other stakeholders, such as beneficiary advocates and industry representatives. The 2010 baseline case study findings are presented in Section 4.2.

Individuals who participated in the 2010 focus groups and interviews will be contacted in mid-2011 to learn about their experiences and observations during the transition to competitive bidding. Results will be summarized in a 2011 short report. In 2012, the case studies and focus groups will be repeated, to describe any impact due to the competitive bidding program. Results of the follow-up case study analyses, describing changes that take place in the nine CBAs after competitive bidding, will appear in a 2012 site visit report and will be summarized in the 2013 final evaluation report.

4.1.3. Impact on Cost and Volume of DMEPOS Products and Services: Claims Analysis

Like the surveys, the evaluation will compare DMEPOS claims in CBAs and comparison areas, before and after competitive bidding, to understand whether the volume of DMEPOS products and supplies changes, how much Medicare saves through competitive bidding, and how much beneficiaries save out-of-pocket through lower co-payments. All nine CBAs will be included in this cost analysis, with another 18 areas included for comparison; the latter areas were chosen from among the metropolitan areas that will be part of the second round of competitive bidding, to ensure as much comparability as possible in terms of market characteristics. For each of the nine Round One CBAs, two comparison areas were chosen, from the same states wherever possible, and of roughly the same size as the CBAs to which they will be compared. For the baseline period, claims were drawn for these 27 areas for all HCPCs involved in competitive bidding. Claims from April 2008 through March 2010 form the baseline claims file, reflecting the volume and cost of DMEPOS before winning bidders were selected in the nine CBAs. The follow-up claims will be drawn for the period January 2011 through January 2012, reflecting one full year under competitive bidding. As with the survey and case studies, this research design will allow evaluators to estimate changes in DMEPOS volume and cost, including beneficiary copayments, attributable to the competitive bidding program. The results of this analysis will appear in the final evaluation report.

At the time this report is being written, the baseline claims are available for analysis, but the follow-up claims with which to estimate the impact of competitive bidding do not yet exist. The new single payment amounts have been announced, and it is therefore possible to estimate how much less Medicare would have paid, had the rates been in effect sooner—without adjustment for any volume changes that might occur. This analysis appears in Section 5 below.

It will be important to balance the savings from the competitive bidding program with an estimate of program operating costs, as savings to Medicare will be somewhat offset by the costs of operating the competitive bidding program. When the Round One Rebid auctions and contracting are complete, the evaluators will collect information from CMS regarding the costs of operating the program. These costs include one-time costs, such as setting up the online bidding system that will be used again in future rounds of competitive bidding; and incremental costs from the Round One Rebid, such as staff time to evaluate bids and

negotiate contracts with winning suppliers.[26] The costs of operating the program will appear in the final evaluation report.

4.1.4. Impact on the DMEPOS Supplier Market: Bidder/Winner Data Analysis

To assist CMS in understanding the operation and impacts of the first round of bidding, the evaluation project includes plans for a special study of bidding and winning firms. The analyses will be aimed at understanding: a) the types of firms that decided to submit bids, b) the types of firms that bid low enough to receive contracts, and c) whether the composition of the supplier industry participating in Medicare changed after the implementation of competitive bidding. CMS has contracted with Abt Associates and the University of Minnesota to conduct this analysis using several sources of administrative data. The results of this analysis will appear in the 2013 final evaluation report.

4.1.5. Transition Monitoring Regarding Adequacy of Information: Interviews with Patient Advocates

Patients and referral agents needed information to successfully navigate the transition to competitive bidding, especially during January and February 2011. Beneficiaries who were in the process of renting equipment from a supplier on January 1, 2011, might be faced with a decision to switch suppliers and might require help locating a newly contracted supplier who could meet their needs. Referral agents would need to learn which suppliers in their communities were awarded contracts for each product category. As described above, CMS undertook an outreach and education effort to provide information before and during the transition. In the early months of 2011 (after the writing of this report), the evaluation team is expected to be in the process of collecting information to determine whether beneficiaries and referral agents had the information they needed during the transition. Interviews planned for this activity will involve more than 20 national patient and referral agent organizations, to understand the additional information their constituents may need about the competitive bidding program. In addition, as described above, individuals who participated in the 2010 case study focus groups and interviews will be contacted in mid-2011 to learn about their transition experiences. The results of this transition analysis will help CMS to improve the information and outreach effort in early 2011, and also prepare for future competitive bidding cycles in other metropolitan areas.

[26] The cost of operating the accreditation program will not be included in this analysis, as that is a separate and permanent element of CMS' quality assurance activities.

5. Baseline (2010) Case Studies of DMEPOS Market Conditions

5.1. Case Study Methodology

In 2007, and again in 2010 (prior to the Round One Re-bid) baseline case studies were conducted in four of the first nine CBAs and in three comparison areas. The Dallas, Orlando, Riverside, CA, and Cleveland CBAs were selected for case studies, and Houston, Tampa, and San Diego served as comparison areas. Suppliers, knowledgeable industry and advocacy representatives, and referral agents (individuals actively involved in connecting Medicare beneficiaries to DMEPOS suppliers and/or products) participated in the case studies. Focus groups were conducted with CBA suppliers and referral agents (in separate focus groups) to provide grassroots-level understanding of the environment prior to implementation of the competitively bid contracts; key informant interviews supplemented these views with broader context. Phone interviews were conducted with knowledgeable individuals in the three comparison areas; there were no in-person focus groups or interviews in the comparison areas. A few state-level interviewees were able to comment about both the CBA and the comparison area in their state. (These informants are among those indicated below as "other stakeholders.")

The 93 case study participants included the following:

Exhibit 4: Case Study Participants

	Competitive Bidding Areas			
Focus Group and Interview Participants	**Dallas**	**Orlando**	**Cleveland**	**Riverside**
Referral Agents	10	7	7	7
Suppliers	11	5	6	6
Other Stakeholders	4	6	4	5
Total	**25**	**18**	**17**	**18**

	Comparison Areas		
Interview Participants	**Houston**	**Tampa**	**San Diego**
Referral Agents	1	2	2
Suppliers	2	2	3
Other Stakeholders	1	1	1
Total	**4**	**5**	**6**

Source: Abt Associates 2010 Case Studies

Most suppliers who participated in case studies represented small companies that were not part of corporate chains. (Many of the large national and regional suppliers did not permit their employees to participate in the evaluation case studies.) Referral agents included hospital discharge planners, home health nurses, rehabilitation social workers, sleep clinic staff, and people with similar roles. Representatives from elder service organizations, such as state health insurance programs (SHIPs), senior legal rights groups, and area agencies on

aging were interviewed, as were representatives from relevant clinical specialty organizations (e.g., state and local associations of case managers, discharge planners, home health nurses, and physical therapists).

Baseline case studies were conducted in mid-2010, after suppliers had finished submitting their Round One Rebids. The first case study was conducted just before the new single payment amounts were announced; the others were conducted a few weeks later, before the winning bidders were announced. At the time of the case studies, participants who were suppliers and had submitted bids did not know whether they would be offered a contract.

5.2. Baseline Case Study Findings

The purpose of the baseline case studies was to understand the context in which competitive bidding was taking place: the competitive markets for DMEPOS, the relationships between suppliers and referral agents, the level of awareness and knowledge about the competitive bidding program, and the anticipated effects of the program. The findings from these baseline case studies, presented below, will be compared with perceptions obtained during follow-up case studies in mid-2011 (focused on the transition) and in mid-2012, after these markets reach a new equilibrium under competitive bidding.

5.2.1. Current Market Capacity, Adequacy and Competition

Referral agents, suppliers, and key stakeholders in each market shared the view that the number of DMEPOS suppliers in CBAs and comparison areas in 2010 was sufficient to meet most existing needs of Medicare beneficiaries. For products prescribed most often (e.g., wheelchairs, walkers, and oxygen), based on participants' observations, the number of suppliers was more than adequate in all seven metropolitan areas studied. The substantial capacity in the four CBAs and three comparison areas had historically generated intense competition among suppliers; this competition was viewed as beneficial by all case study participants—suppliers and referral agents, as well as patient advocates. Since suppliers were paid according to the same fee schedule prior to competitive bidding, they competed on service and quality rather than on price. Referral agents reported that suppliers compete on the following dimensions:

1. Delivery and setup of DME equipment in a timely manner (at the time the discharged patient returns to her/his residence)
2. High-quality, reliable DMEPOS products
3. Education and instructions for patients on the proper use of equipment (viewed as particularly important for oxygen therapies)
4. Responding quickly to requests for maintenance and repair

Referral agents and suppliers viewed the current referral process as functional and effective, and referral agents (hospital discharge planners, home health nurses, etc.) in both CBAs and comparison areas had many large and small suppliers from which to choose. Each referral

agent reported keeping lists of the suppliers they prefer to work with. Referral agents were most concerned about the following factors when selecting suppliers:

- Patient preferences
- Geographic location, proximity to patients' homes, and ability to serve patients across the entire metro area
- Ability to provide all DMEPOS products that a patient may need
- Acceptance of all/most types of insurance
- Timeliness of equipment delivery
- Responsiveness to patient complaints and needs
- Excellence in patient education

Unless insurance or other requirements preclude choice, most referral agents ask patients if they have preferences for suppliers because some patients have existing relationships with specific vendors. These preferences are generally respected if the supplier can meet the patient's needs for the new DMEPOS. Most patients, however, have no preference and rely on the referral agent to select a supplier and arrange purchase and delivery of DMEPOS.

Referral agents favor suppliers that provide generally outstanding service, and suppliers that accept all types of insurance, so that there was less need to match patients with authorized suppliers. Many referral agents expressed a preference for suppliers that could meet all of a patient's DMEPOS needs, eliminating the task of coordinating multiple suppliers for a single patient, and reducing confusion for patients. Hospital discharge planners favor suppliers who reliably deliver DME equipment to the hospital before a patient is discharged home, or deliver to the patient's home on the day of discharge,

Suppliers have traditionally been referral agents' main source of information about payers' requirements, the competitive bidding program, and other DMEPOS matters. Suppliers regularly visit referral agents to provide updates on new equipment, and often conduct brief seminars (some with continuing education credits) for referral agents and other staff. Favored suppliers therefore enjoy a reciprocal relationship with many referral agents, keeping them up to date about changes in the industry, and also serving as "one stop" vendors to help referral agents meet their patients' needs.

