United States Government Accountability Office

GAO

Report to Congressional Requesters

January 2011

MEDICARE HOME OXYGEN

Refining Payment Methodology Has Potential to Lower Program and Beneficiary Spending

GAO-11-56

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Refining Payment Methodology Has Potential to Lower Program and Beneficiary Spending

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Highlights

Highlights of GAO-11-56, a report to congressional requesters

Why GAO Did This Study

Studies have found that Medicare payment rates for home oxygen exceeded other payers' rates. Congress has reduced home oxygen payment rates, capped rental payments after 36 months, and directed the Centers for Medicare & Medicaid Services (CMS), which administers Medicare, to use competitive bidding. GAO was asked to examine Medicare home oxygen payment policy. GAO describes how Medicare pays for home oxygen; the effect on Medicare's payments of using other methodologies and rates; and changes in beneficiary access. GAO reviewed federal laws and regulations, industry-reported costs, Medicare claims data and payment data from selected private insurers, the Department of Veterans Affairs (VA), and CMS's competitive bidding program.

What GAO Recommends

Congress should consider reducing home oxygen payment rates. GAO recommends that CMS remove payment for portable oxygen refills from the payment for stationary equipment.

The Department of Health and Human Services (HHS) commented that payments for home oxygen are "excessive," but disagreed with the recommendation because HHS believed it would not yield immediate savings. GAO's recommendation was not intended to generate savings but to help ensure beneficiary access to oxygen.

View GAO-11-56 or key components. For more information, contact James C. Cosgrove at (202) 512-7114 or cosgrovej@gao.gov

What GAO Found

For beneficiaries who qualify for home oxygen benefits, Medicare pays suppliers a monthly rate that covers rental of a stationary, home-based unit and all related services and supplies; these payments were substantially higher than estimated suppliers' costs. Medicare pays a separate rate for rental of a portable unit if one is supplied. Medicare combines, or bundles, payment for stationary equipment with payment for oxygen refills, which are required only for certain equipment types. Thus, when a supplier furnishes oxygen equipment that does not require refills, it may still receive payment for them. As of January 1, 2006, Medicare capped suppliers' rental payments for home oxygen equipment after 36 months of continuous use by a beneficiary. At that point, the supplier may experience diminished payments and more coverage requirements. In some cases, suppliers may have to subcontract with another supplier if a beneficiary moves out of the supplier's service area.

The eight private insurers GAO interviewed used payment methodologies similar to Medicare's, but seven did not use a rental cap. If Medicare had used the methodologies and payment rates of the lowest-paying private insurer, it could have saved about $670 million of the estimated $2.15 billion it spent on home oxygen in 2009. Using the VA's payment methodology, savings could have been approximately $410 million to $810 million. Basing Medicare's national rates on data from CMS's competitive bidding program 2011 rates could have saved $700 million. Since beneficiaries pay 20 percent of the payment, lower rates could have reduced beneficiary spending.

Utilization trends show overall beneficiary access to home oxygen has not diminished, despite reductions in payment rates and in the number of suppliers from 2001 through 2008. In that period, the proportion of Medicare Part B beneficiaries using home oxygen rose from less than 3 percent to almost 5 percent. But the relative mix of equipment changed—use of more service-intensive portable equipment decreased and use of only stationary oxygen concentrators increased. Medicare's rental payment for stationary concentrators, which includes payment for portable oxygen refills although they are not provided to about one-third of home oxygen beneficiaries, may discourage provision of portable equipment. The equipment might not always be accessible to beneficiaries who would benefit from using it as well as a stationary concentrator. Although the majority of home oxygen suppliers GAO spoke with said they were reluctant to or would not accept new beneficiaries who were approaching the 36-month cap, according to CMS, the agency has ensured that all beneficiaries who relocated found suppliers. Further, CMS stated that if in the future access to home oxygen becomes a problem after a beneficiary relocates; it may consider requiring the supplier that provides home oxygen for month 18 or later to provide oxygen for the remainder of the rental period or make arrangements with another supplier to do so.

Contents

Abbreviations

AAHomecare	American Association for Homecare
BBA	Balanced Budget Act of 1997
BLS	Bureau of Labor Statistics
CMS	Centers for Medicare & Medicaid Services
COPD	chronic obstructive pulmonary disease
CPI-U	Consumer Price Index for All Urban Consumers
CQRC	Council for Quality Respiratory Care
DME	durable medical equipment
DRA	Deficit Reduction Act of 2005
GPO	group purchasing organization
HCFA	Health Care Financing Administration
HCPCS	Healthcare Common Procedure Coding System
HHS	Department of Health and Human Services
IRS	Internal Revenue Service
MIPPA	Medicare Improvements for Patients and Providers Act of 2008
MMA	Medicare Prescription Drug, Improvement, and Modernization Act of 2003
NAIMES	National Association of Independent Medical Equipment Suppliers
OGPE	oxygen-generating portable equipment
OIG	Office of Inspector General
VA	Department of Veterans Affairs

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United States Government Accountability Office
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January 21, 2011

Congressional Requesters

Questions about the appropriateness of Medicare payment rates for home oxygen date back for more than a decade.[1] In 1997 we reported that Medicare home oxygen payment rates were significantly higher than another federal payer's rates.[2] The Department of Health and Human Services (HHS) Office of Inspector General (OIG) echoed this message in 2005, and in 2006 it also reported that Medicare significantly overpaid for the cost of the most commonly supplied type of home oxygen equipment.[3] For beneficiaries who qualify for home oxygen, Medicare pays suppliers a monthly rate that covers rental of a stationary, home-based unit and all related services and supplies, such as delivery of oxygen content refills and maintenance of equipment.[4] Medicare also pays a separate rate for rental of a portable unit if one is supplied to the beneficiary. We estimated that Medicare expenditures for home oxygen totaled $2.15 billion in 2009.[5]

Payment rates that are too high not only affect federal government spending but also increase costs for beneficiaries, who are responsible for 20 percent of the payment.[6] Congress has reduced or limited payment

[1]Unless otherwise indicated, when we refer to home oxygen we are referring to the provision of home oxygen, including equipment, supplies, and covered services.

[2]GAO, *Medicare: Comparison of Medicare and VA Payment Rates for Home Oxygen*, GAO/HEHS-97-120R (Washington, D.C.: May 15, 1997).

[3]HHS OIG, *Medicare and FEHB Payment Rates for Home Oxygen Equipment*, OEI-09-03-00160 (Revised) (San Francisco, Calif.: March 2005); and HHS OIG, *Medicare Home Oxygen Equipment: Cost and Servicing*, OEI-09-04-00420 (San Francisco, Calif.: September 2006).

[4]Medicare Part B covers a broad range of medical services, including physician, laboratory, hospital outpatient, and durable medical equipment (DME). Home oxygen equipment is covered under the Part B DME benefit. The Centers for Medicare & Medicaid Services (CMS)—the agency within HHS that administers the Medicare program—defines DME as equipment that (1) can withstand repeated use, (2) is primarily and customarily used to serve a medical purpose, (3) generally is not useful to an individual in the absence of an illness or injury, and (4) is appropriate for use in the home. See 42 CFR § 414.202

[5]Expenditures are the sum of total allowed charges for home oxygen.

[6]Beneficiaries are also responsible for an annual deductible for Part B services, which include home oxygen equipment and services. The deductible was $135 per year in 2008 and 2009.

rates for home oxygen several times since 1998 and in 2006 instituted a cap that eliminates rental payments to suppliers after 36 months of a beneficiary's continuous use of equipment for the duration of its reasonable useful lifetime. In addition, Congress directed the Secretary of Health and Human Services to begin implementing a competitive bidding program for suppliers of certain durable medical equipment (DME), including home oxygen.

Industry groups claim that the OIG's 2006 analysis of the cost to supply home oxygen did not sufficiently account for the level of services suppliers deliver to beneficiaries. In addition, industry groups have raised objections to the 36-month rental cap because it both reduces suppliers' payments and requires them to provide services for as long as 24 months after the cap, even when a beneficiary relocates outside a supplier's service area.[7] These groups have also urged Congress to repeal requirements for competitive bidding, contending that it would force some suppliers out of business.[8]

You asked us to examine how Medicare pays for home oxygen and make recommendations for improving home oxygen payment policies. In this report, we (1) describe Medicare's payment methodology and rates for home oxygen and compare payments with estimated suppliers' costs, (2) compare Medicare's payment methodology and rates with those of other payers and examine how Medicare's use of other payers' methodologies and rates could affect its overall home oxygen spending, and (3) examine changes in Medicare beneficiaries' access to home oxygen.

[7]If a beneficiary relocates outside his or her current supplier's service area after reaching the 36-month rental cap, the existing supplier must arrange for the beneficiary to continue receiving home oxygen in the new location. This requirement does not apply if a beneficiary relocates prior reaching to the rental cap.

[8]H.R. 3790, introduced in the House of Representatives in the 111th Congress, would have repealed Medicare's DME competitive bidding program, however, the bill did not pass. A previous GAO report examined whether beneficiary access to certain types of home oxygen equipment was affected by the home oxygen payment rate reductions mandated by the Balanced Budget Act of 1997. Although GAO did not discover access problems, GAO recommended that CMS continue to monitor potential access issues. See GAO, *Medicare: Access to Home Oxygen Largely Unchanged; Closer HCFA Monitoring Needed*, GAO/HEHS-99-56 (Washington, D.C.: Apr. 5, 1999).

Scope and Methodology

To obtain contextual information about the home oxygen industry, we interviewed representatives from two industry associations representing suppliers; one association for respiratory care therapists; and an official from the HHS OIG. We also interviewed samples of private insurers and home oxygen suppliers of varying sizes about payment rates and operating practices, respectively; these were not statistically representative samples and information cannot be generalized to all insurers or suppliers.

To describe Medicare's payment methodology and rates for home oxygen, we reviewed relevant federal statutes, regulations, and guidance and discussed certain payment policies with Centers for Medicare & Medicaid Services (CMS) officials. To estimate suppliers' costs to provide home oxygen to Medicare beneficiaries—which generally include equipment acquisition; provision of required services such as equipment delivery and maintenance; and overhead—we obtained information from home oxygen equipment manufacturers, the Department of Veterans Affairs (VA), a group purchasing organization (GPO) in the DME industry, a 2006 HHS OIG report,[9] and a 2006 industry-funded report by Morrison Informatics, Inc.[10] The Morrison report stated that its cost data came from a survey of 74 home oxygen suppliers representing over 600,000 Medicare beneficiaries. We adjusted suppliers' equipment acquisition costs from the Morrison report for certain equipment types on the basis of more current prices we obtained from manufacturers, the VA, and a GPO. Where we adjusted suppliers' equipment acquisition costs, we used a range to reflect differences in manufacturers' prices and varying levels of volume discounts offered to suppliers. Because we could not measure directly the cost to suppliers for services and overhead, we generally relied on the self-reported data in the Morrison report for these costs.[11] We compared certain service costs from the Morrison report with information we collected during our review, such as manufacturers' recommended service intervals for home oxygen equipment, and adjusted the associated cost data when information was sufficient to warrant a change. We excluded costs associated with respiratory therapists' services as these costs are not

[9]HHS OIG, *Medicare Home Oxygen Equipment: Cost and Servicing*.

[10]Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy* (Mechanicsburg, Pa.: June 27, 2006).

[11]When we were unable to collect more current information, we used the cost data presented in the Morrison report and adjusted these figures to present them in 2009 dollars.

covered under Medicare's DME benefit.[12] These adjusted costs generally represent average costs as reported by suppliers and may overstate costs, particularly for the most efficient suppliers. We used a conservative approach to adjust cost data, making adjustments only in cases where we were able to collect sufficient information to justify an adjustment. For instance, in several cases we noted assumptions from the Morrison report that appeared to inappropriately increase suppliers' costs, but we were unable to collect sufficient information to justify an adjustment. We also adjusted Morrison report cost data subject to inflation, such as monthly overhead costs, to present them in 2009 dollars, despite the fact that suppliers may have become more efficient since 2006. Although we could not independently verify all components of reported costs, we determined these adjusted data were sufficiently reliable for our purposes.[13] To calculate suppliers' overall average cost for each beneficiary, we weighted the adjusted costs for equipment and covered services by the proportion of beneficiaries who used each type of equipment in 2008: portable, stationary, and new portable equipment that does not require delivery of oxygen refills. Together, select combinations of these equipment types were used by approximately 94 percent of home oxygen beneficiaries.[14]

To compare home oxygen payment methodology and rates for Medicare with those of other payers, we collected information for private insurers, the VA, and the round 1 rebid of Medicare's competitive bidding program. We applied the methodologies and rates of these payers to estimated 2009 Medicare home oxygen utilization to estimate what Medicare might have spent using the methods and rates of these other payers. We judgmentally selected eight private insurers. To do so, we contacted six of the eight largest private health insurance plans as identified by the Mossavar-Rahmani Center for Business & Government;[15] four of the six were willing

[12]These exclusions were based on Section 240.2 of the Medicare National Coverage Determinations Manual.

[13]The Morrison report offered the most recent information available on suppliers' costs at the time of our analysis. The authors of this report did not respond to our attempts to contact them.

[14]In 2008, approximately 4.4 percent of home oxygen beneficiaries used stationary liquid equipment and approximately 1.4 percent used only portable equipment. We did not generate separate cost estimates for beneficiaries using these types of equipment.

[15]Mossavar-Rahmani Center for Business & Government, John F. Kennedy School of Government, Harvard University, *Health Care Delivery Covered Lives—Summary of Findings* (Cambridge, Mass.: Mar. 11, 2007). Two insurers on the Kennedy School list had merged and another is divided among many entities that operate at the local level.

to share information about their home oxygen payment methodologies and rates. To ensure that our analysis was not limited to large national plans, we sought information from six regional insurers. We obtained information from four of the six regional insurers. We then applied all eight insurers' payment rates to estimated Medicare 2009 utilization to estimate what Medicare expenditures would have been using the private insurers' methodologies and rates.[16] To estimate 2009 Medicare home oxygen utilization, we first used available Medicare home oxygen claims for 2009, which we used to estimate total expenditures for the entire year. To account for the share of utilization associated with beneficiaries who were subject to the rental cap, for whom suppliers could not bill for equipment rental, we estimated the percentage of months that Medicare beneficiaries would be subject to the cap.[17]

We obtained information from the VA on its payment methodology and 2009 rates; we applied the estimate of Medicare utilization for 2009 to estimate what Medicare would have paid if it had used VA average payment amounts. A previous GAO comparison of Medicare and VA payment rates found that suppliers' administrative costs for billing Medicare were higher than those for billing the VA and that the more predictable volume of patients associated with the VA's contracts—which frequently give winning bidders the right to be the sole supplier for home oxygen beneficiaries in a given region or for a medical center—enabled suppliers to take advantage of economies of scale in the provision of home oxygen.[18] That report concluded that a 30 percent adjustment reflected the higher costs for suppliers of Medicare home oxygen beneficiaries, and for our current work we used this adjustment for the estimate of Medicare

[16]We used this method for seven of the eight insurers. For the method used for the eighth insurer, see app. I.

[17]The Medicare rental cap prohibited payment to suppliers for equipment rentals after the 36th month for the duration of the reasonable life of the equipment, which can not be less than 60 months. If the beneficiary still requires oxygen in month 61, payments resume if the supplier replaces the equipment (replacement equipment need not be new). On the basis of an examination of the claims history of beneficiaries who began using home oxygen in 2003, we estimated that 9.3 percent of portable equipment users and 10.1 percent of stationary equipment users in 2009 would have rented equipment for more than 36 months and less than 61 months and thus be subject to the cap.

[18]In many cases, the VA employs a competitive bidding process that awards exclusive contracts in specific VA regions or medical centers. In some cases, the VA awards contracts to multiple suppliers and each contractor is guaranteed a minimum amount.

expenditures, adjusting VA rates upward by 30 percent.[19] We then applied these adjusted VA payment rates to our estimate of Medicare's 2009 utilization to estimate what Medicare expenditures would have been if it had used the VA's rates, both with and without the 30 percent upward adjustment. We also estimated what Medicare would have spent for home oxygen services using the round 1 rebid payment rates from its competitive bidding program.

To examine changes in Medicare beneficiaries' access to home oxygen, we used the change in share of Medicare Part B beneficiaries using home oxygen from 2001 through 2008 as a proxy for access; however, we did not examine the appropriateness of home oxygen for the patients who received it.[20] We also examined the number of home oxygen suppliers to determine whether the number of suppliers changed over the period and also examined trends in the types of home oxygen equipment used by beneficiaries each year for 2001 through 2008. To assess the magnitude of the potential access problems faced by beneficiaries who move outside their supplier's service area in the months leading up to the 36-month rental cap, we examined the claims history for beneficiaries who began using oxygen in 2003. On the basis of our analysis of these data, we estimated the portion of home oxygen beneficiaries who move more than 30 miles after 24 months of continuous home oxygen use by measuring the distance from the center of their old and new zip codes.

We ensured the reliability of the Medicare claims data used in this report by performing appropriate electronic data checks and by interviewing agency officials and Medicare contractors who were knowledgeable about the data. We found the claims data were sufficiently reliable for the purpose of our analyses. Appendix I contains a more complete description of our methodology and assessment of data reliability.

[19]GAO, *Medicare: Home Oxygen Program Warrants Continued HCFA Attention*, GAO/HEHS-98-17 (Washington, D.C.: Nov. 7, 1997).

[20]Medicare beneficiaries must be reevaluated and recertified within 3 months or 1 year of continuous home oxygen use, depending on the level of oxygen in the blood at the time of the initial certification. Once recertification establishes a continued need for supplemental oxygen, subsequent recertifications are not routinely required. However, some evidence suggests that home oxygen patients, particularly those who receive supplemental oxygen to treat an acute illness, such as pneumonia, should be evaluated more frequently to avoid payment for oxygen that is not medically necessary ("Implementation of an Oxygen Therapy Clinic to Manage Users of Long-term Oxygen Therapy," *CHEST Journal* [November 2002], pp. 1661-67). For example, the VA reevaluates its beneficiaries after 6 months of home oxygen use, and then annually.

We conducted this performance audit from July 2009 through January 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Supplemental oxygen helps many individuals who have difficulty breathing as a result of conditions such as chronic obstructive pulmonary disease (COPD).[21] Medicare covers equipment and supplies necessary to provide supplemental oxygen if the beneficiary meets all of the eligibility criteria. The beneficiary must have (1) an appropriate diagnosis, such as COPD; (2) clinical tests documenting reduced levels of oxygen in the blood; and (3) a certificate of medical necessity, signed by a physician, prescribing the volume of supplemental oxygen required in liters per minute and documenting whether the patient should receive a portable unit in addition to a home-based stationary unit.

Home Oxygen Payment Legislation

Before 1989, Medicare paid for home oxygen using the customary, prevailing, and reasonable charge methodology that governed DME reimbursement at the time. A 1987 OIG report suggested this methodology may not accurately reflect the acquisition costs of oxygen equipment and thus may overpay suppliers.[22] In 1989, the Health Care Financing Administration (HCFA)—later renamed CMS—implemented a fee schedule for home oxygen based on the average payment that Medicare made in each state in 1986.

After additional concerns were raised about Medicare home oxygen payment rates, Congress took action several times beginning in 1997 to reduce or limit these rates.

[21]COPD refers to a group of lung diseases that block airflow and make it increasingly difficult to breathe. Emphysema and chronic bronchitis are the two main conditions that make up COPD.

[22]HHS OIG, *Medicare Reimbursement for At-Home Oxygen Care*, OAI-04-87-00017 (December 1987).

- The Balanced Budget Act of 1997 (BBA) reduced home oxygen rental payment rates by approximately 30 percent and eliminated annual payment rate updates through 2002.[23] The BBA also required CMS to test competitive bidding for selected DME, including home oxygen equipment, through demonstration projects.[24] The demonstrations were conducted from 1999 to 2002 and showed that competitive bidding would save Medicare money.

- The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) based home oxygen payment rates on the median rate paid by private insurers participating in the Federal Employees Health Benefits Program, effectively reducing payments by 8 to 9 percent depending on the type of oxygen equipment. The MMA froze payment rates (from 2004 through 2008) and authorized competitive bidding for certain DME, including home oxygen equipment. The MMA also required that CMS establish and implement quality standards for DME suppliers.[25] CMS was required to phase in the competitive bidding program in 2007 in 10 bidding areas.[26] The program would be expanded in future rounds. Round 1 of the competitive bidding program began in May 2007.[27]

- Effective January 1, 2006, the Deficit Reduction Act of 2005 (DRA) limited rental payments to suppliers of home oxygen equipment to a period of

[23]Pub. L. No. 105-33, §§ 4551, 4552, 111 Stat. 251, 457, 459. The BBA reduced home oxygen payment rates to 75 percent of the 1997 rate for 1998, and 70 percent of the 1997 rate for each subsequent year.

[24]Pub. L. No. 105-33, § 4319, 111 Stat. 392.

[25]Pub. L. No. 108-173, § 302, 117 Stat. 2066, 2223. CMS authorized independent accreditation organizations to certify that suppliers adhere to the quality standards. Home oxygen suppliers were required to become accredited by October 1, 2009, in order to receive payment from Medicare.

[26]The 10 competitive bidding areas, selected from the largest metropolitan statistical areas, were Charlotte (Charlotte-Gastonia-Concord, North Carolina and South Carolina); Cincinnati (Cincinnati-Middletown, Ohio, Kentucky, and Indiana); Cleveland (Cleveland-Elyria-Mentor, Ohio); Dallas (Dallas–Fort Worth–Arlington, Texas); Kansas City (Kansas City, Missouri and Kansas); Miami (Miami–Fort Lauderdale–Miami Beach, Florida); Orlando (Orlando-Kissimmee, Florida); Pittsburgh (Pittsburgh, Pennsylvania); Riverside (Riverside–San Bernardino–Ontario, California); and San Juan (San Juan–Caguas–Guaynabo, Puerto Rico).

[27]In May 2008, CMS announced the final winning suppliers. Contracts with winning suppliers were to take effect July 1, 2008.

36 months of continuous use, after which ownership would be transferred to the beneficiary.[28]

- The Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) repealed the transfer of ownership to beneficiaries but continued the 36-month rental cap.[29] Under MIPPA, after the cap takes effect the supplier must continue to furnish home oxygen equipment during any period of medical need for the remainder of the reasonable useful lifetime of the equipment.[30] Therefore, for up to 24 months after the rental cap, suppliers must continue to provide home oxygen equipment and services and to ensure equipment is in good working order, but they do not receive additional rental payments.[31] Effective June 30, 2008, MIPPA delayed the competitive bidding program, terminated the contracts awarded by CMS to suppliers in round 1, and required CMS to repeat the competition in 2009—referred to as the competitive bidding program round 1 rebid.[32] Beginning January 1, 2009, MIPPA also required a 9.5 percent cut in payment to home oxygen suppliers nationwide to offset the cost of delaying competitive bidding.[33]

Home Oxygen Equipment and Services

Patients can obtain supplemental oxygen through three methods, or modalities: (1) oxygen concentrators, which are electrically powered machines that extract oxygen from the air; (2) liquid oxygen systems, which store oxygen in large reservoirs at a very low temperature; and (3) compressed gaseous systems, which administer compressed oxygen directly from cylinders. If the modality is not specified by the physician,

[28]Pub. L. No. 109-171, § 5101, 120 Stat. 4, 37.

[29]Pub. L. No. 110-275, § 144, 122 Stat. 2494, 2544.

[30]The reasonable useful lifetime of home oxygen equipment—at least 60 months—is not based on the chronological age of the equipment. It begins when the supplier first delivers equipment to the beneficiary, meaning suppliers can provide beneficiaries with used equipment.

[31]While equipment is subject to the rental cap, Medicare pays suppliers separately for two services: (1) routine maintenance and (2) delivery of oxygen refills.

[32]The nine competitive bidding areas selected for the round 1 rebid were the same areas selected for the initial round 1 bid in 2007, except that Puerto Rico was excluded from the rebid. The rebid occurred from October through December 2009 and the new payment rates were released in July 2010. CMS projects the new rates, effective in the nine competitive bidding areas January 1, 2011, will result in average savings of 32 percent compared to the 2010 payment rates for the DME included in the program.

[33]Pub. L. No. 110-275, § 154, 122 Stat. 2560.

the supplier may choose the modality used to provide oxygen to the beneficiary. Each modality can provide oxygen with stationary equipment or portable equipment. Liquid oxygen and compressed gaseous systems (both stationary and portable) require ongoing delivery of oxygen refills by suppliers.

Approximately 99 percent of all home oxygen beneficiaries have stationary units, and approximately two-thirds of beneficiaries have portable units as well. Over 90 percent of home oxygen beneficiaries use oxygen concentrators. However, liquid oxygen systems may be more appropriate for patients requiring a high-liter flow. Oxygen-generating portable equipment (OGPE) is a new, alternative portable oxygen technology that consists of portable oxygen concentrators and transfilling equipment.[34] Unlike traditional portable equipment, OGPE does not require ongoing delivery of oxygen refills.[35] Effective January 1, 2007, CMS established a separate payment class for OGPE. (See table 1.)

Table 1: Home Oxygen Equipment Covered by Medicare, and Percentage of Beneficiaries Using Each Type of Equipment

Equipment	Modality	Percentage of Medicare home oxygen beneficiaries, 2008[a]	Requires ongoing delivery of oxygen refills
Stationary	Oxygen concentrator	94	No
	Liquid system	4	Yes
	Gaseous system	<1	Yes
Portable, traditional	Liquid system	7	Yes
	Gaseous system	56	Yes
Portable, OGPE	Portable oxygen concentrator	1	No
	Transfilling equipment[b]	4	No

Source: GAO analysis of 2008 Medicare claims data and payment policies for home oxygen equipment.

[a]We used 2008 utilization data because complete Medicare claims from 2009 were not available at the time of our review. The total does not add to 100 percent because many beneficiaries use both stationary and portable oxygen equipment.

[34]Transfilling equipment describes a feature of a stationary oxygen concentrator that allows beneficiaries to fill their own portable gaseous cylinders in the home. This feature may be integrated into the stationary concentrator or it may be a separate component.

[35]We refer to portable liquid and gaseous systems throughout the report as "traditional portable equipment" in order to differentiate them from OGPE.

[b]Transfilling equipment is not technically a modality. It is a feature of a stationary oxygen concentrator that allows beneficiaries to fill their own portable gaseous cylinders in the home. This feature may be integrated into the stationary concentrator or it may be a separate component.

The size and type of businesses that supply home oxygen to Medicare beneficiaries vary. Suppliers range from small entities, with one or two employees, to large publicly traded corporations and may specialize in home oxygen and other respiratory services or supply other types of medical equipment, such as wheelchairs, walkers, and hospital beds.