5.2.2. Program Awareness and Knowledge

Referral agents appeared to be much more aware of competitive bidding than were their counterparts in 2007; much of their information about the program has come from suppliers, and most were not familiar with the CBIC website as an information source. Beneficiary organizations, especially state health insurance programs, appeared to have a good understanding of the program features that are most relevant and important for their constituencies.

Suppliers' trade organizations have closely monitored the details of the program and are a key information source for their memberships. Suppliers reported that the bidding process went smoothly in 2010, but many suppliers did not fully understand the methods by which Medicare would weigh price against capacity, quality, and other criteria in evaluating bids.

In mid-2010 when these case studies were conducted, CMS was about to begin an outreach and education effort in the nine CBAs. The case studies revealed gaps in knowledge and misunderstandings about the competitive bidding program:

- Referral agents were not sure when and how they would learn which suppliers were awarded Medicare contracts for particular products. In the summer of 2010, referral agents stated that they had not yet received much information directly from CMS, and few were aware of the CBIC website. CMS undertook additional outreach to referral agents in late 2010 to prepare for the transition.
- Very few suppliers or referral agents seemed to be aware of the special provisions for suppliers in rural and low-density geographic areas. Suppliers in Riverside, CA, in particular were unaware that CMS had exempted the most rural portions of their CBA from competitive bidding.
- Referral agents and suppliers had not focused on the possibility that beneficiaries' out-of-pocket costs could be substantially reduced under the competitive bidding program.
- A fundamental misunderstanding of the origins of, and responsibility for, the DMEPOS competitive bidding program persists. Many case study participants (incorrectly) assumed that CMS initiated and is responsible for all aspects of program design, and were unaware of the specificity of program design contained in the MMA and MIPPA.

5.2.3. Anticipated Effects of Medicare Competitive Bidding

The future under DMEPOS competitive bidding, in the eyes of many participants and informants, carries risks to service quality and product selection, and also presents challenges that may require adjustments to previously established ways of providing DMEPOS.

Service Quality

Although referral agents, suppliers and elder service organizations voiced many concerns about the potential impact of Medicare competitive bidding for DMEPOS, they were especially worried that a significant decrease in the number of suppliers serving Medicare beneficiaries, and reduced competition among those that remained, would harm quality. Since the abundance of suppliers has led to an industry focused on service, quality, and timeliness, many participants predicted that current standards will deteriorate when fewer suppliers hold Medicare contracts.

Product Selection
Referral agents expressed concern that high-quality DMEPOS products will be replaced by products of lesser quality under competitive bidding. Suppliers implied that they may have little choice but to purchase lower-cost products from manufacturers, avoiding those with special (and costly) features that may be advantageous for some patients. While the previous fee schedules also provided the incentive to provide less costly products, suppliers believed the low prices offered by many bidders may make this more likely.

Transition Confusion
Beneficiary advocates anticipated confusion during the transition, especially for beneficiaries already renting DME equipment from a non-contracted supplier on the date the new contracts became effective (January 1, 2011). They worried that many beneficiaries in the nine CBAs would need to find new suppliers and would not know how to do this, and that referral agents would not know how to help the beneficiaries. Beneficiaries who live part of the year in a CBA and part elsewhere may find the transition especially confusing. There was also concern that beneficiaries changing suppliers during the transition might not receive timely repairs and maintenance on their equipment, if a maintenance need should arise before a patient has established a relationship with a new supplier.

Role of Referral Agents
Referral agents also envisioned that their responsibilities would become more complicated and time-consuming under competitive bidding. They expected to be working with multiple suppliers to meet some patients' needs, rather than being able to go to a single "one stop" supplier. They expected to shoulder more responsibility for patient education—training patients to use their new DME equipment—if suppliers no longer provided this education. Looking ahead to the transition, referral agents expected to assist many patients whose suppliers do not win Medicare contracts.

Winners and Losers (Suppliers)
Many DMEPOS suppliers who attended focus groups expressed a belief that if they were successful in winning Medicare contracts, they would not be able to sustain current levels of service at the prices they bid. They predicted that the supplier market will change dramatically, with many small, local companies closing or being subsumed by larger companies. They were less clear about whether this industry consolidation would necessarily lead to declines in the quality of DMEPOS products and services.

Suppliers reported that they had no choice but to bid, and bid low, because Medicare is such an important part of their business. During bidding, they found it hard to estimate operating costs and staffing needs, or estimate profits, because they were unable to anticipate volume. That is, their previous business assumption was that volume would change little from one year to the next; in submitting bids they could not estimate future volume and did not know for which products they would win contracts. These participants tended to feel that larger companies, especially those affiliated with chains, seemed better able to take advantage of bulk purchasing, centralized billing and distribution, shared resources, and other economies of scale, which could increase their chances of winning a contract and succeeding at the

contracted price. While a few suppliers mentioned the program provisions that favor small suppliers in the contracting process (the 30% target), most voiced concern about the ability of small suppliers to compete effectively.

Other Payers
Suppliers expressed concern that, as with other reimbursement initiatives, changes implemented by Medicare would affect other insurers' DMEPOS reimbursement policies and practices.

6. Projected Medicare Savings

6.1. Introduction

A major objective of competitive bidding is to achieve savings for the Medicare program, reducing Medicare expenditures by increasing the alignment between suppliers' costs and Medicare reimbursement rates. Because competitive bidding has just begun, it is not possible to directly measure the savings that it may achieve. In this section, we present savings projections that are based on the percentage difference in prices paid under Medicare fee-for-service and competitive bidding. Specifically, for each product type, we calculated projected savings based on total Medicare expenditures for the product and the percentage difference in prices for fee-for-service and competitive bidding (i.e., based on a comparison of the Medicare fee schedule and the competitive bidding single payment amount).

The claims data used to measure volume are from 2009, a period prior to the beginning of competitive bidding. As a result, we are not able to account for any change in the quantity of DMEPOS claims that may result from competitive bidding. Our savings estimates are based only on difference in per-unit prices between Medicare fee-for-service and competitive bidding. If competitive bidding leads to reductions in the volume of claims, then the actual savings associated with it will be larger than what is estimated here, other factors being held constant; if competitive bidding leads to an increase in the volume of claims (either for items included in competitive bidding or for other items), then the actual savings will be smaller than these estimates (other factors being held constant).

Essentially, this chapter answers the question "How much would Medicare have saved, if the new single payment amounts had been in effect during 2009?" (assuming no change in volume).

6.2. Data and Methods

6.2.1. Data

Medicare claims data: Medicare claims came from CMS' Weekly Line Item File. Claims were selected for Healthcare Common Procedure Coding System (HCPCS) codes that were included in competitive bidding, and for beneficiaries who resided in the first nine CBAs

(based on the zip code of the beneficiary's mailing address). Calendar year 2009 claims were used to measure the actual volume of DMEPOS products and services in the most recent complete year prior to competitive bidding.

Medicare fee schedule: Our analyses use the 2009 DMEPOS Medicare fee schedule that was in effect for the period covered by the claims data. We obtained the DMEPOS Medicare fee schedule information from the CMS web site[27] using the June 10, 2009, version of the fee schedule. For DME products other than parenteral and enteral nutrition items, the fee schedule listed Medicare allowed charges for each state, for each of the HCPCS/billing modifier combination. A national fee schedule is used for parenteral and enteral nutrition items.

While we used the 2009 fee schedule that corresponded to the claims data, there would be only a negligible difference in savings if the estimates were based on the *2011* Medicare fee schedule (i.e., the same time period as the competitive bidding fee schedule covers). There were no changes to the Medicare fee schedule for 2010. Additionally, for 2011, there was only a -0.1% update for all DMEPOS items except for some oxygen related products that are updated through special rules.[28] Appendix A contains an estimate of savings that takes account of the 2011 fee schedule changes.

Competitive Bidding Single Payment Amounts: The final single payment amounts for items included in the Round One Rebid of the DMEPOS competitive bidding program were obtained from the DMEPOS competitive bidding program website.[29] Effective January 1, 2011, the previous DMEPOS fee schedule payment amounts were replaced by these single payment amounts in the nine CBAs.

6.2.2. Methods

To estimate Medicare savings, we compared (1) the allowed charge amount under Medicare fee-for-service for items to be included in competitive bidding to (2) the price to be paid for the item under competitive bidding. We calculated the percentage difference between the two prices and combined it with information on total allowed charges and payment amount for the item (from analysis of claims data) to estimate projected savings.

Cost measures: Both the actual amount paid by Medicare and Medicare-allowed charges reported on claims was considered in savings estimates.

- ***Amount paid:*** This is the actual payment made from the Medicare Supplementary Medical Insurance (SMI) trust fund for DMEPOS products and services. This is

[27] https://www.cms.gov/DMEPOSFeeSched/LSDMEPOSFEE/list.asp

[28] The monthly payment amount for stationary oxygen and oxygen equipment will increase by 0.08%. Payment for traditional portable oxygen equipment will be reduced by 0.1%, while there is no change to the payment rate for other types of oxygen products.

[29] http://www.dmecompetitivebid.com/palmetto/CBIC.nsf/docsCat/CBIC~Suppliers~Single%20Payment%20Amounts?open&cat=CBIC~Suppliers~Single%20Payment%20Amounts.

generally calculated by the DME carrier that processes the claim and it represents what was paid to the supplier. The Medicare payment amount reflects deductions from the fee schedule for co-payments and deductibles as well as paying the submitted charge if that is lower than the fee schedule amount.

- ***Allowed charges:*** Allowed charges also include beneficiary-paid amounts such as Part B deductibles and co-payments.

The difference between the two savings estimates is that *amount paid* reflects savings to the Medicare program while *allowed charges* is a more global estimate that also includes savings to Medicare beneficiaries (or their other insurers) through reduced co-payments and deductibles. In estimating savings, we used both the actual amount paid and allowed charges from claims to measure current Medicare expenditures.

Pricing claims under Medicare fee-for-service and competitive bidding: Claims were linked to fee schedules using the HCPCS code and selected modifiers on the claim. All claims include a HCPCS code. In addition, many DMEPOS claims include one or more billing modifiers that enable more specific identification of the item being billed on the claim. These include both reimbursement modifiers required for proper claims payment and non-reimbursement modifiers that are not related to Medicare payment amounts. [30] We used both types of modifiers to determine whether or not a claim would be included in competitive bidding and should be included in our analyses. [31]

By linking claims data to the competitive bidding fee schedule, we were able to identify claims that would be covered under competitive bidding. This was based on the HCPCS codes and modifiers used on the competitive bidding fee schedule (except for several modifiers that will start to be used only after competitive bidding begins). By linking the Medicare fee-for-service and competitive bidding fee schedules, we were able to calculate the percentage difference in per-unit prices between the two payment systems.