Medicare's Payment for Home Oxygen Overcompensates Suppliers for Most Frequently Used Equipment Type

Medicare's payment for home oxygen overcompensates suppliers for providing stationary oxygen concentrators—the most frequently used equipment type. Available data indicated that Medicare's payments for stationary concentrators were high relative to the estimated cost of this equipment and the minimal servicing it requires. Medicare's overall payments for home oxygen also exceeded estimated suppliers' costs, largely as a result of payment rates for stationary concentrators.

Medicare Bundles Payment for Refills with Rental Payment for Stationary Equipment and Caps Payment for Equipment after 36 Months

For beneficiaries who qualify for home oxygen, Medicare pays suppliers a monthly rate that covers rental of a stationary, home-based unit and all related services and supplies. Medicare also pays a separate rate for rental of a portable unit if one is supplied to the beneficiary. In 2009, Medicare's monthly payment rate to suppliers was $176 for stationary equipment. The payment rate for stationary equipment is combined, or bundled, to cover use of the equipment, supplies such as tubing, and services such as equipment delivery, setup, periodic maintenance, and patient education. This rate also covers oxygen refills for both stationary and portable equipment, although stationary concentrators—the most frequently used type of stationary equipment—do not require refills and approximately one-third of home oxygen beneficiaries do not use portable equipment. Medicare makes an additional monthly rental payment (referred to as an add-on payment) to suppliers that furnish medically necessary portable oxygen; this payment covers the cost of equipment only. In 2009, Medicare's add-on rate was $29 for traditional portable equipment and $52 for OGPE.[36]

[36]OGPE is a type of portable equipment.

Medicare began capping rental payments for home oxygen equipment after 36 months of continuous use by a beneficiary as of January 1, 2009.[37] For months 37 through 60 of continuous home oxygen use, suppliers are required to continue to furnish, maintain, and service oxygen and oxygen equipment, but they do not receive additional rental payments for equipment.[38] For the 24 months after the cap is reached, Medicare pays suppliers separately for two services: (1) a routine maintenance payment of $30, on average, every 6 months for stationary oxygen concentrators and OPGE;[39] and (2) a monthly payment of $77 for equipment requiring delivery of oxygen refills, namely liquid and gaseous equipment.[40] Thus, for the beneficiaries who reached the 36-month rental cap in 2009, monthly payments to suppliers decreased from $176 for stationary concentrators and $52 for OGPE (neither of which needs oxygen refills) to approximately $5 for each, on average. Payments for traditional portable equipment (which requires refills) made in months 37 through 60 increased from $29 to $77. (See fig. 1.) Suppliers are required to continue providing home oxygen after the beneficiary has used oxygen rental equipment continuously for 36 months, even if the beneficiary relocates outside the supplier's service area. This may require suppliers to subcontract with another supplier in the beneficiary's new location. Small or regional suppliers may have more difficulty entering into such arrangements as they may lack the expertise or resources. However, if a beneficiary relocates prior to reaching the 36-month rental cap, it is the beneficiary's responsibility to find another supplier.

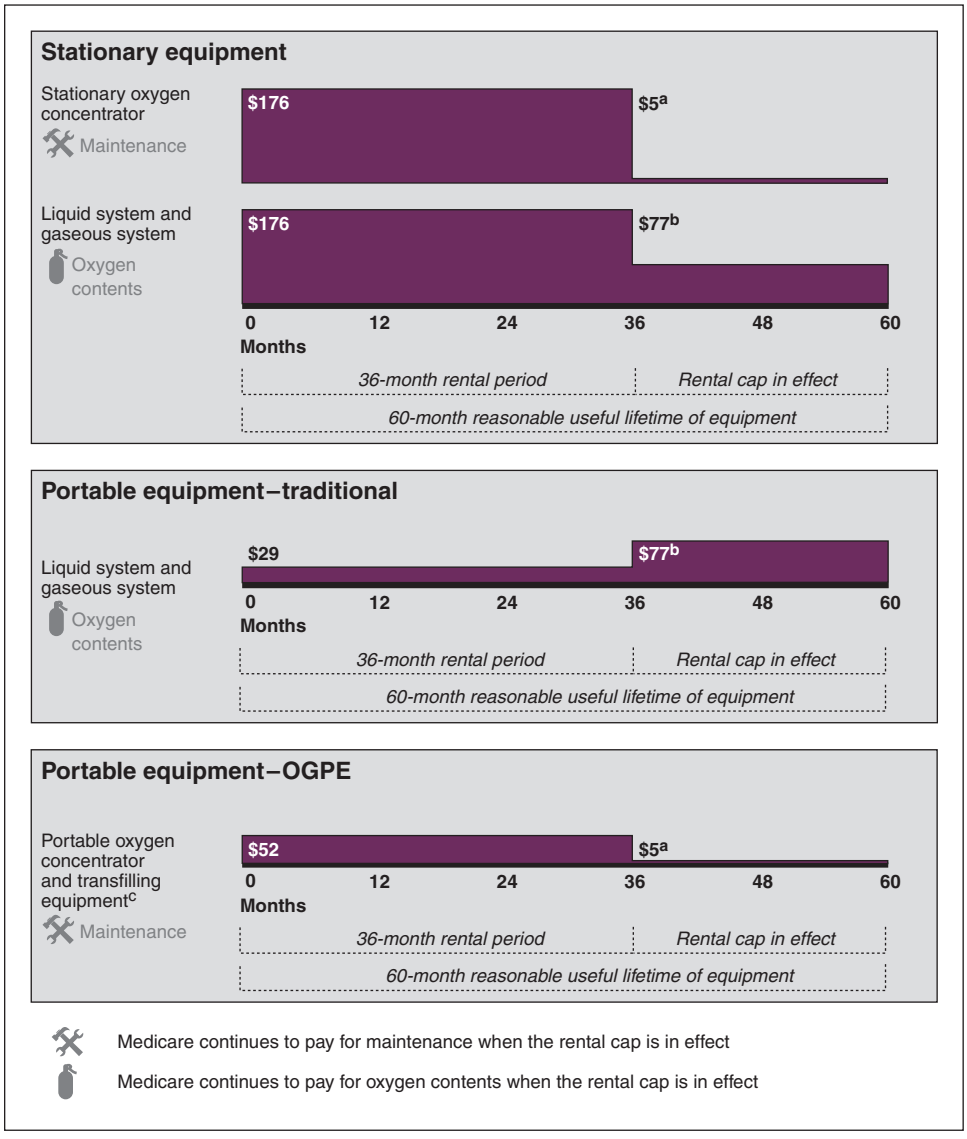
[37]Effective January 1, 2006, the DRA limited rental payments for home oxygen equipment to a period of 36 months of continuous use. Therefore, beneficiaries using home oxygen on a continuous basis since January 1, 2006, reached the 36-month rental cap on January 1, 2009.

[38]The reasonable useful life of home oxygen equipment is at least 60 months.

[39]In 2009, Medicare's maintenance payment for oxygen equipment after the 36-month rental cap was reached varied by state, ranging from $27 to $51 every 6 months. The average amount for all states based on claims completed before December 31, 2009, was $30 every 6 months. For equipment furnished on or after July 1, 2010, Medicare established a single maintenance payment amount of $66.

[40]Because Medicare bundles payment for oxygen refills and maintenance into the monthly rental fee for stationary equipment, separate payment for oxygen refills and maintenance is made only after a beneficiary reaches the 36-month rental cap, when equipment rental payments stop. Furthermore, separate payments for oxygen refills and maintenance end in the event that a beneficiary receives replacement stationary oxygen equipment, and a new 36-month payment period begins.

Figure 1: Medicare Payment for Home Oxygen Equipment and Services before and after the 36-Month Rental Cap, 2009



Source: GAO analysis of CMS data.

[a]The average monthly payment for maintenance after the 36-month rental cap was calculated by dividing the average maintenance payment in 2009 ($30) by 6, since Medicare allows payment for maintenance only once every 6 months after the rental cap.

[b]Suppliers are responsible for providing all oxygen refills the patient needs in 1 month, so, if necessary, the supplier must make multiple deliveries in 1 month to provide oxygen, but can only bill monthly. A maximum of 3 months of oxygen refills can be delivered at one time; however, suppliers should have proof for each actual delivery of refills. In all cases, separate payment for oxygen refills (stationary and portable) ends in the event that a beneficiary receives replacement stationary oxygen equipment, and a new 36-month stationary oxygen equipment payment period begins.

[c]Transfilling equipment describes a feature of a stationary oxygen concentrator that allows beneficiaries to fill their own portable gaseous cylinders in the home. This feature may be integrated into the stationary concentrator or it may be a separate component.

Because Medicare's home oxygen payment cycle and application of the rental cap are determined by the length of time a single beneficiary uses a piece of equipment rather than by the equipment's chronological age, if one beneficiary uses a stationary concentrator for 36 months and then no longer needs home oxygen, the supplier can transfer the equipment to another beneficiary, and Medicare's count of months for the equipment's reasonable useful life restarts. Based on our analysis of historical claims, less than 25 percent of beneficiaries reach the 36-month rental cap.[41] Thus, in the majority of cases, home oxygen equipment is returned to suppliers before the end of the 36-month rental period, enabling suppliers to furnish the equipment to other beneficiaries and restart the payment cycle.[42] After 60 months of home oxygen use, if the supplier exchanges the equipment, a new 36-month rental period begins.

Medicare's Payment Rates Are Not Aligned with the Costs of Providing Most Frequently Used Types of Equipment

Based on analysis of available data, Medicare's payment rates for the most frequently used types of home oxygen equipment—namely, stationary oxygen concentrators and traditional portable equipment—are not aligned with the distinct costs of providing each type of equipment. We found that Medicare's rates for stationary concentrators substantially exceeded estimated suppliers' costs, while the add-on rate for traditional portable equipment, in isolation, was below estimated costs. Similarly, Medicare's add-on rate for OGPE, a less frequently used type of portable equipment, was generally low compared to estimated suppliers' costs. Although Medicare's add-on rates were not designed to cover the entire cost of providing portable equipment, we compared costs and these rates in isolation for illustration purposes. Cost estimates for these equipment types were based on adjusted data from a 2006 industry-funded report. (App. II describes this analysis.)[43]

[41]This figure is based on a 5-year analysis of Medicare claims for home oxygen beneficiaries who began using stationary equipment in 2003. Nearly all Medicare home oxygen beneficiaries used stationary equipment.

[42]A 2006 HHS OIG study reported that suppliers provided used equipment to 73 percent of sampled beneficiaries (OEI-09-04-00420).

[43]Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy*.

It is difficult to estimate with certainty the costs of providing home oxygen since these costs may vary depending on suppliers' size and the range of services provided. According to one major manufacturer, suppliers that purchase large quantities of equipment receive discounts of up to 40 percent off the price offered to companies making smaller purchases. Some suppliers may also provide more services than Medicare covers, in part as a means of competing for home oxygen beneficiaries, which in turn increases their costs.[44] For example, Medicare does not pay for respiratory care therapist services under its DME benefit.[45] However, one large supplier reported using a service-focused business model, providing periodic clinical assessments by respiratory care therapists,[46] while a small supplier we contacted did not provide such additional services.

Following are Medicare's payment rates for three equipment types, compared with the range of estimated suppliers' costs. These estimates were generally based on average costs as reported by suppliers in an industry-funded report and may overstate costs, particularly for the most efficient suppliers. We used a conservative approach to adjust cost data, making adjustments only in cases where we were able to collect information precise enough to justify a specific adjustment.

Costs Associated with Stationary Oxygen Concentrators. Medicare's average monthly payment of $159 for providing a stationary oxygen concentrator—the most frequently used type of equipment—was substantially higher than estimated monthly suppliers' costs of $99 to $108.[47] This adjusted cost estimate covers equipment acquisition

[44]Industry group representatives told us that some suppliers compete on the basis of services, not costs, because Medicare generally pays fixed rates for home oxygen equipment. We excluded costs for services not required by Medicare in the adjusted cost estimates.

[45]According to the Medicare National Coverage Determinations Manual, the DME benefit provides coverage of home use of oxygen and oxygen equipment, but does not include a professional component in the delivery of such services.

[46]This company's quarterly report to the U.S. Securities and Exchange Commission for the period ending September 30, 2009, noted that the company's respiratory therapists generally provide nonreimbursable and discretionary clinical follow-up with the customer. This report also stated that respiratory therapists enhance the company's business relative to its competitors that do not employ these personnel.

[47]In 2009, Medicare paid a monthly rate of $176 through the first 36 months and approximately $5 per month after the 36-month rental cap. The average payment amount accounts for the 36-month rental cap by adjusting payment amounts according to the approximate number of beneficiaries affected by the cap at a given point in time.

(stationary oxygen concentrator and backup unit);[48] provision of covered services such as equipment delivery, patient education, scheduled and unscheduled maintenance; and overhead costs.[49] Based on interviews with major manufacturers of home oxygen equipment, recommended service intervals for scheduled maintenance of stationary concentrators range from once every 6 months to once every 3 years or between patients, depending on the model.[50]

Costs Associated with Traditional Portable Equipment. On the basis of industry-supplied data, we estimated that suppliers incur an additional $42 to $83 per month to provide traditional portable equipment in conjunction with a stationary concentrator. In 2009, Medicare's average monthly payment for traditional portable equipment was approximately $33.[51] The adjusted estimate covers the acquisition cost of portable equipment as well as the additional cost of delivering oxygen refills, including technician salaries, transportation costs, and the cost of the oxygen.[52] The cost of providing traditional portable equipment in part depends on how often a supplier delivers oxygen refills. Suppliers can reduce these costs by providing more refills each visit, which reduces the number of deliveries that are necessary.[53]

[48]Since oxygen concentrators are electrically operated, suppliers may provide backup tanks for use in the event of a power failure.

[49]On average, approximately 17 percent of adjusted costs were equipment-related; 40 percent were service-related; and 43 percent were for overhead. Since nearly all beneficiaries use stationary equipment, we attributed costs that were not easily split between different equipment types, such as equipment delivery, scheduled and unscheduled maintenance, and overhead, to the cost of providing a stationary concentrator.

[50]Medicare's quality standards incorporate guidelines of the American Association of Respiratory Care, recommending that oxygen equipment be serviced in accordance with manufacturer's recommendations or at least once per year.

[51]This payment rate was not designed to cover the entire cost of providing portable equipment, since delivery of oxygen refills is covered under the stationary rate for the first 36 months of continuous use.

[52]On average, approximately 49 percent of costs were equipment-related and 51 percent were service-related. Since certain services and overhead costs are included in the cost of providing a stationary concentrator, this estimate does not represent the total monthly cost of providing traditional portable equipment in isolation. According to Medicare claims data, less than 2 percent of home oxygen beneficiaries used traditional portable equipment without an accompanying home-based stationary unit in 2008.

[53]Suppliers may deliver up to 3 months' worth of oxygen refills at one time.

Costs Associated with OGPE. On the basis of industry-supplied data, we estimated that suppliers incur an additional $45 to $67 per month to provide OGPE in conjunction with a stationary concentrator.[54] In 2009, Medicare's average monthly payment for OGPE was approximately $47. Although OGPE is significantly more expensive than traditional portable equipment, one major manufacturer reported that the increased costs could be offset in as few as 9 to 10 months due to decreased servicing costs, since OGPE does not require delivery of oxygen refills. While the share of beneficiaries using OGPE is growing, the majority continue to use traditional portable equipment. In 2008, approximately 5 percent of home oxygen beneficiaries used OGPE in addition to their stationary concentrators. Home oxygen suppliers we interviewed told us that they do not provide OGPE or provide it on a limited basis because of the cost; Medicare's payment rates; home oxygen patients' reports that they are comfortable with their current equipment; and suppliers' preference for traditional portable equipment because ongoing deliveries support a service-based business model. On the basis of our cost estimates, OGPE—which does not require oxygen refills—could be a cost-effective alternative to traditional portable equipment for suppliers that make frequent deliveries to provide oxygen refills for liquid or gaseous systems.

Overall Medicare Payments for Home Oxygen Exceeded Estimated Suppliers' Costs

On the basis of industry-supplied data, we estimated that suppliers' average monthly costs to provide home oxygen equipment and covered services in 2009 ranged from $126 to $161 per beneficiary.[55] Medicare's average monthly payment per beneficiary in 2009 was approximately $181—up to 44 percent higher than suppliers' overall costs.[56] Although some of the misalignment between Medicare's payment and estimated suppliers' costs for individual equipment types was corrected when

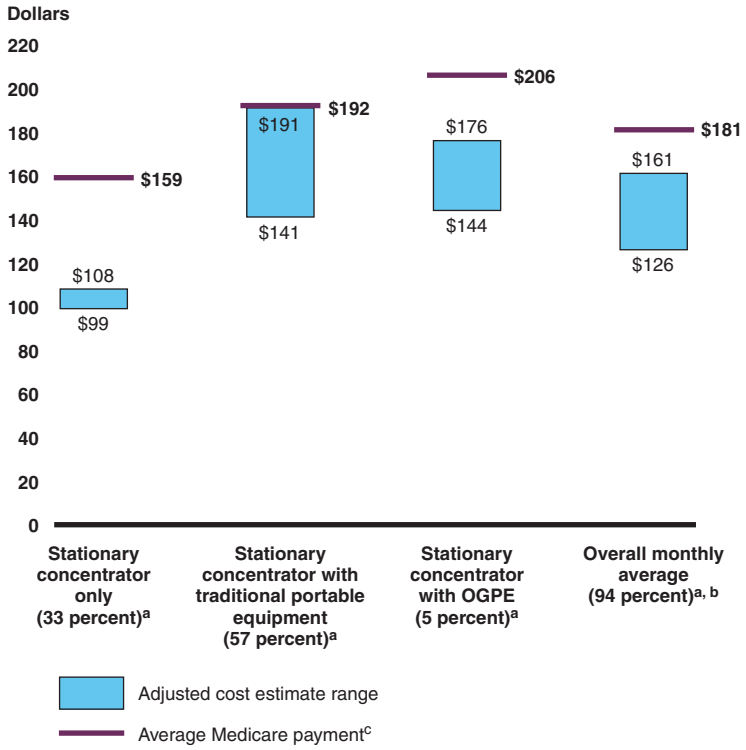
[54]Since certain services and overhead costs are included in the cost of providing a stationary concentrator, this estimate does not represent the total monthly cost of providing OGPE in isolation. According to Medicare claims data, less than 0.1 percent of home oxygen beneficiaries used OGPE without an accompanying home-based stationary unit in 2008.

[55]This cost estimate is weighted based on the number of home oxygen beneficiaries who used each equipment type—stationary concentrator; traditional portable; and OGPE—in 2008. We used 2008 Medicare claims data to estimate utilization for each equipment type because complete Medicare claims from 2009 were not available at the time of our review.

[56]This payment estimate is weighted based on the number of home oxygen beneficiaries who used each equipment type in 2008. It also accounts for the approximate proportion of Medicare beneficiaries affected by the rental cap for each equipment type, and adjusts payment amounts accordingly.

comparing costs and payments for combinations of home oxygen equipment used by beneficiaries—such as a stationary concentrator with traditional portable equipment—Medicare's overall average payments remained high compared to suppliers' overall costs. This largely results from Medicare's payment rates for stationary concentrators. In 2008, nearly one-third of home oxygen beneficiaries used only stationary concentrators without an accompanying portable unit (see fig. 2). For these beneficiaries, suppliers received a bundled payment that included an amount for oxygen refills, even though suppliers did not provide refills. Bundling payment for refills with payment for stationary concentrators also burdens the home oxygen beneficiaries who use only stationary concentrators, as they pay 20 percent coinsurance on the bundled rate. For instance, beneficiaries who use only a stationary concentrator for 36 months will pay over $1,200 in coinsurance, based on Medicare's 2009 payment rate. If Medicare reduced payment for stationary concentrators to $110 per month, these beneficiaries would pay nearly $500 less in coinsurance over the 36-month period.

Figure 2: Estimated Suppliers' Monthly Costs per Beneficiary for Equipment and Covered Services, and Medicare's Average Monthly Payment for Selected Combinations of Home Oxygen Equipment, 2009



Source: GAO analysis of industry and CMS data.

Notes: Cost estimates are based on GAO analysis of Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy for the American Association for Homecare* and Medicare claims data. Estimates were generally based on average costs as presented by suppliers in the Morrison report and may overstate costs, particularly for the most efficient suppliers.

[a]The percentage in parentheses indicates the share of Medicare home oxygen beneficiaries who used the selected combination of home oxygen equipment in 2008. We used 2008 utilization data because complete Medicare claims from 2009 were not available at the time of our review.

[b]We weighted overall monthly costs and payments by the percentage of beneficiaries who used each equipment type in 2008. The overall percentage does not equal 95 percent due to rounding. In 2008, approximately 4.4 percent of home oxygen beneficiaries used stationary liquid equipment, and approximately 1.4 percent used only portable equipment. We did not generate cost estimates for beneficiaries using these equipment types.

[c]The average 2009 Medicare payment accounts for the approximate proportion of Medicare beneficiaries affected by the rental cap for each equipment type, and adjusts payment amounts accordingly. These payment amounts are projected based on analysis of available Medicare claims data.

Using Other Payment Methodologies and Rates Could Lower Medicare Home Oxygen Spending

Most payers we interviewed did not cap rental payments for home oxygen equipment, and some national payers paid less than Medicare, suggesting that Medicare could spend less, even without a rental cap. The experience of the VA and round 1 of Medicare's competitive bidding program suggest that setting rates through competitive bidding could also lower spending.

Private Insurers' Payment Methodologies Were Generally Similar to Medicare's

The eight private insurers we spoke with—four national and four regional—used payment methodologies for home oxygen similar to Medicare's, except that seven of the eight did not use a rental cap. Like Medicare, they generally rented equipment and bundled payments for maintenance and oxygen refills with equipment rentals. Four of the eight insurers paid home oxygen suppliers using only a fee schedule—meaning payment rates did not vary by supplier—and three of these did not vary the payment by modality. For the four private insurers that did not use a fee schedule, payment rates varied depending on the supplier contract.

Competitive Bidding in the VA and Medicare Has Produced Lower Payment Rates

The VA's home oxygen payment methodology differs from Medicare's in important ways—its use of decentralized competitive bidding and the fact that it does not use a rental cap. VA's use of decentralized competitive bidding means that each VA region or medical center conducts competitive bidding for its specific geographic area. The VA's competitive bidding process frequently awards exclusive contracts, which give suppliers a guaranteed pool of beneficiaries, which makes volume more predictable. With decentralized competitive bidding, VA contracts vary in both covered services and payment rates; however, the VA's average rates are considerably lower than Medicare's, even after accounting for additional services, services that are paid separately under the VA system, and Medicare's rental cap, which the VA does not use.[57]

In contrast with the VA's frequently exclusive contracts, Medicare's new competitive bidding program must award several contracts in the same geographic area. Medicare's approach provides beneficiaries with a choice of suppliers and still produces rates considerably lower than Medicare's current rates.

[57]For example, some VA contracts include the services of a respiratory therapist, which Medicare does not cover.

Some Other Methodologies and Payment Rates Could Have Lowered Medicare Spending in 2009

In 2009, the first year payments were capped, we estimated that Medicare's Part B spending for home oxygen was about $2.15 billion—down from $2.96 billion in 2008.[58] (For a more detailed discussion of our estimate for 2009 expenditures, see app. I.) Using private insurers' methodologies and payment rates, we estimated that Medicare home oxygen spending for 2009 would have ranged from $1.48 billion to $2.90 billion. The lower end of the range represents the methodologies and rates of two of the four national insurers—those that are most similar to Medicare in size and volume of business. If Medicare used the methodology and rates of the lowest-paying insurer, it could have saved up to $670 million, or about 31 percent, annually.

Further, applying average VA payment rates (obtained through competitive bidding) to estimated Medicare utilization rates, Medicare's spending could have been lower—approximately $1.34 billion, which is a savings of approximately $810 million, or about 38 percent. Previous comparisons of VA and Medicare home oxygen expenditures by HCFA and us assumed that suppliers' administrative costs were generally lower when providing home oxygen to VA patients than to Medicare beneficiaries.[59] The VA's frequently exclusive contracts make volume more predictable as well as allow suppliers economies of scale in the provision of home oxygen. As a result of higher administrative costs and the lack of exclusive contracts, the HCFA and GAO analyses increased VA payments by 30 percent to account for the differences and found Medicare's payment rates in the mid-1990s were still well above those of the VA. Although this assumption is more than a decade old, industry representatives told us that the costs of serving VA patients are still below those of Medicare due to differences in administrative costs. Using this same assumption of a 30 percent differential, our estimate of Medicare spending for 2009 using VA payment methods was just under $1.74 billion, which is below estimated Medicare expenditures and could have resulted in savings of approximately $410 million.

[58]In addition to the rental cap, payment rates were reduced 9.5 percent as a result of the postponement in competitive bidding, and rates for stationary equipment were reduced an additional 2.53 percent as a result of a budget-neutrality adjustment in 2009. See 42 U.S.C. § 1395m(a)(9)(D)(ii).

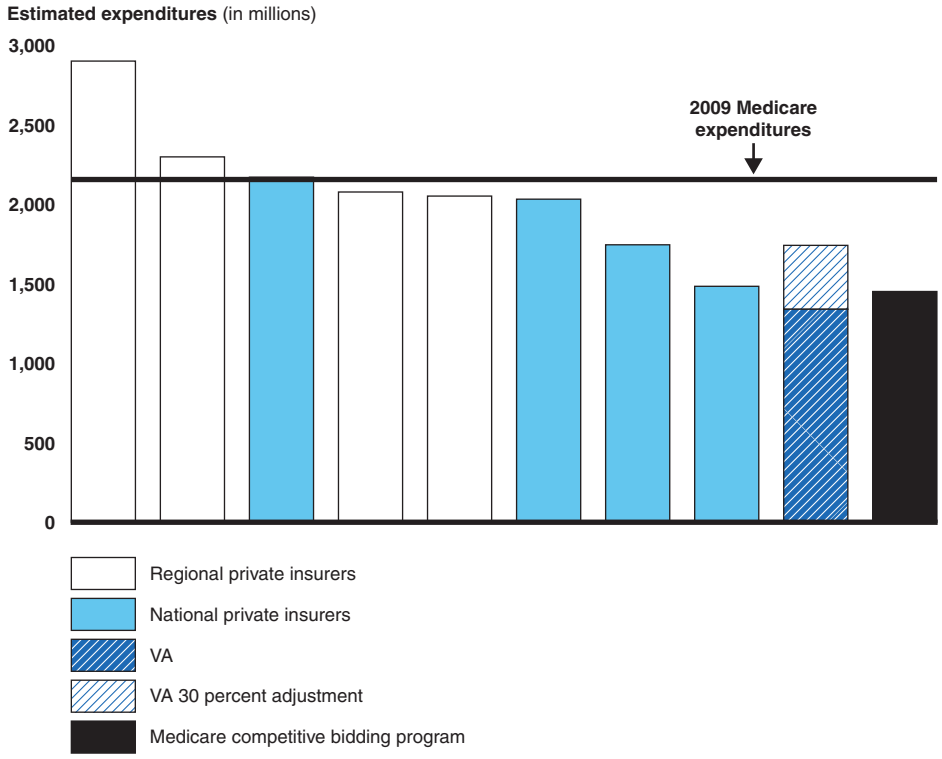
[59]Medicare Program; Special Payment Limits for Home Oxygen, 62 Fed. Reg. 38100 (July 16, 1997); GAO/HEHS-97-120R.