The claims data included a number of other non-reimbursement modifiers that are required for claims processing but not relevant for determining either prices paid under competitive

[30] Non-reimbursement modifiers that are used to determine whether an item is included in competitive bidding include modifiers that identify claims for maintenance and service (which are generally not part of competitive bidding); a modifier that identifies mail order supplies (which is relevant for mail order diabetic supplies that are included in competitive bidding); and a modifier that identifies items that were furnished in conjunction with parenteral or enteral nutrition services (products furnished in conjunction with enteral products are included).

[31] Several changes to the claim modifiers were implemented in 2009 to permit identification of claims for products and services that would be included in competitive bidding. In 2009, CMS implemented two modifiers (the RA and RB modifiers) for Medicare claims to provide information about replacement of DME items. The RA modifier is for replacement of a DME item that has been lost, stolen, or irreparably damaged; claims with this modifier will be included in competitive bidding. The RB modifier is for replacement of a part of DME furnished to repair a piece of equipment; items with this modifier will not be included in competitive bidding. Prior to 2009, both types of replacements were identified using the RP modifier, making it impossible to determine whether the claim would have been included in competitive bidding.

bidding or whether the item is included in competitive bidding. Certain informational modifiers were used to exclude claims from this analysis, because the modifier either indicated some type of aberration with the claim or indicated that the item would not be included in competitive bidding.

- ***Reimbursement modifiers:*** Reimbursement modifiers include NU, RR, and UE, which indicate whether an item is purchased new, a rental, or purchased used respectively.
- ***Informational modifiers used in determining whether an item is included in competitive bidding:*** Other modifiers that are used to determine whether an item is included in competitive bidding include:
  - BA (an indicator for whether an item was furnished in conjunction with parenteral or enteral nutrition services)
  - MS (a modifier for maintenance and service that is only included in competitive bidding for HCPCS codes B9000 and B9002)
  - KL (an indicator for an item delivered by mail which is relevant for mail order diabetic supplies which are included in competitive bidding),
  - KC (replacement of special power wheelchair interface).

The claims data included a number of other modifiers that are required for claims processing but that are not relevant for determining either prices paid under competitive bidding or whether the item is included in competitive bidding. We excluded claims with certain informational modifiers that either indicated some type of aberration with the claim or that the claim would not be covered under competitive bidding. Other non-reimbursement modifiers were ignored in linking claims data to fee schedules.

Identifying product category for wheelchair accessory claims: Some HCPCS codes related to wheelchair accessories are included in competitive bidding for both the standard power wheelchair (standard PMD) and complex power wheelchair (complex PMD) product categories. Under competitive bidding, payment for these items is higher for a complex power wheelchair than for a standard power wheelchair. A pair of modifiers will identify the type of wheelchair used by a beneficiary. These modifiers were not in use for the 2009 (pre-competitive bidding) period covered by claims data used for this analysis. Since Medicare paid the same amount for these accessories regardless of wheelchair type in 2009, the claims data do not identify the type of wheelchair. We used a statistical procedure to determine the product category for these types of claims.[32] It was necessary to identify the type of

[32] For claims with HCPCS codes that appear in both the standard and power wheelchair fee schedules, the correct wheelchair product category was determined as follows:

- If the type of wheelchair could be determined from other claims for the beneficiary, that information was used to assign the correct wheelchair product category. For example, if a claim was observed for a standard wheelchair, the fee schedule for standard wheelchairs was used, even if there was also a claim for a complex wheelchair accessory.
- If no wheelchair claim was observed, the determination of product type was based on the types of accessories for which claims for the beneficiary were observed. For example, if one or more of a beneficiary's claims were for a "complex only" accessory, the category of complex power wheelchair was assigned.

If neither of these rules could be employed, the product category was imputed based on a weighted average of the two fee schedules. This was based on the mean proportion of standard and power wheelchair users

wheelchair associated with a claim for an accessory in order to assign the correct competitive bidding payment amount for our simulations of competitive bidding payments.

6.3. Methods for Estimating Savings

Potential savings to Medicare associated with competitive bidding were estimated using the following steps:

- ***Measure Medicare payments using claims data:*** Medicare claims data for 2009 were used to measure allowed charges and Medicare payment amounts for competitively bid DMEPOS products and supplies, for beneficiaries in each CBA. For each HCPCS/modifier/CBA combination, total Medicare-allowed charges and the Medicare payment amount were calculated based on the claims data.
- ***Determine the percentage difference in per unit prices between Medicare fee-for-service and competitive bidding:*** For each HCPCS/modifier/CBA combination, the percentage difference in per-unit prices between the 2009 Medicare fee schedule and the single payment amounts was calculated. This was computed as the absolute value of ((CB-MFS)/MFS)*100%, where CB is the competitive bidding payment amount and MFS is the Medicare fee schedule payment amount.
- ***Estimate expenditures under competitive bidding:*** For each HCPCS/modifier/CBA combination, total allowed charges and Medicare payments under competitive bidding were estimated, based on actual allowed charges and Medicare payment amount in 2009 and the percentage difference in Medicare fee-for-service and competitive bidding payment amounts. For example, if actual Medicare allowed charges for a product were $5 million and the per-unit price under competitive bidding was 50% lower than the Medicare fee-for-service price, then estimated expenditures under competitive bidding would be $5 million * 0.5 = $2.5 million.
- ***Calculate estimated annual savings:*** As explained above, we used both total Medicare-allowed charges and the Medicare payment amount to measure Medicare payments. Estimated annual savings for a given HCPCS/modifier/CBA combination are equal to the difference between actual Medicare payments (that is, allowed charges or the payment amount) and our estimate of these expenditures under competitive bidding.

In the sections below, these savings estimates are summarized in a variety of ways: by product category, by CBA, and by product category/CBA combination. Savings are also analyzed at the individual HCPCS level, to identify the drivers of potential savings.

for those beneficiaries for whom wheelchair product category could be determined. The weighted average was calculated as the following sum: 0.92994 of the fee schedule for standard wheelchairs + 0.07006 of the fee schedule for complex wheelchairs.

Because this analysis uses claims data from a period prior to the beginning of competitive bidding, the savings cited here should be viewed as estimated savings, not actual savings achieved under competitive bidding.

6.4. Results

This section contains information on current Medicare expenditures and payment amounts for products and areas included in competitive bidding, comparisons of per-unit prices from the Medicare and competitive bidding fee schedules, and estimates of Medicare annual savings developed using the methodology described above.

6.4.1. Pre-Competitive Bidding (2009) Medicare Allowed Charges and Payment Amounts for Nine Product Categories, in Nine CBAs

In 2009, Medicare allowed charges for the nine categories of products to be included in competitive bidding, in the nine CBAs, totaled $381.27 million (Exhibit 5). The actual Medicare payments for these items totaled $298.83 million.

- ***Allowed charges by product category:*** The oxygen equipment and services product category was the largest product category in 2009, accounting for $167.6 million in allowed charges and Medicare payments of $130.5 million in 2009 (Exhibit 5). Oxygen products accounted for 44% of total allowed charges for all nine product categories in the nine CBAs in 2009. Standard power wheelchairs were the second largest product category, with $63.8 million in allowed charges (16.7% of the total). Diabetic supplies and enteral nutrition products each accounted for more than 10% of total allowed charges. Complex power wheelchairs were the smallest product category, with only $2.2 million in allowed charges (0.6% of the total). Support surfaces and walkers were the second and third smallest product categories, each accounting for $4.3 million or 1.1% of allowed charges. (Note that support surfaces are included in competitive bidding only in Miami.)
- ***Allowed charges by competitive bidding area:*** Dallas was the highest cost CBA in 2009, accounting for just under $84 million in allowed charges and $65.8 million in Medicare payments (Exhibit 6). Allowed charges in Dallas were 22% of total allowed charges across the nine competitive bidding areas combined. Miami was the second highest CBA, with $70.7 million in allowed charges (18.5% of the total). With only $24.9 million in allowed charges and $19.5 million in Medicare payments, Pittsburgh was the smallest CBA, while Kansas City, which had $30.8 million in allowed charges and $24.0 million in Medicare payments was the second smallest CBA.

Exhibit 5: Medicare Allowed Charges and Amount Paid for Competitive Bidding Product Categories, 2009

Product Category	Allowed Charges	Amount Paid	Percent of All Allowed Charges
All	$381,275,137	$298,833,361	100%
Oxygen	$167,645,561	$130,469,889	44.0%
Standard power wheelchairs	$63,787,077	$50,740,239	16.7%
Diabetic supplies	$53,450,557	$41,305,175	14.0%
Enteral	$45,059,160	$35,834,434	11.8%
CPAP	$20,742,905	$16,252,110	5.4%
Hospital beds	$19,710,165	$15,600,359	5.2%
Support surfaces	$4,348,662	$3,455,364	1.1%
Walkers	$4,346,635	$3,448,310	1.1%
Complex power wheelchairs	$2,184,415	$1,727,481	0.6%

Source: Abt Associates analysis of 2009 Medicare claims data.

Exhibit 6: Medicare Allowed Charges and Amount Paid for Competitive Bidding Areas, 2009

Area	Allowed Charges	Amount Paid	Percent of All Allowed Charges
All	$381,275,137	$298,833,361	100.0%
Dallas	$83,990,812	$65,801,028	22.0%
Miami	$70,686,101	$55,737,572	18.5%
Riverside	$40,312,341	$31,668,973	10.6%
Cleveland	$34,332,078	$26,839,534	9.0%
Cincinnati	$32,782,825	$25,573,190	8.6%
Orlando	$31,775,522	$24,945,443	8.3%
Charlotte	$31,651,880	$24,767,344	8.3%
Kansas City	$30,803,839	$24,027,436	8.1%
Pittsburgh	$24,939,738	$19,472,841	6.5%

Source: Abt Associates analysis of 2009 Medicare claims data.

6.4.2. Difference in Per-Unit Prices Between 2009 Medicare Fee Schedule and Competitive Bidding Single Payment Amounts

The MMA required that amounts paid under the competitive bidding program be less than the amounts payable under the pre-existing fee schedule. As a result, in every CBA, the competitive bidding per-unit single payment amount was lower than the Medicare fee schedule for every HCPCS code. The size of this difference varied considerably across product categories and CBAs.

The average prices from Medicare's 2009 fee schedule were compared to the single payment amounts in the Round One Rebid for each HCPCS/modifier and in each CBA. Since these analyses do not consider total Medicare payments for items, they are not intended to be estimates of savings under competitive bidding; this section simply compares Medicare per-unit prices. Note that the comparisons presented in this section are unweighted, counting

each HCPCS/modifier/CBA combination that is in the competitive bidding fee schedule the same regardless of the volume of claims or total Medicare allowed charges for the item.

- On average, across all HCPCS/modifier combinations, per-unit prices under competitive bidding are 20% lower than prices under the 2009 Medicare fee schedule (Exhibit 7).
- Within individual product categories, the difference between the 2009 Medicare fee schedule and the competitive bidding single payment amounts is largest for support surfaces (41.2%), CPAP (34.2%), and walkers (33.7%), and smallest for standard and complex power wheelchairs (19.4% and 10.5%, respectively) (Exhibit 7).
- On average, the difference in prices between the Medicare fee schedule and competitive bidding single payment amounts is largest in Miami (27.1%) and Orlando (25.9%), and smallest in Kansas City (14.3%) and Charlotte (15.5%) (Exhibit 8). Note that there was very little variation in Medicare fee schedule amounts and these differences were not related to differences in fee schedule amounts across the CBAs.

The difference in per unit prices varies considerably across the CBAs for some product categories, while for other product categories there is less variance.

Exhibit 7: Percent Difference Between Competitive Bidding and Medicare Fee Schedule, by Product Category

Product Category	Average Percent Difference
All	**20.0%**
Support surfaces	41.2%
CPAP	34.2%
Walkers and related accessories	33.7%
Diabetic supplies	33.0%
Enteral nutrition	31.0%
Hospital beds	29.5%
Oxygen	25.2%
Standard power wheelchairs	19.4%
Complex power wheelchairs	10.5%

Note that this is an unweighted analysis for which each product (defined based on the HCPCS code and relevant modifiers) in a product category is given the same weight.

Sources: Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

Exhibit 8: Percent Difference Between Competitive Bidding and Medicare Fee Schedule, by Competitive Bidding Area

Competitive Bidding Area	Average Percent Difference
Total	20.0%
Miami	27.1%
Orlando	25.9%
Dallas	23.8%
Pittsburgh	20.6%
Riverside	19.3%
Cleveland	16.3%
Cincinnati	16.1%
Charlotte	15.5%
Kansas City	14.3%

Note that this is an unweighted analysis for which each product (defined based on the HCPCS code and relevant modifiers) in a competitive bidding area is given the same weight.

Sources: Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

- The average difference between competitive bidding single payment amounts and the Medicare fee schedule was greatest for oxygen products, between 27% and 30%, in five areas (Cincinnati, Cleveland, Dallas, Orlando, and Pittsburgh) but less than 20% in two areas (Riverside and Charlotte) (Exhibit 9). The average difference in prices for oxygen products ranges from 16.0% in Riverside to 30.0% in Cleveland.
- The average difference in fee schedules for standard power wheelchair products (standard PMD) is over twice as great in Miami (28.7%) as in Cleveland (11.6%).
- The average difference in fee schedules for complex power wheelchair products (complex PMD) is ten times greater in Dallas (21.3%) than in Kansas City (1.9%). The average price difference in Kansas City is less than half that of the next lowest area (Cincinnati).

Exhibit 9: Average Percent Difference Between Medicare and Competitive Bidding Fee Schedules, by Product Category and Area

Area	Oxygen	Standard PMD*	Complex PMD*	Diabetic supplies	Enteral	CPAP	Hospital beds	Walkers	Support surfaces
Charlotte	19.4%	15.1%	5.9%	37.1%	27.0%	34.1%	24.3%	25.0%	
Cincinnati	28.5%	13.3%	4.0%	32.3%	34.3%	35.9%	30.7%	35.0%	
Cleveland	30.0%	11.6%	5.5%	32.0%	33.0%	35.5%	35.1%	36.5%	
Dallas	27.2%	21.3%	21.3%	33.5%	28.9%	32.4%	27.7%	30.7%	
Kansas City	25.6%	15.5%	1.9%	36.1%	30.5%	37.2%	17.0%	30.5%	
Miami	24.8%	28.7%	19.7%	29.9%	32.5%	30.9%	29.7%	39.1%	41.2%
Orlando	28.2%	26.8%	19.2%	31.2%	29.8%	35.7%	32.4%	35.5%	
Pittsburgh	27.3%	19.3%	8.1%	31.2%	30.8%	34.0%	36.2%	36.0%	
Riverside	16.0%	22.0%	8.2%	33.3%	32.1%	38.2%	30.6%	32.3%	

*PMD=Power Mobility Devices

Sources: Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

- There is also considerable variation in prices across CBAs for the hospital beds product category: the difference in Kansas City (17.0%) is less than half as large as the difference in Cleveland and Pittsburgh (35.1% and 36.2%, respectively).
- While the average difference in prices for walkers was at least 25% across all CBAs, five of the areas (Cincinnati, Cleveland, Miami, Orlando, and Pittsburgh) had average price differences of 35.0% or higher.
- There is less variation across CBAs for diabetic supplies, enteral nutrition products, and CPAP products. The range is 29.9%–37.1% for diabetic supplies, 27.0%–34.3% for enteral nutrition products, and 30.9%–38.2% for CPAP.

Exhibit 10 shows the 25 HCPCS codes that had the largest difference between the 2009 Medicare fee schedule and competitive bidding single payment amounts.

- The largest difference is for A4253 (blood glucose test or reagent strips for diabetics). The average competitive bidding single payment amount is 54.8% lower than the 2009 Medicare fee schedule for these items.
- The second largest difference is for E0776 (IV pole), for which the competitive bidding single payment amount is, on average, 53.9% less than the Medicare fee schedule amount.
- The average difference for three of the four support surface HCPCS codes is 40% or higher (49.7% for E0372—powered air overlay for mattress; 49.2% for E0277—powered pressure-reducing air mattress, and 43.1% for E0372—nonpowered advanced pressure -reducing mattress). The average difference of the fourth support surface product (HCPCS code E0193—powered air flotation bed) was only 22.8%. (Note that support surfaces are included in competitive bidding only in Miami.)
- The 25 HCPCS codes with the largest difference between the 2009 Medicare fee schedule and the competitive bidding single payment amounts did not include any HCPCS from either of the wheelchair product categories. At least one HCPCS from each of the other seven product categories is on this “top 25” list.

Exhibit 10: HCPCS Codes with Largest Difference Between Medicare and Competitive Bidding Fee Schedule

HCPCS	Description	Product Category	Percent Difference
A4253	Blood Glucose Test Or Reagent Strips For Home Blood Glucose Monitor, Per 50 Strips	Diabetic supplies	54.8%
E0776	IV Pole	Enteral nutrition	53.9%
E0372	Powered Air Overlay For Mattress, Standard Mattress Length And Width	Support surfaces	49.7%
E0277	Powered Pressure-Reducing Air Mattress	Support surfaces	49.2%
E0143	Walker, Folding, Wheeled, Adjustable Or Fixed Height	Walkers and related accessories	47.2%
E0135	Walker, Folding (Pickup), Adjustable Or Fixed Height	Walkers and related accessories	46.6%
E0373	Nonpowered Advanced Pressure Reducing Mattress	Support surfaces	43.1%
A7037	Tubing Used With Positive Airway Pressure Device	CPAP	43.1%
A4235	Replacement Battery, Lithium, For Use With Medically Necessary Home Blood Glucose Monitor Owned By Patient, Each	Diabetic supplies	40.4%
E0310	Bed Side Rails, Full Length	Hospital beds	39.3%
E0601	Continuous Airway Pressure (Cpap) Device	CPAP	38.7%
E0470	Respiratory Assist Device, Bi-Level Pressure Capability, Without Backup Rate Feature, Used With Noninvasive Interface, E.G., Nasal Or Facial Mask (Intermittent Assist Device With Continuous Positive Airway Pressure Device)	CPAP	37.6%
B4034	Enteral Feeding Supply Kit; Syringe Fed, Per Day	Enteral nutrition	37.3%
E0471	Respiratory Assist Device, Bi-Level Pressure Capability, With Back-Up Rate Feature, Used With Noninvasive Interface, E.G., Nasal Or Facial Mask (Intermittent Assist Device With Continuous Positive Airway Pressure Device)	CPAP	37.2%
E0260	Hospital Bed, Semi-Electric (Head And Foot Adjustment), With Any Type Side Rails, With Mattress	Hospital beds	36.8%
E0251	Hospital Bed, Fixed Height, With Any Type Side Rails, Without Mattress	Hospital beds	35.4%
A7039	Filter, Non Disposable, Used With Positive Airway Pressure Device	CPAP	35.4%
E0156	Seat Attachment, Walker	Walkers and related accessories	35.3%
E1391	Oxygen Concentrator, Dual Delivery Port, Capable Of Delivering 85 Percent Or Greater Oxygen Concentration At The Prescribed Flow Rate, Each	Oxygen	35.0%
E0141	Walker, Rigid, Wheeled, Adjustable Or Fixed Height	Walkers and related accessories	34.9%
E0261	Hospital Bed, Semi-Electric (Head And Foot Adjustment), With Any Type Side Rails, Without Mattress	Hospital beds	34.9%
E0561	Humidifier, Non-Heated, Used With Positive Airway Pressure Device	CPAP	34.7%
E0562	Humidifier, Heated, Used With Positive Airway Pressure Device	CPAP	34.6%
E0266	Hospital Bed, Total Electric (Head, Foot And Height Adjustments), With Any Type Side Rails, Without Mattress	Hospital beds	34.5%
A7038	Filter, Disposable, Used With Positive Airway Pressure Device	CPAP	34.3%