If the round 1 rebid rates were applied to Medicare's 2009 nationwide billed utilization, Medicare spending for home oxygen would have been $1.45 billion, which could have resulted in savings of approximately $700 million, or about 33 percent.[60] The actual effect of competitive bidding may vary from these estimates since rates for other areas may be different and competitive bidding may not be implemented in all areas.

Figure 3 shows what Medicare could have spent using other payers' methodologies.

[60]This is in addition to the 9.5 percent reduction in payments to offset the postponed implementation of competitive bidding. Consistent with law, the rates for round 1 of Medicare's competitive bidding program could not exceed the Medicare fee schedule rates.

Figure 3: Estimated 2009 Medicare Expenditures If Other Payment Methodologies Were Applied Nationwide



Sources: GAO analysis of data provided by private insurers, the VA, and CMS.

Note: 2009 Medicare expenditures were estimated from partial-year data. The bars depict estimates of what Medicare would have spent in 2009 if it had adopted the alternative payment rates and methodologies. Expenditure estimates are based on estimated 2009 Medicare utilization and payment methodology and rate information provided by private insurers, the VA, and CMS. Estimates for the competitive bidding program are based on average rates across the round 1 competitive bidding areas and assume these rates were implemented nationwide.

Utilization Trends Indicate That Overall Access to Medicare Home Oxygen Has Not Diminished, but Some Beneficiaries May Face Access Challenges

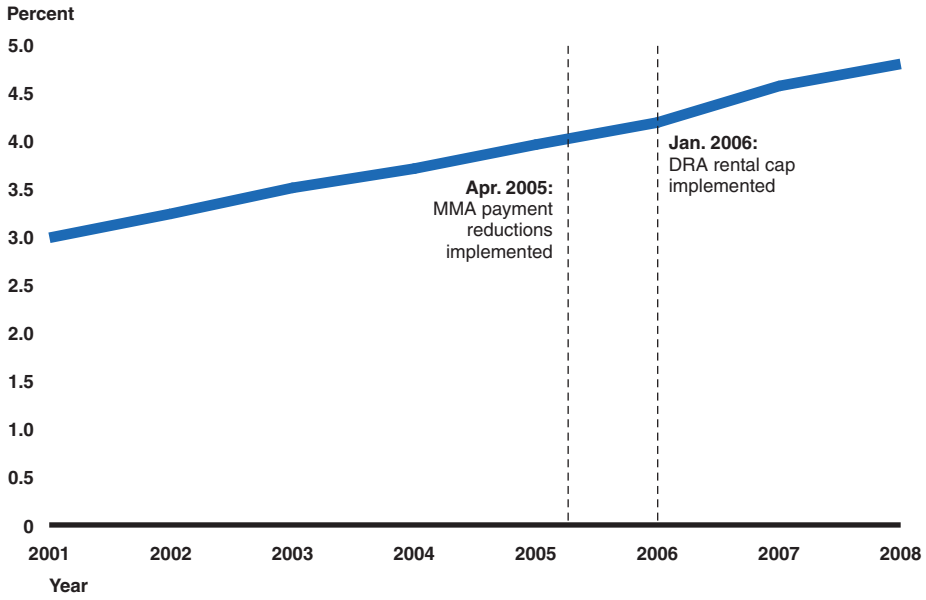
The increase in utilization of Medicare home oxygen for 2001 through 2008 suggests that overall beneficiary access has not diminished, although some beneficiaries may face access challenges. A decrease in the use of portable equipment and liquid oxygen systems, and a corresponding increase in the use of only stationary oxygen concentrators during the period, may indicate that Medicare's payment system encourages the provision of stationary concentrators, and discourages provision of other types of equipment. Additionally, CMS may consider future changes if beneficiaries who relocate before reaching the cap have problems accessing oxygen.

Home Oxygen Utilization Grew Even as Payment Rates Decreased

The proportion of Medicare Part B beneficiaries receiving home oxygen increased steadily from nearly 3 percent to 4.8 percent from 2001 through 2008. During the same period, Medicare payment rates for home oxygen were cut twice as a result of the MMA and the DRA. The increase in utilization despite two payment reductions suggests that overall access to home oxygen has not diminished.[61] (Fig. 4 shows the percentage of Part B beneficiaries using home oxygen during the 2001 through 2008 period, and the effective dates of the payment decreases resulting from the MMA and DRA.)

[61]The share of Part B beneficiaries receiving home oxygen in 2008 ranged from 1.6 percent of beneficiaries in Puerto Rico to nearly 14 percent in Wyoming. The states with the largest share of Part B beneficiaries receiving home oxygen in 2008 were Colorado, Nevada, New Mexico, Utah, and Wyoming. These five states have the highest average elevations in the United States, which can affect an individual's oxygen needs.

Figure 4: Percentage of Medicare Part B Beneficiaries Using Home Oxygen, 2001 through 2008



Source: GAO analysis of CMS data.

Note: The MMA, enacted in 2003, resulted in the reduction of home oxygen payment rates by approximately 8.6 percent for stationary equipment and 8.1 percent for portable equipment effective April 2005, and authorized competitive bidding for certain DME, including home oxygen. The DRA, enacted in 2005, capped rental payments for home oxygen equipment and granted beneficiary ownership of the equipment after 36 months of continuous use, effective January 1, 2006. The transfer of ownership requirement was repealed effective January 1, 2009, but the rental cap remained. Payments for beneficiaries with 36 months of continuous use were capped beginning January 1, 2009.

While the share of Medicare beneficiaries utilizing home oxygen increased during the 2001 through 2008 period, the number of home oxygen suppliers increased nearly 9 percent between 2001 and 2005, and then decreased approximately the same percentage between 2005 and 2008, resulting in an overall decrease between 2001 and 2008.[62] It is not clear whether the overall decrease in the number of suppliers during this period

[62]Data from the first 9 months of 2009 suggest that the number of suppliers continued to decline. The average number of beneficiaries per supplier by state in 2008 ranged from 15 beneficiaries per supplier in Puerto Rico to 1,175 beneficiaries per supplier in the District of Columbia. There was one home oxygen supplier in the District of Columbia in 2008. New Hampshire had the second largest ratio of beneficiaries to supplier in 2008 at 328 beneficiaries per supplier.

was due to consolidation in the industry, reductions in Medicare payment rates, or other factors.

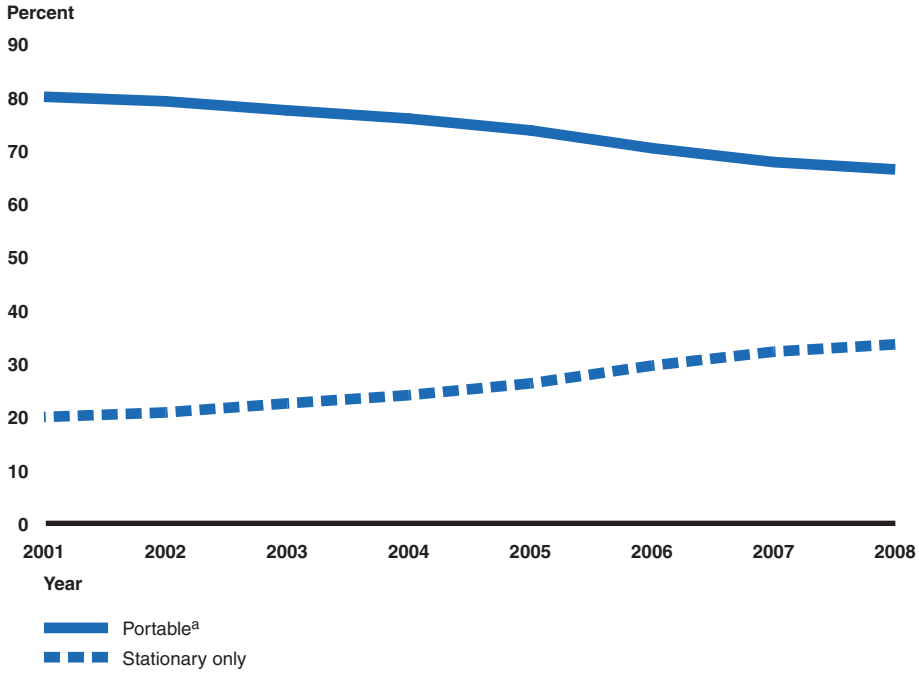
Decreased Utilization of Portable Equipment and Liquid Oxygen Systems during 2001 through 2008 May Indicate Access Issues for Certain Beneficiaries

The relative mix of equipment used by home oxygen beneficiaries changed from 2001 through 2008. The percentage of home oxygen beneficiaries using portable equipment decreased from approximately 80 percent to approximately 66 percent during that period, which may indicate access issues for beneficiaries who require portable equipment.[63] Beneficiaries who only used stationary equipment experienced a corresponding increase, approximately 14 percentage points, from nearly 20 percent to nearly 34 percent from 2001 through 2008.[64] (See fig. 5.) The vast majority of the beneficiaries who only used stationary equipment used a stationary oxygen concentrator.

[63]The percentage of home oxygen beneficiaries using portable equipment includes beneficiaries using portable equipment only and beneficiaries using portable equipment in addition to stationary equipment.

[64]The age distribution of Medicare home oxygen beneficiaries between 2001 and 2008 was relatively stable, and equipment utilization trends—that is, an increase or decrease in utilization—were similar for beneficiaries under 65 years and 65 years and over. However, a change in the mobility of this population could have affected the type of equipment they used. Around 2004, increased numbers of beneficiaries began enrolling in Part C—Medicare Advantage—Medicare's private health plan option. Sicker, and therefore potentially less mobile, beneficiaries may have been less likely to elect Medicare Advantage, thereby raising the proportion of Part B beneficiaries using stationary equipment only. CMS estimates that Part C enrollees are healthier than those in the traditional fee-for-service program.

Figure 5: Percentage of Medicare Home Oxygen Beneficiaries Using Stationary Equipment Only and Portable Equipment



Source: GAO analysis of CMS data.

[a]The percentage of beneficiaries using portable equipment includes beneficiaries using portable equipment only and beneficiaries using portable equipment in addition to stationary equipment.

Certain components of Medicare's payment structure could have affected the relative mix of equipment used. Medicare's bundled payment for stationary equipment and portable oxygen refills acts as a disincentive for suppliers to provide portable equipment because portable refills are paid for whether portable equipment is provided or not. Therefore, suppliers' returns are higher when they provide only a stationary concentrator.

In addition, Medicare's payment structure may have contributed to an overall decline in the percentage of home oxygen beneficiaries using liquid oxygen systems, both portable and stationary, during the period 2001 through 2008. Medicare's stationary equipment and portable equipment payment rates are the same regardless of modality.[65] According to a major

[65]OGPE is an exception. Medicare's payment rate for OGPE is higher than the rate for traditional portable equipment.

manufacturer of home oxygen equipment, liquid oxygen evaporates at a high rate, which requires suppliers to make more frequent deliveries, and suppliers need to use specially equipped trucks for these deliveries. Medicare payment changes became effective in 2005 and 2006 in response to the MMA and DRA, respectively. Medicare's modality-neutral payment rates may encourage suppliers to provide more cost-effective modalities—concentrators or gaseous systems—which may affect access to liquid oxygen.

CMS May Consider Future Changes if Beneficiaries Who Relocate Have Problems Accessing Oxygen

The majority of the suppliers we spoke with told us they were reluctant to or would not accept new beneficiaries who were approaching the 36-month rental cap, when the beneficiary is responsible for finding a new supplier if they relocate.[66] According to one supplier association, suppliers do not want to accept these beneficiaries because they will not be able to bill Medicare for their services for many more months. One large national supplier told us that it had established a threshold, based on the number of continuous home oxygen rental months Medicare had already paid, to determine whether it would accept a new home oxygen beneficiary.

Our analysis of Medicare claims suggests that only a small percentage of beneficiaries relocate outside their supplier's service area in the months leading up to the cap. According to several suppliers, the maximum distance they travel to service an oxygen patient ranges from 35 to 150 miles. Based on our analysis of Medicare claims from 2003 through 2008, less than 2 percent of beneficiaries relocated 30 or more miles away after 24 months of continuous service.[67]

CMS received 354 inquiries to its 1-800-MEDICARE service center in 2009 about home oxygen, including 36 inquiries from beneficiaries who relocated and 20 inquiries from beneficiaries who had trouble locating a

[66]Suppliers are required to continue providing home oxygen after the beneficiary reaches 36 months' use of rental equipment, even if the beneficiary relocates outside the supplier's service area. This may require suppliers to subcontract with another supplier in the beneficiary's new location.

[67]We used 30 miles for our analysis to provide a liberal estimate of the number of beneficiaries who relocate outside their supplier's service area. Our analysis does not include beneficiaries who temporarily relocate, since these beneficiaries are generally unlikely to change their address on record with CMS.

supplier.[68] According to CMS, caseworkers were able to locate suppliers within a matter of days to serve every beneficiary who indicated having trouble finding a supplier.[69] CMS stated that if in the future access to home oxygen becomes a problem after a beneficiary relocates, it may consider taking action such as requiring the supplier that provides home oxygen for month 18 or later to provide oxygen for the remainder of the rental period or make arrangements with another supplier to do so.