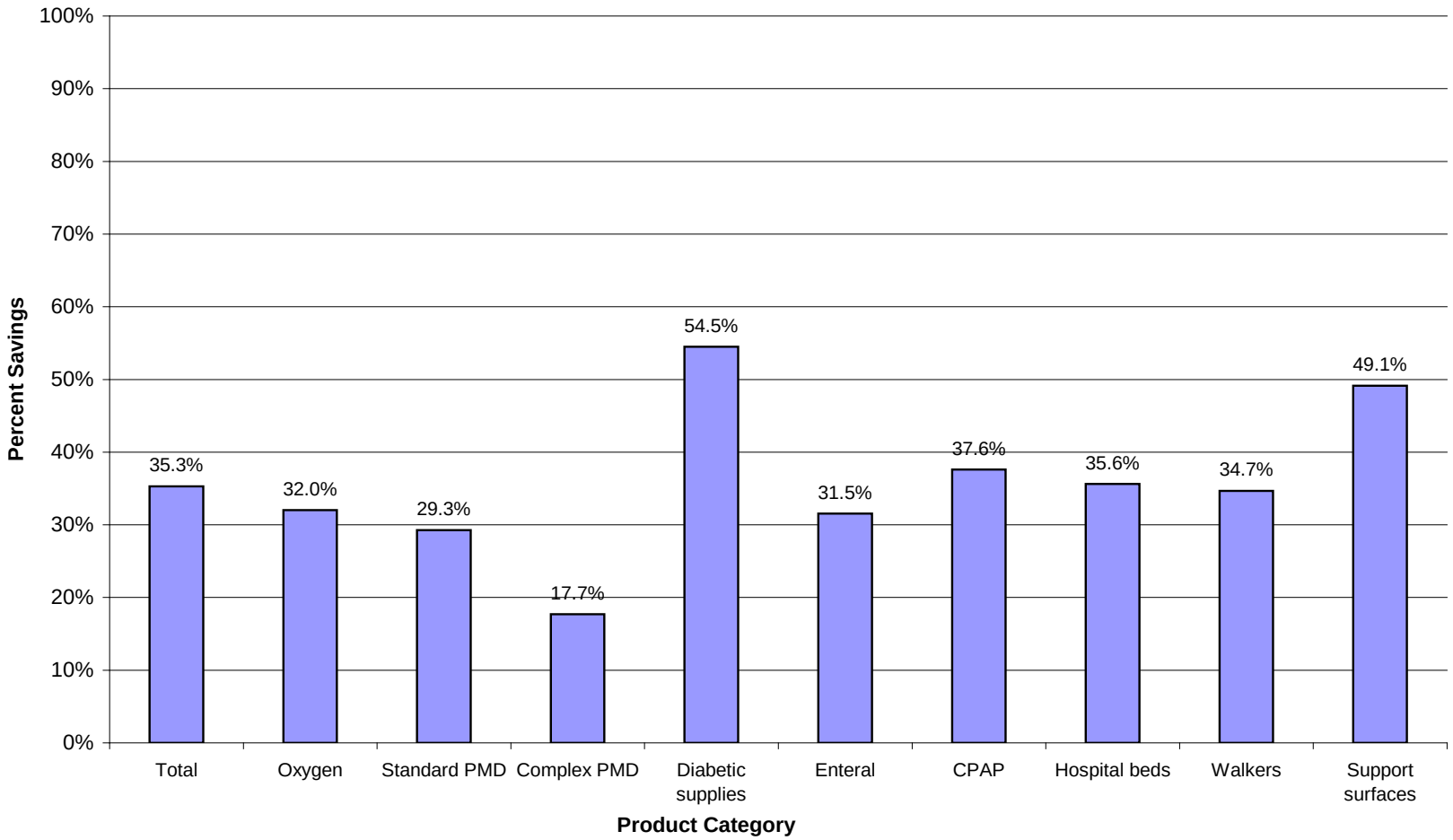
Sources: Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

6.4.3. Estimated Medicare Savings From Competitive Bidding, as a Percentage of Allowed Charges

This section contains estimates of the potential annual Medicare savings associated with competitive bidding. As described in Section 5.3, these estimates are based on Medicare payments (that is, the total Medicare-allowed charges or Medicare payment amount) from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding. These are estimates of the percent Medicare would have saved, as a percent of allowed charges, had the new competitive bidding single payment amounts been in effect during 2009 (assuming no change in volume).

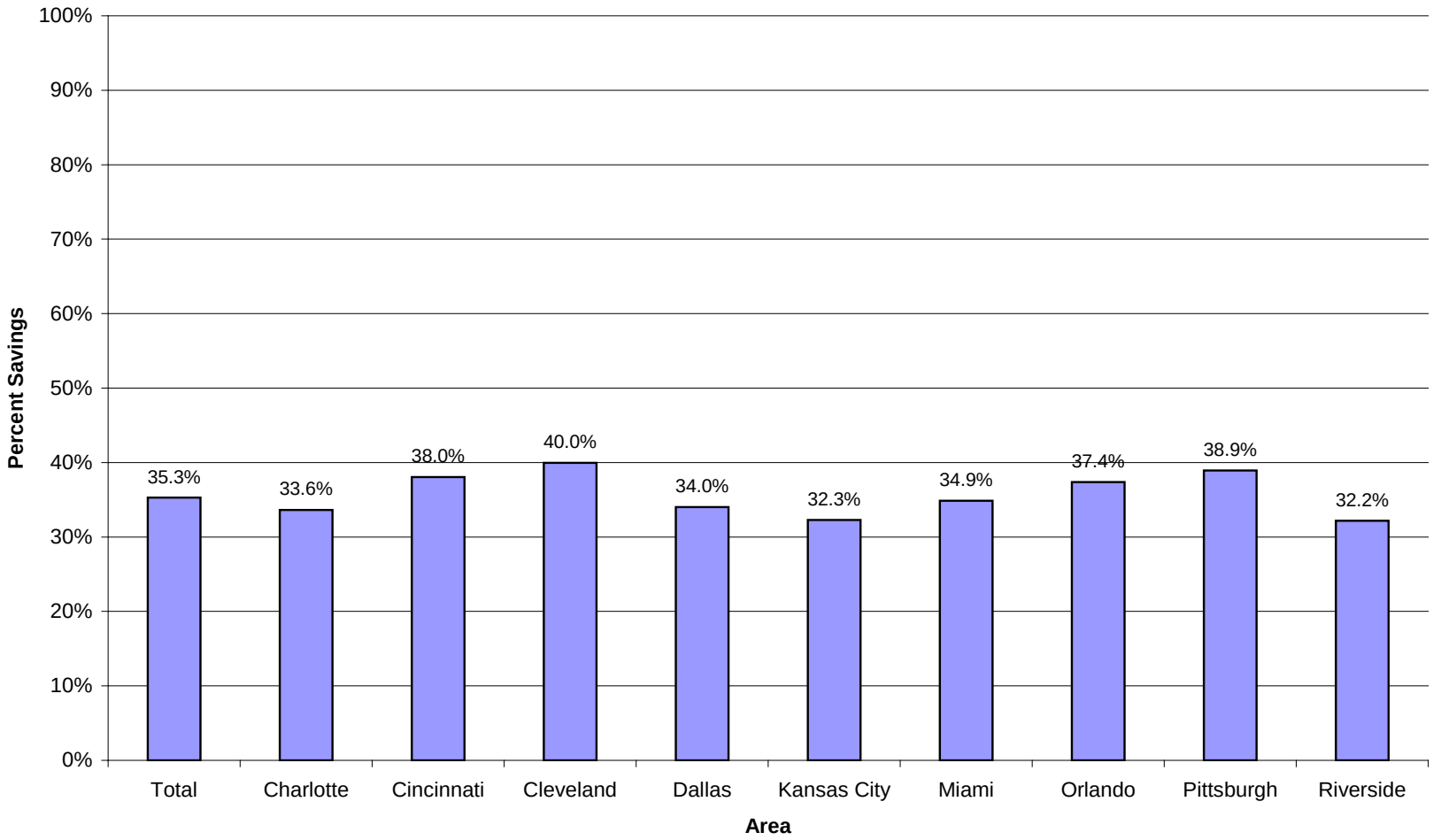
- Overall, across all product categories and CBAs, the average projected savings for competitive bidding is 35.3%, based on Medicare allowed charges (Figure 1).
- By product category, the projected savings are largest for diabetic supplies (54.5%) and support surfaces (49.1%) and smallest for the two wheelchair product categories (17.7% for complex power wheelchairs [complex PMD] and 29.3% for standard power wheelchairs [standard PMD]). Estimated savings as a percentage of allowed charges are 32.0% for oxygen, 31.5% for enteral products, 37.6% for CPAP, 35.6% for hospital beds, and 34.7% for walkers.
- At the CBA level, estimated savings range from 32.2% in Riverside to 40% in Cleveland (Figure 2).
- The extent of across-area differences in percent savings varies by product category (Exhibit 11). It is noteworthy that the savings achieved under competitive bidding are broad-based, and not confined to a single product category or a single CBA. For each product category, the area with the greatest percent savings is provided below:
    - Oxygen: Cleveland
    - Standard power wheelchairs (standard PMD): Orlando
    - Complex power wheelchairs: Dallas
    - Diabetic supplies: Riverside
    - Enteral nutrition: Cincinatti
    - CPAP equipment: Charlotte, Cleveland (tied)
    - Hospital beds: Cleveland
    - Walkers: Pittsburgh
    - Support surfaces: Miami

Figure 1: Estimated Percent Medicare Savings by Product Category



Savings estimates are based on allowed charges from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.
Source: Abt Associates analysis of 2009 Medicare claims data and Medicare fee schedule; competitive bidding fee schedule.

Figure 2: Estimated Percent Medicare Savings by Competitive Bidding Area



Savings estimates are based on allowed charges from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.
Source: Abt Associates analysis of 2009 Medicare claims data and Medicare fee schedule; competitive bidding fee schedule.

Exhibit 2: Estimated Percentage Savings in Allowed Charges by Product Category and Area, Weighted by Allowed Charges

Area	Total	Oxygen	Standard PMD*	Complex PMD*	Diabetic Supplies	Enteral	CPAP	Hospital Beds	Walkers	Support Surfaces
Total	35.3%	32.0%	29.3%	17.7%	54.5%	31.5%	37.6%	37.6%	34.7%	49.1%
Charlotte	33.6%	29.0%	28.0%	12.5%	51.7%	25.4%	41.9%	33.4%	28.3%	
Cincinnati	38.0%	37.5%	24.5%	10.7%	54.4%	34.5%	41.0%	40.5%	35.5%	
Cleveland	40.0%	39.6%	28.1%	14.1%	53.2%	33.7%	41.9%	41.9%	34.4%	
Dallas	34.0%	29.5%	31.4%	24.7%	54.4%	29.9%	34.7%	36.2%	36.8%	
Kansas City	32.3%	28.4%	25.4%	5.6%	52.9%	29.4%	39.8%	28.5%	29.5%	
Miami	34.9%	28.3%	34.1%	22.4%	54.5%	32.1%	32.2%	32.2%	34.9%	49.1%
Orlando	37.4%	33.8%	36.0%	20.8%	56.6%	30.5%	36.0%	37.1%	34.6%	
Pittsburgh	38.9%	39.2%	25.5%	14.6%	56.6%	32.9%	37.7%	38.8%	38.3%	
Riverside	32.2%	28.4%	25.3%	10.5%	58.4%	33.3%	38.0%	35.3%	34.1%	

*PMD=Power Mobility Devices

Savings estimates are based on allowed charges or Medicare payment amount from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.

Sources: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

6.4.4. Estimated Savings From Competitive Bidding, in Medicare Allowed Charges and Payment Amount

This section presents actual 2009 Medicare allowed charges and payment amounts from the claims analysis. It also presents projected expenditures and savings under competitive bidding for each CBA and product category. These projections are based on the difference in per-unit prices from the 2009 Medicare fee schedule and the competitive bidding single payment amounts, and Medicare-allowed charges and actual payments in 2009 for individual product types in each CBA. These estimates indicate the dollar amount Medicare would have saved, had the new competitive bidding single payment amounts been in effect during 2009 (assuming no change in volume). Note that the savings estimated based on allowed charges includes beneficiary co-payments and deductibles. Co-payments and deductibles are not reflected in Medicare payment amount savings estimates, which is a measure of actual payment made from the Medicare Supplementary Medical Insurance (SMI) trust fund.

Exhibits 12 and 13 report actual Medicare allowed charges and payment amounts, projected expenditures, and savings under competitive bidding, by CBA and product category, respectively.

- Overall annual projected savings are $134.6 million based on allowed charges and $105.3 million based on the Medicare payment amount (Exhibit 12). Based on the difference between Medicare FFS and competitive bidding per-unit prices, allowed charges under competitive bidding are estimated to be 35.3% less than allowed charges under Medicare FFS.
- Figure 3 summarizes the differences in total estimated 2009 savings across the nine CBAs. Dallas accounts for the largest portion of savings ($28.6 million based on allowable charges; $22.3 million based on 2009 Medicare payment amounts) followed closely by Miami ($24.6 million based on allowable charges; $19.4 million based on payment amount). Despite having large estimated savings in dollar terms, both Dallas and Miami have estimated savings slightly below the 35.3% average (34.0% and 34.9%, respectively). Kansas City and Pittsburgh have the smallest estimated savings ($7.7 million and $7.6 million respectively, based on payment amounts, and $9.9 million and $9.7 million based on allowed charges).
- There is considerable variation in projected savings across the different product categories (Exhibit 13). The estimated savings for diabetic supplies is over three times higher (54.5%) than the estimated savings for complex power wheelchairs [complex PWD] (17.7%). Estimated savings for support services is also relatively high at 49.1%. Projected savings for oxygen products, the largest competitive bidding category, are 32%.
- Figure 4 summarizes the differences in total estimated saving (allowed charges as well as Medicare payment amounts) across the nine product categories. The oxygen category accounts for the largest amount of projected savings ($53.7 million based on

allowable charges; $41.8 million based on payment amount). Diabetic supplies are a distant second in terms of the product category with the next largest projected savings ($29.1 million based on allowable charges; $22.5 million based on payment amount).

- Standard power wheelchair (standard PWD) and enteral nutrition both have projected savings of over $10 million: $18.7 million based on allowable charges and $14.8 million based on payment amount for standard power wheelchair products; and $14.2 million based on allowable charges and $11.3 million based on payment amount for enteral nutrition.
- Four product categories had projected savings between $1 million and $8 million (CPAP, hospital beds, support surfaces, and walkers). Complex power wheelchairs (complex PWD) not only had the lowest estimated percent savings under competitive bidding (17.7%), but also had the lowest amount of project savings ($387 thousand based on allowable charges; $306 thousand based on payment amount).

Estimated savings under competitive bidding were also projected by CBA and product category, as compared with Medicare allowable charges (Exhibit 14) and the 2009 payment amounts (Exhibit 15).

- For both Medicare allowable charges and payment amounts, Dallas has the highest estimated savings across six of the nine product categories (oxygen, standard power wheelchair [standard PWD], complex power wheelchair [complex PWD], diabetic supplies, CPAP, and walkers), and Miami has the highest estimated savings in the remaining three (enteral, hospital beds, and support surfaces). (Note that support surfaces are included in competitive bidding only in Miami.)
- The smallest estimated savings in each of the nine product categories is more dispersed across the nine CBAs.
  - Kansas City has the lowest estimated Medicare savings within the complex power wheelchair (complex PWD), enteral nutrition, and hospital bed categories.
  - Pittsburgh has the lowest estimated Medicare allowable charges within the standard power wheelchair (standard PWD), diabetic supplies, and CPAP product categories.
  - Riverside has the lowest estimated Medicare allowable charges within the oxygen category.
  - Charlotte has the lowest estimated Medicare allowable charges within the walker category.

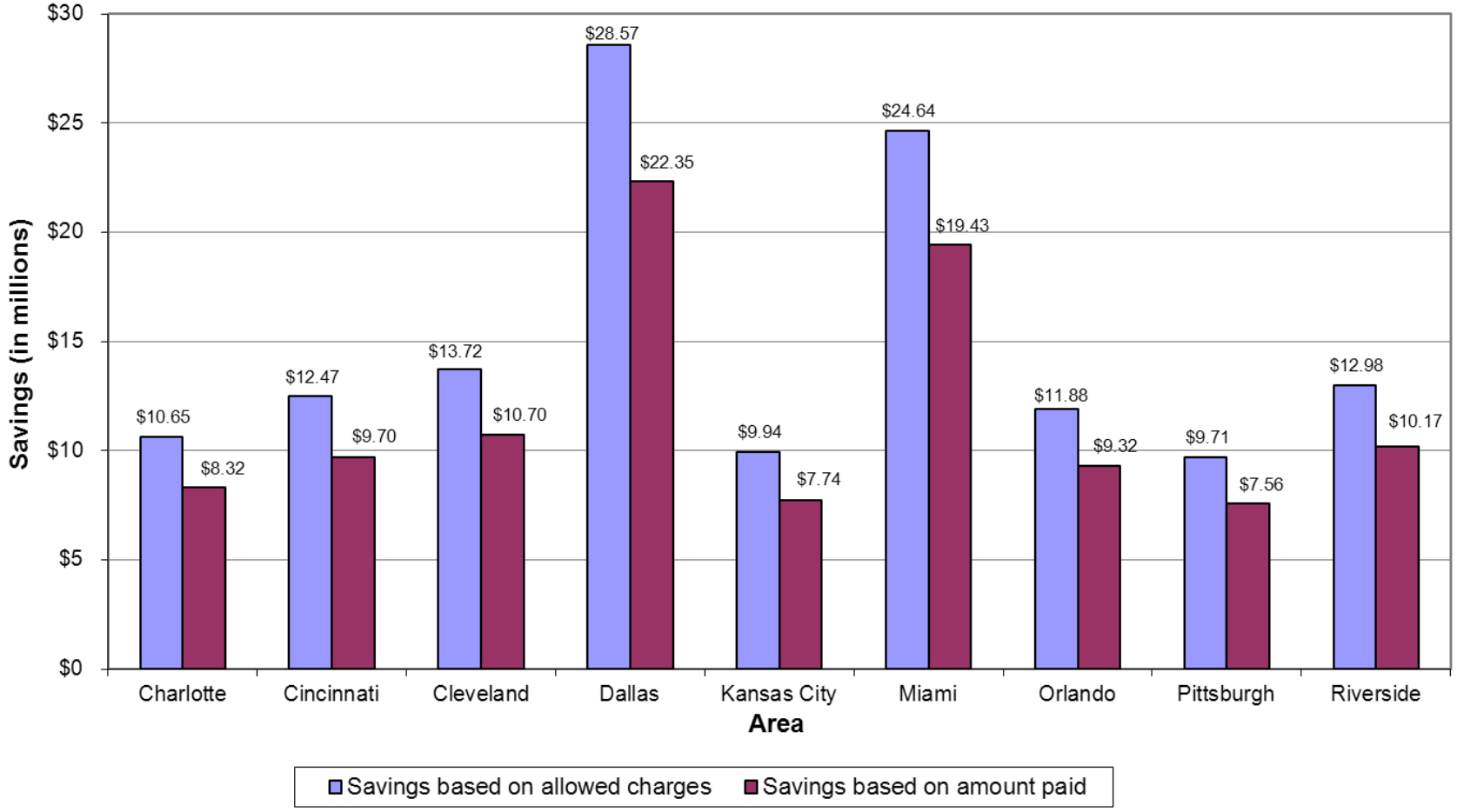
Exhibit 3: Summary of Estimated Savings if Competitive Bidding Were in Place in 2009, by Competitive Bidding Area

	Actual Medicare Costs		Projected Costs Under Competitive Bidding		Projected Savings Under Competitive Bidding			
Area	Allowed Charges	Amount Paid	Allowed Charges	Amount Paid	Estimated Savings (Based on allowed charges)	Estimated Savings (Based on amount paid)	Percent Savings (Based on allowed charges)	Percent Savings (Based on amount paid)
Total	$381,275,137	$298,833,361	$246,715,639	$193,545,900	$134,559,498	$105,287,461	35.3%	35.2%
Charlotte	$31,651,880	$24,767,344	$21,005,766	$16,451,499	$10,646,115	$8,315,846	33.6%	33.6%
Cincinnati	$32,782,825	$25,573,190	$20,314,216	$15,869,372	$12,468,609	$9,703,817	38.0%	37.9%
Cleveland	$34,332,078	$26,839,534	$20,611,924	$16,137,869	$13,720,154	$10,701,665	40.0%	39.9%
Dallas	$83,990,812	$65,801,028	$55,418,704	$43,451,808	$28,572,108	$22,349,221	34.0%	34.0%
Kansas City	$30,803,839	$24,027,436	$20,862,041	$16,288,571	$9,941,798	$7,738,865	32.3%	32.2%
Miami	$70,686,101	$55,737,572	$46,041,429	$36,311,094	$24,644,672	$19,426,478	34.9%	34.9%
Orlando	$31,775,522	$24,945,443	$19,896,745	$15,629,052	$11,878,777	$9,316,391	37.4%	37.3%
Pittsburgh	$24,939,738	$19,472,841	$15,230,064	$11,909,461	$9,709,673	$7,563,381	38.9%	38.8%
Riverside	$40,312,341	$31,668,973	$27,334,750	$21,497,174	$12,977,591	$10,171,799	32.2%	32.1%

Savings estimates are based on allowed charges or Medicare payment amount from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.