Conclusions

Congress has reduced or limited Medicare payment rates for home oxygen several times since 1998, but rates remain higher than those of some other national payers we reviewed and were not aligned with the costs of providing the most frequently used types of home oxygen equipment. Rates for stationary concentrators in particular were substantially higher than estimated suppliers' costs for this equipment and the minimal servicing it requires. A contributor to the misalignment between suppliers' costs and Medicare's payments is the bundling of the payment for oxygen refills in the stationary equipment rate. Including payment for oxygen refills in the stationary equipment rate discourages suppliers from providing portable equipment because their returns are higher when they provide only a stationary concentrator. From 2001 through 2008, suppliers realized a financial benefit by providing only stationary concentrators, as beneficiaries who used only stationary concentrators increased and those using portable equipment decreased by approximately the same amount—14 percent—over the period. If Medicare continues to pay for oxygen refills as part of the stationary oxygen payment, beneficiaries who would benefit from using portable equipment in addition to a stationary concentrator may not have access to it. Furthermore, paying for oxygen refills when they are not needed increases both Medicare and beneficiary payments unnecessarily.

[68]CMS categorized the other inquiries as follows: Medicare oxygen coverage (93), supplier going out of business (17), supplier uncooperative (137), billing issues (45), beneficiary/supplier switching equipment (4), and miscellaneous (2).

[69]Medicare Program Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2011; Final Rule With Comment Period, 75 Fed. Reg. 73170, 73580-73581 (Nov. 29, 2010).

Based on the experiences of the VA and CMS, the use of competitive bidding holds promise as a way to contain costs for Medicare home oxygen. Payment rates from the competitive bidding program would have resulted in significant savings if they were implemented nationwide. However, Medicare's current payment structure—covering oxygen refills in the stationary equipment rate—could distort the benefits of a nationwide competitive bidding program because it would continue to overcompensate suppliers providing certain stationary equipment and give them less incentive to provide portable equipment.

Matter for Congressional Consideration

Congress should consider reducing home oxygen payment rates to better align them with home oxygen suppliers' costs.

Recommendation for Executive Action

To establish rates that more accurately reflect the distinct costs of providing each type of home oxygen equipment, we recommend that the Administrator of CMS restructure Medicare's home oxygen payment methodology. This should include removing the payment for portable oxygen refills from that for stationary equipment and paying for refills only for the equipment types that require them.

Agency and Industry Comments and Our Evaluation

We received comments on a draft of this report from HHS, on behalf of CMS, and from representatives of three industry organizations. We also received a technical comment from the VA, which we incorporated in the report. HHS's comments are included as appendix III.

Comments from HHS

In its comments, HHS concurred with GAO's general view with respect to improving the accuracy of Medicare's oxygen payments, and stated that Medicare payments for home oxygen "are excessive." However, HHS disagreed with our recommendation that the payment for portable oxygen refills should be removed from the stationary equipment payment rate. HHS pointed out that because a change in payment methodology would need to be budget neutral, overall expenditures for home oxygen would not change and the new methodology would likely delay savings from competitive bidding.

We recognize that this recommendation would only change relative payment rates for stationary and portable equipment; the recommendation was not intended to generate savings but to manage resources to help ensure that beneficiaries who need oxygen have access to it. It is also consistent with HHS's view that payments should more accurately reflect the items and services provided. Consequently, there is a compelling reason for CMS to implement the recommendation: the current methodology—including payment for portable oxygen refills in the stationary rate whether or not the beneficiary uses portable oxygen—enables suppliers to gain financially when they only provide stationary equipment and thus beneficiaries' access to portable oxygen can be limited. We do not believe, and HHS did not provide evidence, that our recommendation would delay savings from competitive bidding.
HHS also expressed concern about using self-reported industry data to estimate suppliers' costs for providing home oxygen. As noted in the report's methodology section, we adjusted the costs reported in the Morrison report where we had sufficient information from other sources to warrant a change. Although we could not independently verify all components of the costs reported in the Morrison report, we determined these adjusted data were sufficiently reliable for our purposes. In addition, we noted in the report the limitations of these data, including the fact that they are self-reported, represent averages, and efficient suppliers might have lower costs.

In addition, HHS stated that it was concerned about the assumptions made in comparing the Medicare payment methodology and rates with those of other payers such as the VA and private insurers. HHS's comments were not specific enough to permit a direct response; however, we have expanded the description of our methodology to help better explain the use of these data.

Comments from Industry Representatives

Representatives of three industry organizations reviewed and provided comments on the draft report: the American Association for Homecare (AAHomecare), the National Association of Independent Medical Equipment Suppliers (NAIMES), and the Council for Quality Respiratory Care (CQRC). Their comments focused on four areas: our use of the Morrison report to estimate home oxygen suppliers' costs; the methodologies and rates used by other payers, such as the VA and private insurers; changes in beneficiary access to home oxygen; and Medicare's payment rates for home oxygen.

Estimated Suppliers' Costs

Representatives from all three organizations commented that suppliers' costs have changed since the Morrison report was published in 2006. For example, AAHomecare representatives pointed out that Medicare now requires suppliers to be accredited and maintain surety bonds, and that some suppliers have incurred additional costs to comply with Medicare's quality standards.[70] The estimate of suppliers' overhead costs in the Morrison report included an accreditation component, but because overhead costs were collected by Morrison Informatics on an aggregate basis, we could not independently verify or update costs associated with accreditation without additional information. While it is possible that some suppliers may have incurred additional costs to meet new accreditation and surety bond requirements, AAHomecare representatives had previously told us that the majority of suppliers were already meeting quality standards for Medicare accreditation before the requirements took effect. Although suppliers were not required to have a surety bond at the time of the Morrison report, we determined that the average annual bond cost was not large enough to warrant a separate increase in overhead costs beyond the inflation adjustment. Furthermore, as we noted in response to HHS's comments, the averages in the Morrison report may not represent the costs of the most efficient suppliers.

Representatives of AAHomecare and CQRC said that several states require that home oxygen be provided by a licensed respiratory therapist. We did not include costs associated with respiratory therapists because CMS does not include a professional component in its home oxygen benefit. We note that other health care providers, such as nursing homes, also must meet specific state requirements without the expectation of additional Medicare reimbursement.

Methodologies and Rates Used by Other Payers

Representatives of all three organizations commented on our comparison of Medicare expenditures with those methodologies and rates used by other payers. Representatives of AAHomecare and NAIMES said they believed the 30 percent differential used to adjust VA payment rates, which was based on a 1997 GAO report, should be higher. AAHomecare representatives attributed this to Medicare's additional administrative requirements, such as increased audit activity. However, the evidence they

[70]See 71 Fed. Reg. 48354 (Aug. 18, 2006) (accreditation requirement codified at 42 C.F.R. § 424.57(c)(22) and effective Oct. 2, 2006); 74 Fed. Reg. 166 (Jan. 2, 2009) (surety bond requirement codified at 42 C.F.R. § 424.57(c)(26) and effective May 4, 2009).

provided was anecdotal and thus not amenable to a quantitative adjustment to our estimate.

CQRC representatives took issue with our focus on the lowest-paying private insurers and suggested the midpoint of the range of insurer payments was very close to Medicare's estimated 2009 home oxygen expenditures. One representative also stated that some private insurers were able to pay low rates because Medicare—as a dominant payer in the home oxygen market—covers the fixed costs incurred by suppliers, enabling private insurers to cover only the incremental cost of adding an additional home oxygen patient. In the draft report we focused on rates paid by the two lowest-paying insurers of the four national insurers we reviewed because they are most similar to Medicare in size and volume. Further, since Medicare is a large payer in the home oxygen market, it would be expected to pay rates similar to other large payers in the industry.

Changes in Beneficiary Access to Home Oxygen

In response to our finding that portable equipment use has declined, representatives from the three organizations noted that suppliers cannot influence the provision of portable equipment because a physician must prescribe portable equipment in order for it to be covered by Medicare. During the course of our research, members of the industry told us that suppliers can influence the physician's decision to prescribe portable equipment. For example, if a supplier has evidence that a patient is not using the portable equipment, the supplier can ask the physician to revise the prescription.

Representatives of NAIMES and CQRC commented that the decrease in use of portable equipment might instead be due to earlier diagnosis of respiratory conditions, because beneficiaries who are diagnosed earlier may be less likely to need portable equipment. In addition, representatives from AAHomecare noted that the 36-month rental cap creates a burden for beneficiaries nearing the cap who would like to relocate or are unhappy with their current supplier.

The draft report we sent to HHS for comment contained a matter for congressional consideration that the Congress consider eliminating the rental cap to reduce potential access problems. The matter was predicated on information we received from CMS and from suppliers at the time we did our audit work that some beneficiaries who relocate outside their service area may experience an access issue in those cases where a willing supplier cannot be found. However, subsequent to our sending the draft to HHS for comment, CMS reported that it analyzed complaint data from

beneficiaries from January 2009 to September 2010 and found that in the limited situations where beneficiaries receiving oxygen equipment for less than 36 months relocated during that time and initially had trouble locating an oxygen supplier in their new location, CMS was able to locate suppliers to serve each and every beneficiary, usually within a matter of days. CMS now reports that beneficiaries who relocated had access to oxygen and if, in the future, beneficiaries' access to oxygen becomes a problem as a result of relocation, it may consider requiring the supplier that provides home oxygen for month 18 or later to provide oxygen for the remainder of the rental period or make arrangements with another supplier to do so. In light of CMS's analysis and statements regarding future action, we removed the matter for congressional consideration from the report.

Medicare's Payment Rates for Home Oxygen

Representatives from all three organizations stated that Medicare's higher payment rate for stationary equipment subsidizes suppliers' costs for providing portable equipment. In addition, CQRC representatives believed the estimate of the average Medicare payment for home oxygen is too high. They suggested we reexamine this estimate and the share of beneficiaries subject to the rental cap, which we used to calculate Medicare's average payment rate. Our estimate of this share is based on an analysis of the claims history from a cohort of beneficiaries. We reviewed the estimate and determined it should not be changed but we have expanded the description of our method in the text. In the report we recommend that the Administrator of CMS restructure Medicare's home oxygen payment methodology to establish rates that more accurately reflect the distinct costs of providing each type of home oxygen equipment.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the Secretary of Health and Human Services, the Secretary of Veterans Affairs, and interested congressional committees. The report also will be available at no charge on GAO's Web site at http://www.gao.gov.

If you or your staffs have any questions about this report, please contact me at (202) 512-7114 or cosgrovej@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last

page of this report. GAO staff members who made major contributions to this report are listed in appendix IV.

James C. Cosgrove
Director, Health Care

List of Requesters

The Honorable Henry A. Waxman
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Frank Pallone, Jr.
Ranking Member
Subcommittee on Health
Committee on Energy and Commerce
House of Representatives

The Honorable Pete Stark
Ranking Member
Subcommittee on Health
Committee on Ways and Means
House of Representatives

The Honorable John D. Dingell
The Honorable Charles B. Rangel
House of Representatives

Appendix I: Methodology

This appendix describes our methodology for addressing the three objectives: (1) describe Medicare's payment methodology and rates for home oxygen and compare payments with estimated suppliers' costs, (2) compare Medicare's payment methodology and rates with other payers' methodologies and rates and examine how Medicare's use of these methodologies and rates could affect its overall home oxygen spending, and (3) examine changes in Medicare beneficiaries' access to home oxygen. We obtained contextual information about the home oxygen industry by interviewing representatives from the American Association for Homecare (AAHomecare), the National Association of Independent Medical Equipment Suppliers, the American Association for Respiratory Care, and the Department of Health and Human Services (HHS) Office of Inspector General (OIG). We also interviewed five home oxygen suppliers of varying sizes to gain additional information on the types of equipment and services provided to Medicare beneficiaries, and how operations vary for different suppliers of different sizes. Because this was not a statistically representative sample of suppliers, information cannot be generalized to all home oxygen suppliers.

Medicare Payment Methodology and Rates, and Payments Compared with Estimated Suppliers' Costs

To describe Medicare's payment methodology and rates for home oxygen, we reviewed relevant federal statutes, regulations and guidance, and discussed certain payment policies with Centers for Medicare & Medicaid Services (CMS) officials.

To estimate suppliers' costs—which generally include equipment acquisition; provision of required services, such as equipment delivery and maintenance; and overhead—to provide home oxygen to Medicare beneficiaries, we obtained information from a 2006 industry-funded report by Morrison Informatics, Inc. This report offered the most recent information available on suppliers' costs at the time of our analysis. We supplemented this information and adjusted it, as needed, with information from other sources to provide more current and reliable data.[1] (See app. II for detailed information about these sources and the adjustments made to the Morrison report data.)

[1]Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy* (Mechanicsburg, Pa.: June 27, 2006). The Morrison report was commissioned by AAHomecare to determine suppliers' costs to provide home oxygen to Medicare beneficiaries. The report stated that these costs came from a survey of 74 home oxygen suppliers representing over 600,000 Medicare beneficiaries.

Medicare's Home Oxygen Payments Compared with Other Payers' Methodologies and Rates

To compare Medicare's home oxygen payment methodology and rates with those of other payers, we estimated Medicare home oxygen utilization and expenditures for 2009 and applied the rates and methodologies of private insurers, the Department of Veterans Affairs (VA), and round 1 of Medicare's competitive bidding program to Medicare's utilization to estimate what Medicare's expenditures would have been using the methodologies and rates of other payers.