Sources: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

Figure 3: Medicare Savings (in Millions), by Competitive Bidding Area



Source: Abt Associates' analysis of 2009 Medicare claims data and the Medicare fee schedule, competitive bidding schedule

Exhibit 4: Summary of Estimated Savings if Competitive Bidding Were in Place in 2009, by Product Category

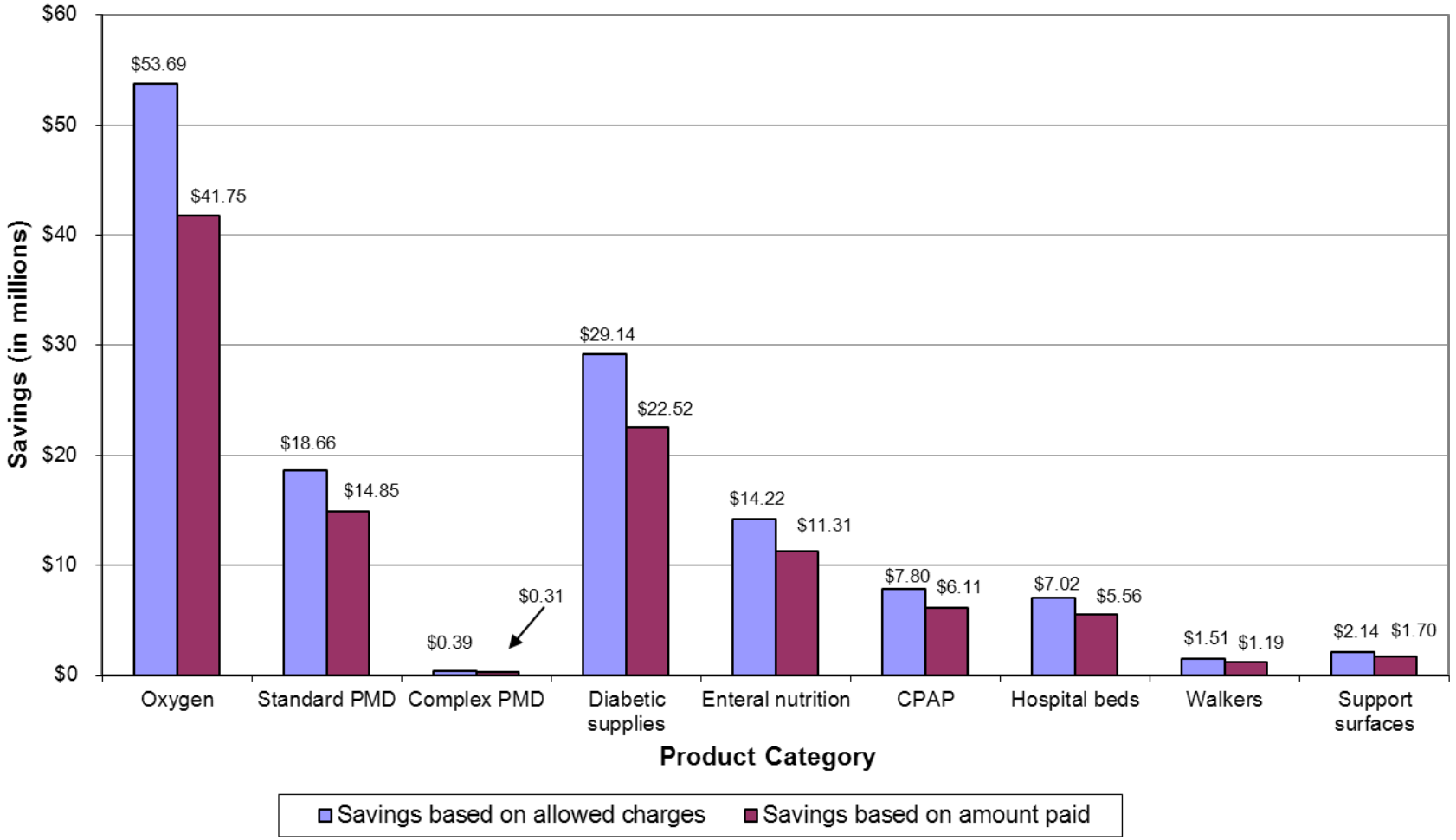
	Actual Medicare Costs		Projected Costs Under Competitive Bidding		Projected Savings Under Competitive Bidding			
Product Category	Allowed Charges	Amount Paid	Allowed Charges	Amount Paid	Estimated Savings (Based on allowed charges)	Estimated Savings (Based on amount paid)	Percent Savings (Based on allowed charges)	Percent Savings (Based on amount paid)
Total	**$381,275,137**	**$298,833,361**	**$246,715,639**	**$193,545,900**	**$134,559,498**	**$105,287,461**	**35.3%**	**35.2%**
Oxygen	$167,645,561	$130,469,889	$113,951,983	$88,721,539	$53,693,578	$41,748,350	32.0%	32.0%
Standard PMD*	$63,787,077	$50,740,239	$45,125,286	$35,891,864	$18,661,791	$14,848,375	29.3%	29.3%
Complex PMD*	$2,184,415	$1,727,481	$1,797,806	$1,421,264	$386,609	$306,217	17.7%	17.7%
Diabetic supplies	$53,450,557	$41,305,175	$24,314,422	$18,789,971	$29,136,136	$22,515,204	54.5%	54.5%
Enteral	$45,059,160	$35,834,434	$30,843,417	$24,526,600	$14,215,743	$11,307,834	31.5%	31.6%
CPAP	$20,742,905	$16,252,110	$12,938,757	$10,138,559	$7,804,148	$6,113,551	37.6%	37.6%
Hospital beds	$19,710,165	$15,600,359	$12,691,496	$10,044,978	$7,018,669	$5,555,380	35.6%	35.6%
Walkers	$4,346,635	$3,448,310	$2,840,321	$2,253,384	$1,506,315	$1,194,926	34.7%	34.7%
Support surfaces	$4,348,662	$3,455,364	$2,212,153	$1,757,739	$2,136,510	$1,697,624	49.1%	49.1%

*PMD=Power Mobility Devices

Savings estimates are based on allowed charges or Medicare payment amount from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.

Sources: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

Figure 4: Medicare Savings (in Millions), by Product Category



Source: Abt Associates' analysis of 2009 Medicare claims data and the Medicare fee schedule, competitive bidding schedule

- The difference in estimated savings across the CBAs for the two wheelchair categories varies considerably.
    - Dallas' estimated savings in allowable charges for complex power wheelchairs (complex PWD) is 38 times Kansas City's estimated savings ($149 thousand vs. $3,849, respectively), and over 39 times as high when comparing estimated savings in payment amount ($119 thousand vs. $3,018, respectively).
    - For standard wheelchairs (standard PWD), the difference is not quite as dramatic but still substantial. Dallas' estimated savings in allowed charges is 13 times Pittsburgh's estimated savings: $6.1 million vs. $469 thousand, respectively.

Tables B-1 – B-9 in Appendix B show actual Medicare allowed charges and payment amounts and projected expenditures and savings under competitive bidding at the product category and area level. Table C-1 in Appendix C presents this information for each HCPCS code.

6.4.5. Drivers of Savings

This section presents the HCPCS responsible for most of the savings in allowed charges estimated to occur with the competitive bidding fee schedule. Exhibit 16 shows the 25 HCPCS with the highest estimated savings based on Medicare allowed charges in 2009.

- Overall, these 25 HCPCS account for $130.7 million in estimated annual savings based on allowed charges, which is 97% of the total annual estimated savings ($134.6 million; first row, Exhibits 12 and 13). The remaining 199 HCPCS included in competitive bidding account for less than $4 million in annual savings in allowed charges (or 3% of the total savings).
- The major driver of savings was HCPCS E1390, an oxygen concentrator product. Allowed charges for this HCPCS code were $139.1 million (36.5% of total allowed charges across all competitive bidding HCPCS codes), and estimated annual savings are more than $46 million (based on allowed charges), a savings of 33.2%. The savings for this HCPCS code account for more than one-third of the total savings across all HCPCS codes.
- At $29.1 million, blood glucose test or reagent strips for home blood glucose monitor from the diabetic supply product category (HCPCS code A4253) has the second largest annual estimated savings. The percent savings over the Medicare allowed charges in 2009 ($53.3 million) for this HCPCS is 54.6%. Note also that this HCPCS code had the largest difference between the 2009 Medicare fee schedule and the competitive bidding single payment amount (from Exhibit 10).

Exhibit 5: Savings in Medicare Allowed Charges, by Area and Product Category

Area	Oxygen	Standard PMD*	Complex PMD*	Diabetic Supplies	Enteral	CPAP	Hospital Beds	Walkers	Support Surfaces
Total	$53,693,578	$18,661,791	$386,609	$29,136,136	$14,215,743	$7,804,148	$7,018,669	$1,506,315	$2,136,510
Charlotte	$4,010,463	$1,338,449	$43,856	$2,905,712	$683,171	$1,101,648	$471,105	$91,710	$0
Cincinnati	$5,652,794	$1,302,910	$10,679	$2,842,919	$1,125,385	$835,979	$589,777	$108,165	$0
Cleveland	$6,742,621	$954,323	$24,936	$2,937,639	$1,440,179	$792,764	$729,806	$97,886	$0
Dallas	$10,124,314	$6,096,585	$148,752	$6,189,934	$2,640,658	$1,477,615	$1,522,362	$371,888	$0
Kansas City	$4,426,873	$1,293,397	$3,849	$2,337,431	$612,518	$891,344	$263,728	$112,658	$0
Miami	$8,090,119	$2,586,895	$46,393	$5,214,692	$3,779,928	$921,589	$1,587,474	$281,072	$2,136,510
Orlando	$5,146,066	$1,622,613	$49,536	$2,665,798	$974,738	$781,107	$515,824	$123,095	$0
Pittsburgh	$5,662,529	$469,348	$45,063	$1,504,795	$869,190	$426,800	$559,016	$172,932	$0
Riverside	$3,837,799	$2,997,271	$13,542	$2,537,216	$2,089,976	$575,302	$779,576	$146,910	$0

*PMD=Power Mobility Devices

Savings estimates are based on allowed charges or Medicare payment amount from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.

Sources: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program.

Exhibit 6: Estimated Savings in Medicare Payment Amount, by Area and Product Category

Area	Oxygen	Standard PMD*	Complex PMD*	Diabetic Supplies	Enteral	CPAP	Hospital Beds	Walkers	Support Surfaces
Total	$41,748,350	$14,848,375	$306,217	$22,515,204	$11,307,834	$6,113,551	$5,555,380	$1,194,926	$1,697,624
Charlotte	$3,122,790	$1,060,901	$33,734	$2,247,827	$542,623	$863,333	$371,906	$72,732	$0
Cincinnati	$4,373,991	$1,033,556	$8,533	$2,191,405	$893,058	$651,593	$466,093	$85,587	$0
Cleveland	$5,239,355	$761,223	$19,932	$2,260,548	$1,146,058	$619,730	$577,007	$77,812	$0
Dallas	$7,856,122	$4,856,575	$118,740	$4,761,331	$2,101,377	$1,154,656	$1,206,069	$294,352	$0
Kansas City	$3,433,877	$1,027,025	$3,018	$1,796,526	$486,011	$695,006	$208,221	$89,181	$0
Miami	$6,338,145	$2,059,252	$36,925	$4,074,622	$3,007,966	$728,503	$1,259,794	$223,646	$1,697,624
Orlando	$4,013,405	$1,294,838	$39,564	$2,073,741	$774,821	$614,099	$408,105	$97,817	$0
Pittsburgh	$4,396,779	$372,937	$34,969	$1,153,357	$691,760	$334,991	$441,094	$137,494	$0
Riverside	$2,973,886	$2,382,068	$10,803	$1,955,847	$1,664,160	$451,640	$617,090	$116,304	$0

*PMD=Power Mobility Devices

Weighted average savings based on percentage reductions in Medicare allowed charges for items in each product category, weighted by Medicare allowed charges for the HCPCS/modifier/area combination.

Savings estimates are based on allowed charges or Medicare payment amount from claims data and the percentage difference in per-unit prices between Medicare fee-for-service and competitive bidding.

Sources: Abt Associates analysis of 2009 Medicare claims data, DMEPOS fee schedule, and competitive bidding single payment amounts.

- The third highest estimated savings is for HCPCS K0823 (power wheelchair group 2 standard with a captain's chair). Estimated savings for this product were $14.4 million, with allowed charges under competitive bidding 30.2% lower than costs under Medicare FFS.
- Together, these three high volume HCPCS account for $240 million in allowed charge and $89.7 million in annual estimated savings. They account for almost 63% of total allowed charges and more than two-thirds of the total annual estimated savings (Figure 5). The remaining 221 HCPCS included in competitive bidding are responsible for 33% of the total annual estimated savings in Medicare allowed charges under competitive bidding.

Tables D-1 – D-9 in Appendix D report the five HCPCS codes with the highest annual estimated savings for each product category, based on Medicare-allowed charges in 2009. Table E-1 in Appendix E reports the HCPCS codes with the highest savings by competitive bidding area.

6.5. Discussion

The estimates presented above suggest that the potential Medicare savings under competitive bidding will be large. In 2009, total Medicare-allowed charges for the products covered in competitive bidding in the competitive bidding areas were $381.3 million. Based on these estimates of what Medicare would have paid if the single payment amounts had been in effect in 2009 (assuming no change in volume), projected costs under competitive bidding are 35.3% less than actual payments; a potential savings of $134.6 million in terms of Medicare-allowed charges and $105.3 million in terms of Medicare payments. These savings are in addition to the 9.5% reduction in Medicare prices for competitively bid items that was specified in MIPPA, a reduction that was mandated in 2008 when competitive bidding was delayed. Thus, relative to the 2008 Medicare fee schedule, estimated savings would have been even larger.

By product category, the projected savings are largest for diabetic supplies (54.5%) and support surfaces (49.1%) and smallest for the two wheelchair product categories (17.7% for complex power wheelchairs and 29.3% for standard power wheelchairs). At the CBA level, estimated savings range from 32.2% in Riverside and 32.3% in Kansas City to 40% in Cleveland.

Exhibit 16: Drivers of Savings: HCPCS Codes with the Largest Estimated Savings (Across All Competitive Bidding Areas)

HCPCS Code	Description	Product Category	Medicare Allowed Charges	Projected Allowed Charges Under Competitive Bidding	Estimated Savings (Based on allowed charges)	Percent Savings (Based on allowed charges)
E1390	Oxygen concentrator, single delivery port	Oxygen	$139,090,303	$92,935,158	$46,155,145	33.2%
A4253	Blood glucose test or reagent strips for home blood glucose monitor	Diabetic supplies	$53,288,330	$24,214,214	$29,074,116	54.6%
K0823	Power wheelchair, group 2 standard, captain	Standard PMD*	$47,712,070	$33,290,245	$14,421,825	30.2%
E0260	Hospital bed, semi-electric	Hospital beds	$16,952,458	$10,779,935	$6,172,523	36.4%
B4035	Enteral feeding supply kit; pump fed, per day	Enteral	$13,640,362	$8,997,470	$4,642,892	34.0%
E0601	Continuous airway pressure (CPAP) device	CPAP	$11,491,317	$7,124,105	$4,367,213	38.0%
B4154	Enteral formula, nutritionally complete, for special metabolic needs	Enteral	$10,684,455	$7,489,990	$3,194,464	29.9%
E0431	Portable gaseous oxygen system, rental; inc	Oxygen	$10,522,783	$7,670,646	$2,852,136	27.1%
E0470	Respiratory assist device, bi-level pressure	CPAP	$6,380,351	$3,999,483	$2,380,867	37.3%
E0439	Stationary liquid oxygen system, rental	Oxygen	$6,953,679	$4,633,956	$2,319,723	33.4%
E0277	Powered pressure-reducing air mattress	Support surfaces	$4,258,349	$2,164,545	$2,093,804	49.2%
B4150	Enteral formula, nutritionally complete with intact nutrients	Enteral	$7,300,719	$5,213,689	$2,087,031	28.6%
K0822	Power Wheelchair, Group 2 Standard, Sling/Solid Seat/Back	Standard PMD*	$4,133,269	$2,805,819	$1,327,449	32.1%
E0143	Walker, folding, wheeled, adjustable or fixed height	Walkers	$3,761,929	$2,437,115	$1,324,814	35.2%
B4152	Enteral formula, nutritionally complete, calorically dense	Enteral	$4,896,161	$3,593,851	$1,302,310	26.6%
K0825	Power wheelchair, group 2 heavy duty, captain	Standard PMD*	$4,282,605	$3,132,765	$1,149,839	26.8%
E0471	Respiratory assist device	CPAP	$2,812,154	$1,775,723	$1,036,431	36.9%
B4034	Enteral feeding supply kit	Enteral	$2,893,483	$1,858,205	$1,035,277	35.8%

Exhibit 16: Drivers of Savings: HCPCS Codes with the Largest Estimated Savings (Across All Competitive Bidding Areas)

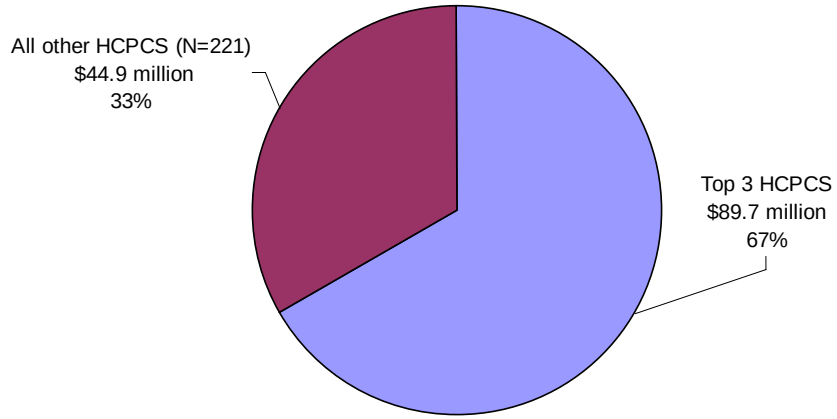
HCPCS Code	Description	Product Category	Medicare Allowed Charges	Projected Allowed Charges Under Competitive Bidding	Estimated Savings (Based on allowed charges)	Percent Savings (Based on allowed charges)
E0443	Portable oxygen contents, gaseous, 1 month's supply=1 unit	Oxygen	$4,295,383	$3,409,825	$885,558	20.6%
B9002	Enteral nutrition infusion pump - with alarm	Enteral	$2,460,529	$1,705,874	$754,655	30.7%
E0776	IV pole	Enteral	$763,131	$209,524	$553,607	72.5%
K0738	Portable gaseous oxygen system, rental	Oxygen	$2,500,202	$2,021,382	$478,820	19.2%
E0973	Wheelchair accessory, adjustable height	Wheelchair**	$1,665,072	$1,255,101	$409,970	24.6%
E0434	Portable liquid oxygen system, rental;	Oxygen	$1,270,492	$920,807	$349,685	27.5%
B4153	Enteral formula, nutritionally complete, hydrolyzed proteins	Enteral	$1,311,582	$1,012,327	$299,255	22.8%

*: PMD=Power Mobility Devices

**: Note: HCPCS code E0973 is included in both the standard and complex wheelchair product categories.

Sources: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

Figure 5: Distribution of Annual Estimated Savings in Medicare Allowed Charges for Products under Competitive Bidding in 2009, by HCPCS (Total Savings: $134.6 Million)



Top 3 HCPCS:

E1390: Oxygen concentrator
$46.2 Million (34%)

A4253: Blood glucose test
$29.1 Million (22%)

K0823: Power wheelchair
$14.4 Million (11%)

Source: Abt Associates analysis of 2009 Medicare claims data, Medicare Fee schedule, single payment amounts for items included in the Round 1 rebid of the DMEPOS Competitive Bidding Program

Two-thirds of the estimated annual savings are associated with three high HCPCS codes: E1390 (oxygen concentrator), A4253 (blood glucose test strips or reagents for home blood glucose monitor), and K0823 (a type of standard power wheelchair). Most of the CBAs share similar HCPCS codes that are the major drivers of savings under competitive bidding, and most product categories have one or two HCPCS codes that dominate the savings within each product category.

A final evaluation report in 2013 will update these analyses by including post-competitive bidding data, allowing for more rigorous estimates of savings that will consider both changes in per-unit prices and changes in claims volume resulting from competitive bidding. To measure the impact of competitive bidding on Medicare expenditures, evaluators will use a difference-in-differences approach, comparing the rate of change in Medicare expenditures (including volume changes) in the nine CBAs with the rate of change in 18 comparison areas. By taking account of changes in volume associated with competitive bidding, in addition to changes in per-unit prices, these analyses will provide more precise estimates of savings than were possible to include in these analyses.