Estimate of Medicare's 2009 Expenditures

We used available Medicare home oxygen claims for 2009 to estimate total Medicare expenditures for that year. Because complete home oxygen–related claims for 2009 were not available at the time we did our work, we used claims for January through September that were approved for payment by Medicare no later than December 31 of that year. We also obtained home oxygen–related claims for January through September 2008 that were approved for payment by December 31 of that year. For these claims, we compared the total number of home oxygen Healthcare Common Procedure Coding System (HCPCS) codes billed with the number of these codes billed for all of 2008 and determined the year-end total was approximately 37 percent higher than the partial-year total. We then increased the number of home oxygen HCPCS codes for January through September 2009 by approximately 37 percent to estimate the 2009 total. Because monthly rental payments were not capped until January 2009, the first maintenance codes could not be billed until the second half of 2009, and because our data covered only the first 9 months of 2009, we doubled the quantity of maintenance codes in the available claims to estimate a full year of 2009 maintenance codes billed. We then estimated expenditures for each HCPCS code by multiplying the number of codes by the average payment amount.

To compare payments under alternative methodologies, we also needed an estimate of Medicare's home oxygen utilization rates in 2009. Even after adjusting partial year 2009 data to estimate full-year data, we did not have complete information on utilization in 2009 because Medicare does not make payments for equipment after the rental cap is reached. We used claims for 2003 through 2008 to estimate the percentage of months for which beneficiaries had used the equipment more than 36 months but less

than 61 months.[2] This estimate was 9.3 percent for portable equipment and 10.1 percent for stationary equipment. We used these estimates to simulate the share of utilization that was subject to the rental cap. The supplier is under no obligation to continue furnishing the same equipment after 60 months and thus our simulation assumes that beneficiaries received new equipment after 60 months and payments to suppliers resume.

Using the utilization data, we also estimated average Medicare payments for each month suppliers provided oxygen rental equipment to beneficiaries in 2009. We determined an average payment amount by using our estimates of the number of billed rental months, the payment amounts for billed rental months, the estimated number of rental months subject to the cap, and the payment amounts—for oxygen content refills or maintenance services—for capped months. The estimates assumed suppliers billed for every oxygen content refill delivery or service for which they were eligible during months of capped rental. We computed an average payment per beneficiary per month by taking a weighted average payment amount of various equipment combinations (e.g., a stationary concentrator plus a portable gaseous system, or a stationary concentrator by itself) used by beneficiaries. Although these equipment combinations excluded liquid oxygen equipment and some rarely used equipment combinations for stationary and portable equipment, they still accounted for 94 percent of beneficiaries.

Comparison of Medicare Methodology and Rates with Those of Other Payers

We judgmentally selected eight private insurers. We contacted six of the eight largest national private health insurance plans as identified by the Mossavar-Rahmani Center for Business & Government.[3] Four of the six were willing to share information about their home oxygen payment methodologies and rates. To ensure that our analysis was not limited to national plans, we sought information from six regional insurers and

[2]The cap applies to beneficiaries who have had 36 months of continuous use of home oxygen. We used CMS's method for determining a period of continuous use: For beneficiaries with rental use up to 36 months (i.e., before the cap), utilization is continuous if any interruptions lasted no more than 60 consecutive days plus the days remaining in the rental month in which the interruption began. For beneficiaries with rental use of more than 36 months (i.e., after the cap), utilization is continuous regardless of the length of any interruption.

[3]Mossavar-Rahmani Center for Business & Government, John F. Kennedy School of Government, Harvard University, *Health Care Delivery Covered Lives—Summary of Findings* (Cambridge, Mass.: Mar. 11, 2007). Two insurers on the Kennedy School list had merged and another is divided among many entities that operate at the local level.

obtained information from four of these.[4] We applied the eight insurers' payment rates to our estimate of Medicare's 2009 utilization to estimate what Medicare's expenditures would have been using private insurers' methodologies and rates and then compared these estimates with estimated Medicare 2009 expenditures for home oxygen. Seven of the eight private insurers did not use a rental cap; the private insurer that used a rental cap told us that the cap (combined with maintenance payments after the cap) reduced its expenditures by approximately 4 percent, so we reduced our estimate of Medicare expenditures using payment rates and methodologies of that insurer by 4 percent.

We also obtained information from the VA on its payment methodology and its 2009 average payment rates. We used this information to estimate what Medicare payment rates would have been if it used VA average payment amounts. We adjusted VA's rates to account for differences in methodology, such as when the VA paid separately for certain services that Medicare bundled with payments for equipment purchases. Additionally, a previous GAO comparison of Medicare and VA payment rates found that suppliers' administrative costs for billing Medicare were higher than those for billing the VA and that the more predictable volume of patients associated with the VA's contracts, which are frequently exclusive, allowed suppliers to take advantage of economies of scale in the provision of home oxygen and save on expenses, since they did not need to market themselves to individual veterans.[5] In the earlier report, GAO increased its estimate of VA payment rates by 30 percent, and our analysis of VA and Medicare payment policies suggested the justification for the earlier adjustment still held. Our estimates of what Medicare expenditures would have been using VA payment rates and methodologies were made both with and without the additional 30 percent upward adjustment.

To estimate what Medicare would have spent for home oxygen services using payment rates from its competitive bidding program for DME, we used the rates that resulted from the round 1 rebid process. The rates, which will take effect January 1, 2011, are for nine areas of the country. In our analysis, we assumed that the rental cap would apply with competitive

[4]An insurer was considered regional if all or nearly all of its 2008 premiums were associated with one state.

[5]GAO, *Medicare: Home Oxygen Program Warrants Continued HCFA Attention*, GAO/HEHS-98-17 (Washington, D.C.: Nov. 7, 1997).

bidding rates and we applied those rates to our 2009 nationwide estimate of billed utilization.

Beneficiary Access to Home Oxygen

To examine changes in Medicare beneficiaries' access to home oxygen, we used the change in the share of Medicare Part B beneficiaries using home oxygen from 2001 through 2008 as a proxy for access. We did not examine the appropriateness of home oxygen for the patients who received it.[6] Using complete Medicare claims data from 2001 through 2008, we determined the number of beneficiaries with home oxygen–related HCPCS codes and divided it by the total number of Part B beneficiaries—from the CMS Denominator File—to determine the share of home oxygen beneficiaries for each year.[7] We also determined this share by state for 2008. To examine access to different types of home oxygen equipment for 2001 through 2008, we examined oxygen-related HCPCS codes to determine the types of equipment used by unique beneficiaries for each year. To determine whether the change in access to equipment type varied by age, we matched claims data with Medicare enrollment information and compared utilization by beneficiaries under 65 years and beneficiaries 65 years and older.

To determine the number of suppliers of home oxygen equipment and services, we counted the unique supplier numbers on approved Medicare claims containing home oxygen–related HCPCS codes from 2001 through 2008 and determined the change in the number of suppliers over the period. We also determined the number of suppliers by state for 2008. To determine the change in the number of suppliers billing Medicare from 2008 to 2009, we compared, by month, the number of unique suppliers who billed Medicare each month. For this comparison, we used data through September of each year for claims processed through December 31.

[6]Medicare beneficiaries must be reevaluated and recertified within 3 months or 1 year of continuous home oxygen use, depending on the level of oxygen in the blood at the time of the initial certification. Once recertification establishes a continued need for supplemental oxygen, subsequent recertifications are not routinely required. However, some evidence suggests that home oxygen patients, particularly those who receive supplemental oxygen to treat an acute illness, such as pneumonia, should be evaluated more frequently to avoid payment for oxygen that is not medically necessary ("Implementation of an Oxygen Therapy Clinic to Manage Users of Long-term Oxygen Therapy," *CHEST Journal* [November 2002], pp. 1661-67). For example, the VA reevaluates its beneficiaries after 6 months of home oxygen use, and then annually.

[7]The Denominator File contains data on all Medicare beneficiaries enrolled, or entitled, or both, in a given year.

To assess the magnitude of the potential access problems faced by beneficiaries who move outside their supplier's service area in the months leading up to the 36-month rental cap, we examined the claims history for beneficiaries who began using oxygen in 2003. On the basis of our analysis of these data, we estimated the portion of home oxygen beneficiaries who move more than 30 miles after 24 months of continuous home oxygen use by measuring the distance from the center of both their old and new zip codes. The data related to beneficiary inquiries about home oxygen was provided by CMS.

We ensured the reliability of the Medicare claims data used in this report by performing appropriate electronic data checks and by interviewing agency officials and Medicare contractors who were knowledgeable about the data. The utilization and cost information in the claims data we used are generally considered to be reliable, as they are used by the Medicare program as a record of payments to health care providers and are monitored by both CMS and the Medicare Administrative Contractors—contractors that process, review, and pay claims for Medicare-covered services. We found the claims data were sufficiently reliable for the purpose of our analyses.

We conducted this performance audit from July 2009 through January 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Adjustments to Data in Industry-Funded Report

To estimate suppliers' costs to provide home oxygen to Medicare beneficiaries, we used information from a 2006 industry-funded report by Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy*,[1] and adjusted certain cost components in the report based on information we obtained from other sources, including selected manufacturers of home oxygen equipment, the Department of Veterans Affairs (VA), a group purchasing organization (GPO)[2] in the durable medical equipment (DME) industry, and the Department of Health and Human Services (HHS) Office of Inspector General (OIG). We adjusted the data in the Morrison report for several reasons.

- The report presented costs that were for services Medicare does not cover under its DME benefit or for services that were in addition to those required by Medicare's quality standards.
- The report presented suppliers' overall costs of providing home oxygen, but we were asked to estimate costs associated with different types of home oxygen equipment.
- The data were collected in 2006, and the mix of equipment used by Medicare beneficiaries has changed since that time. The number of beneficiaries using stationary oxygen concentrators and oxygen generating portable equipment (OGPE) increased from 2006 to 2008, while the number of beneficiaries using traditional portable equipment decreased during this time period.
- The Morrison data were self-reported by suppliers and may not have been reported consistently.

[1]Morrison Informatics, Inc., *A Comprehensive Cost Analysis of Medicare Home Oxygen Therapy* (Mechanicsburg, Pa.: June 27, 2006). We attempted to contact Morrison Informatics, Inc., to ask follow-up questions about the report and the associated survey instrument, both through information from the company's Web site (http://www.informaticinc.com/) and contact information provided by AAHomecare. The authors of the report did not respond to our attempts to contact them.

[2]A GPO is an entity that helps health care providers realize savings and efficiencies by aggregating purchasing volume and using that leverage to negotiate discounts with manufacturers, distributors, and other vendors.

Adjustments by Cost Category

The Morrison report was commissioned by the American Association for Homecare to assess suppliers' costs in the following seven categories: (1) home oxygen equipment acquisition; (2) customer service and patient intake; (3) equipment preparation, delivery, and return; (4) routine delivery of disposable supplies, oxygen refills, and scheduled maintenance; (5) unscheduled maintenance and repairs; (6) cost of patient assessment; and (7) overhead costs. Morrison collected detailed information on over 50 cost components associated with these major categories, with the exception of overhead costs, which were collected on an aggregate basis.[3] The report stated that these costs came from a survey of 74 home oxygen suppliers representing over 600,000 Medicare beneficiaries. We adjusted cost components reported by Morrison to estimate suppliers' 2009 monthly costs for (1) stationary oxygen concentrators, (2) traditional portable equipment, and (3) OGPE. Together, select combinations of these equipment types were used by approximately 94 percent of Medicare home oxygen beneficiaries. The following describes the adjustments we made within the seven major cost categories presented in the Morrison report.

Home Oxygen Equipment Acquisition. To estimate suppliers' 2009 equipment acquisition costs for stationary concentrators, we collected acquisition prices through interviews with three of the five major U.S. home oxygen equipment manufacturers and one smaller manufacturer.[4] We also obtained prices paid by the VA for stationary concentrators through contracts between a VA medical center and two major manufacturers. Using these prices as a proxy for suppliers' acquisition costs, we estimated that stationary concentrators generally cost suppliers from $400 to $625, depending on the model and quantity purchased.[5] We adjusted the average acquisition cost of a stationary system from the Morrison report, using the range we developed, to present a figure that is

[3]The Morrison report noted that overhead costs contributed to a large proportion of overall costs and that further analysis of the components would be necessary to better understand the nature of these expenses.

[4]On the basis of information provided by representatives of four manufacturers of home oxygen equipment, we determined that there were five major manufacturers of this equipment in the U.S. market at the time of our study. We interviewed four of the five major U.S. home oxygen equipment manufacturers and two smaller manufacturers.

[5]Higher-capacity units, such as 8- and 10-liter stationary oxygen concentrators, are more expensive than the standard 5-liter units. However, based on our analysis of Medicare claims data from 2008, less than 0.5 percent of beneficiaries had a prescribed oxygen flow of more than 4 liters per minute.

more current and represents stationary concentrators only.[6] To estimate suppliers' average acquisition costs for the backup units that may be provided with stationary concentrators,[7] we updated the cost presented in the Morrison report from $152 to $164 based on the percentage change in the Consumer Price Index for all Urban Consumers (CPI-U) from December 2006 to December 2009.

We were unable to collect sufficient information from other sources to generate a cost estimate for traditional portable equipment. Therefore, we updated the average cost of a portable system as presented in the Morrison report from $471 to $508 based on the CPI-U.[8] We also used the Morrison report's average monthly cost estimate for oxygen refills for liquid and gaseous systems, and increased this amount from $18 to $19 based on the CPI-U.

For OGPE, we collected 2009 acquisition prices through interviews with four of the five major U.S. home oxygen equipment manufacturers and one smaller manufacturer. We also obtained prices negotiated by a GPO for one major manufacturer's OGPE. Using these prices as a proxy for suppliers' acquisition costs, we estimated that OGPE generally costs suppliers from $2,000 to $3,000, depending on the model and the quantity purchased by the supplier. The Morrison report did not collect cost information specifically related to OGPE, as this new technology was rarely used by Medicare's home oxygen beneficiaries at the time of its survey.[9]

Customer Service and Patient Intake. To present intake and customer service costs in 2009 dollars we adjusted the average hourly wage rate for a customer service representative from $14 to $15 using the Bureau of

[6]The Morrison report combined suppliers' acquisition costs for stationary oxygen concentrators and stationary liquid systems.

[7]Since stationary oxygen concentrators are electrically operated, suppliers may provide backup units for use in the event of a power failure.

[8]According to the survey instrument distributed to suppliers by Morrison Informatics, Inc., this estimate includes the average cost of gaseous cylinders and liquid portable units, weighted by the number of portable customers on each system. Suppliers were asked to provide costs for multiple cylinders if used. This estimate also includes the cost of ancillary supplies such as stands, regulators, and oxygen-conserving devices.

[9]OGPE was used by less than 1 percent of beneficiaries in 2006.

Labor Statistics's (BLS) Employment Cost Index. We made no other adjustments in this cost category.

Equipment Preparation, Delivery, and Return. To present equipment preparation, delivery, and return costs in 2009 dollars, we adjusted the average hourly wage rates for equipment and service technicians from $14 to $15 using BLS's Employment Cost Index. To account for changes in transportation costs, we compared the average vehicle cost per mile from the Morrison report to the Internal Revenue Service's (IRS) 2009 standard mileage rate for business miles driven.[10] We made no other adjustments in this cost category.

Routine Delivery of Disposable Supplies, Oxygen Refills, and Scheduled Maintenance. To estimate suppliers' costs related to scheduled maintenance of equipment, we adjusted Morrison report data for the annual number of supplier visits to beneficiaries for scheduled preventive equipment maintenance visits. We based our adjustment on manufacturers' recommendations for servicing equipment, which ranged from every 6 months to every 36 months; Medicare's quality standards, which recommend that oxygen equipment be serviced in accordance with the manufacturer's recommendations or at least once per year;[11] and a 2006 HHS OIG report, which found that suppliers performed excessive preventive maintenance for stationary oxygen concentrators.[12] In its November 2008 final rule, CMS stated that suppliers providing older equipment may need to service it more often, but Medicare should not be responsible for any additional servicing or repair required for used equipment. On the basis of the information we obtained, we adjusted the average number of annual scheduled visits for preventive maintenance as presented in the Morrison report from 4.9 to a range of 1 to 2 times per

[10]The IRS's 2009 standard mileage rate of 55 cents per mile for business miles driven was comparable to the average vehicle cost presented in the Morrison report. Therefore, we did not adjust this cost component.

[11]Medicare's DME Quality Standards indicate that suppliers should comply with the current version of the American Association for Respiratory Care Practice Guidelines for Oxygen Therapy in the Home or Extended Care Facility. Section 11.2 of these guidelines indicates that oxygen equipment should be serviced and maintained in accordance with the manufacturer specifications or no less than once per year.

[12]HHS OIG, *Medicare Home Oxygen Equipment: Cost and Servicing*, OEI-09-04-00420 (San Francisco, Calif.: September 2006).

year. In addition, we updated the Morrison report's average monthly cost of disposable and maintenance supplies from $10 to $12 using the CPI-U.[13]

To estimate suppliers' service costs associated with ongoing deliveries of oxygen refills, we used a range of visits per year to account for variation in suppliers' delivery practices. We based the low estimate of annual visits on the HHS OIG report, which found that suppliers deliver portable refills once every 3 months.[14] Medicare's billing policy also states that suppliers may deliver up to 3 months of oxygen refills at one time. For the high estimate we used the Morrison report figure of 19 visits per year. For labor and transportation costs associated with routine delivery and scheduled maintenance, we used the adjusted 2009 average wage rate for service technicians as described above.

Unscheduled Maintenance and Repairs. For labor and transportation costs associated with unscheduled maintenance and repairs, we used the adjusted 2009 average wage rate for service technicians as described above. We made no other adjustments in this cost category.

Patient Assessment. We excluded Morrison report data associated with patient assessment because Medicare does not cover respiratory therapists' services under its DME benefit.[15]

Overhead costs. To estimate home oxygen suppliers' 2009 overhead costs, we adjusted the estimated average monthly cost presented in the Morrison report from $42 to $45 using the CPI-U. We made no other adjustments in this cost category.

[13]Disposable supplies include accessories such as tubing, which attaches to the oxygen equipment and is available in different lengths to enable mobility within the home, and nasal cannulas, which connect to the tubing to deliver oxygen through the nostrils. Maintenance supplies include different types of filters that should be cleaned or replaced as part of preventive maintenance for oxygen concentrators.

[14]HHS OIG, *Medicare Home Oxygen Equipment: Cost and Servicing*. The OIG report also found that 65 percent of beneficiaries received two or fewer cylinders from their suppliers in the first year of rental.

[15]Medicare National Coverage Determinations Manual, § 240.2 F. The DME benefit provides coverage of home use of oxygen and oxygen equipment, but does not include a professional component, namely, those of respiratory therapists, in the delivery of such services.

Estimating Suppliers' Unique Costs by Equipment Type

We recategorized the adjusted Morrison costs to estimate the distinct costs incurred by suppliers to provide stationary oxygen concentrators, traditional portable equipment, and OGPE. To do this, we allocated equipment-specific service costs to the appropriate equipment type. For example, since traditional portable equipment requires delivery of oxygen refills, we allocated such delivery costs to this equipment type, and we excluded costs associated with delivery of refills from the adjusted estimates for stationary concentrators and OGPE, since these equipment types do not require refills. We attributed costs that were not easily split between equipment types, such as patient intake, delivery and return of equipment, unscheduled maintenance and repairs, and overhead, to the cost of providing a stationary concentrator, since nearly all Medicare home oxygen beneficiaries use stationary equipment. Therefore, the adjusted cost estimates for traditional portable equipment and OGPE represent the additional costs incurred by suppliers to provide these equipment types in conjunction with a stationary concentrator, not the total cost of providing these equipment types in isolation.

Estimating Suppliers' 2009 Overall Monthly Costs for Home Oxygen

To estimate suppliers' overall average monthly costs to provide home oxygen, we used the adjusted 2009 monthly cost estimates for stationary oxygen concentrators, traditional portable equipment, and OGPE and weighted them by the proportion of beneficiaries who used a combination of these equipment types in 2008.[16] More specifically, we examined costs for beneficiaries using the following combinations of home oxygen equipment: (1) stationary concentrators only; (2) stationary concentrators with traditional portable equipment; and (3) stationary concentrators with OGPE. Together, these equipment combinations were used by approximately 94 percent of home oxygen beneficiaries. We did not generate separate cost estimates for the remaining 6 percent of home oxygen beneficiaries—approximately 4.4 percent of these used stationary liquid equipment and 1.4 percent used only portable equipment. Liquid oxygen is considered an expensive modality to provide because the equipment is expensive; and specially equipped delivery trucks must be used, various regulatory requirements must be met, and a patient's supply must be replenished regularly. As a result, incorporating suppliers' cost estimates for the 4.4 percent of beneficiaries using stationary liquid equipment could have slightly increased the overall cost estimate.

[16]We used 2008 Medicare claims data to estimate utilization for each equipment type because complete Medicare claims from 2009 were not available at the time of our review.

However, other adjustments to the Morrison report that could have lowered costs may have been warranted but were not made, and we therefore believe our overall approach resulted in a reliable cost estimate.

Adjustments Not Made

We adjusted Morrison report costs only in cases where we were able to collect information precise enough to justify a specific adjustment. In certain cases, we noted assumptions that did not appear appropriate or found other shortcomings, but we did not have the information necessary to make an adjustment. The following are examples of such cases:

- Unlike other major cost categories, overhead costs were collected by Morrison on an aggregate basis. The Morrison report stated that overhead costs contributed to a large proportion of overall costs and that further analysis of the components would be necessary to better understand the nature of these expenses. We could not independently verify these costs without additional information on the individual components of overhead costs.

- The Morrison report calculated round-trip mileage for each visit to a beneficiary's home for delivery of supplies and oxygen refills and scheduled preventive maintenance, allowing 23 miles, or 46 minutes, of travel for visits to beneficiaries' homes. However, most suppliers we interviewed told us that suppliers conduct these activities on a scheduled route, meaning that multiple beneficiaries receive services during each round-trip visit. In addition, several suppliers we interviewed reported taking steps to become more efficient in their deliveries due to factors such as rising fuel costs and decreasing reimbursements. Despite our concerns about using round-trip mileage to calculate costs associated with such visits, we determined that we did not have sufficient information to make an adjustment.

- The Morrison report presents an estimated length of time for suppliers to perform tasks associated with different services, such as average times to clean and load equipment for delivery; refill gaseous and liquid systems; and perform scheduled maintenance. We did not independently verify the length of time it took to perform such tasks. For instance, the report presented an average of nearly 30 minutes to perform scheduled maintenance, not including travel time to the beneficiary's home. Although an HHS OIG report found that routine maintenance tasks for concentrators, such as checking filters and oxygen concentration, can be performed in less than 5 minutes, we did not adjust this estimate since Medicare pays for 30 minutes of labor for maintenance and service visits after the 36-month rental cap.

Appendix III: Comments from the Department of Health and Human Services

DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF THE SECRETARY

Assistant Secretary for Legislation
Washington, DC 20201

OCT 1 2010

James C. Cosgrove
Director, Health Care
U.S. Government Accountability Office
441 G Street N.W.
Washington, DC 20548

Dear Mr. Cosgrove:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled: "Medicare Home Oxygen: Refining Payment Methodology Has Potential to Lower Program and Beneficiary Spending" (GAO-10-882).

The Department appreciates the opportunity to review this report before its publication.

Sincerely,

Jim R. Esquea

Jim R. Esquea
Assistant Secretary for Legislation

Attachment

GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S (GAO) DRAFT REPORT ENTITLED, "MEDICARE HOME OXYGEN: REFINING PAYMENT METHODOLOGY HAS POTENTIAL TO LOWER PROGRAM AND BENEFICIARY SPENDING" (GAO-10-882)

The Department appreciates the opportunity to review and comment on this draft report. The report examines Medicare payment policies for oxygen and oxygen equipment by--(1) Comparing Medicare's payments with estimated supplier costs; (2) Comparing Medicare's payment methodology and rates with other payers' methodologies and rates and examining how Medicare's use of these methodologies and rates could affect its overall home oxygen spending; and (3) Examining changes in Medicare beneficiary access to home oxygen as a result of the 36-month cap on payments for oxygen equipment mandated by section 1834(a)(5)(F) of the Social Security Act (the Act).

The Centers for Medicare & Medicaid Services (CMS) is committed to ensuring access to oxygen and oxygen equipment under the Medicare program and remains concerned with the accuracy of payment for these items. CMS appreciates the efforts of the GAO to examine these issues in its report. While we concur with the GAO's general view with respect to improving the accuracy of Medicare's oxygen payments, the report's specific recommendation for executive action does not advance that goal within the current statutory framework as discussed below. We also have concerns with certain aspects of the report that are based on self reported supplier data and an industry funded study that reflects serious design flaws.

GAO Recommendation

To establish rates that more accurately reflect the distinct cost of providing each type of home oxygen equipment, we recommend that the Administrator of CMS restructure Medicare's home oxygen payment methodology. This should include removing the payment for oxygen refills from that for stationary equipment and paying for refills only for the equipment types that require them.

CMS Response

Medicare currently makes payments for oxygen under a modality neutral payment method. For stationary oxygen, the cost of refills is captured within that payment. While some patients may require more refills and others require fewer, on average this payment method is intended to provide an appropriate monthly payment amount to suppliers for furnishing services to their patients.

While CMS concurs with the GAO's more general finding that current payments for oxygen are excessive and should more accurately reflect the items and services provided, we do not concur with this specific recommendation because it does not advance, and may actually run counter to, this goal. Use of our authority at section 1834(a)(9)(D) of the Act to create separate classes for different oxygen equipment modalities (i.e., those that require refills and those that do not) would need to be done in a way that ensures annual budget neutrality. Therefore, overall expenditures for oxygen and oxygen equipment would be no different under the new classes as they would be under the current modality neutral classes. This change would therefore result in no immediate savings and would likely delay savings that would be achieved in the near future

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GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S (GAO) DRAFT REPORT ENTITLED, "MEDICARE HOME OXYGEN: REFINING PAYMENT METHODOLOGY HAS POTENTIAL TO LOWER PROGRAM AND BENEFICIARY SPENDING" (GAO-10-882)

through implementation of competitive bidding. Competitive bidding programs for oxygen and oxygen equipment are currently being phased in for the current classes of oxygen and oxygen equipment and savings under these programs will be achieved for the combination of oxygen and oxygen equipment furnished to Medicare beneficiaries.

Although CMS agrees with the general conclusion of the report that Medicare rates for oxygen are excessive, CMS is concerned with the self reported industry data that is relied on in estimating suppliers' costs of furnishing oxygen and oxygen equipment in this report and the assumptions made in comparing the Medicare payment methodology and rates with that of other payers such as the Veterans Administration and private payers.

The CMS would like to thank the GAO for its efforts and insight on this report. This report provides valuable information regarding the cost of oxygen equipment and helps verify that payment reforms such as competitive bidding are needed to address excessive Medicare payments for oxygen and oxygen equipment. We look forward to working with the GAO further on these issues.

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Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, Phyllis Thorburn, Assistant Director; Todd Anderson; Ba Lin; Richard Lipinski; Elizabeth T. Morrison; Aubrey Winterbottom; and Rachael Wojnowicz made key contributions to this report.

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