

Assessing the Costs of Performing DXA Services in the Office-based Setting

Final Report

Prepared for:

American Association of Clinical Endocrinologists (AACE)
International Society for Clinical Densitometry (ISCD)
The Endocrine Society (TES) and
American College of Rheumatology (ACR)

Prepared by:

The Lewin Group, Inc.
Dobson | DaVanzo, LLC

October 31, 2007

Assessing the Costs of Performing DXA Services in the Office-based Setting

Final Report

Prepared for:

American Association of Clinical Endocrinologists (AACE)
International Society for Clinical Densitometry (ISCD)
The Endocrine Society (TES) and
American College of Rheumatology (ACR)

Prepared by:

The Lewin Group, Inc.
Audrey El-Gamil

Dobson | DaVanzo, LLC
Joan E. DaVanzo, PhD, MSW
Allen Dobson, PhD

October 31, 2007

Table of Contents

EXECUTIVE SUMMARY	1
Introduction and Purpose	1
Summary of Findings	3
Discussion	10
I. INTRODUCTION	12
II. SCOPE OF WORK	14
III. METHODOLOGY	15
A. Provider Survey	15
B. CBO-Style Cost Accounting Study	20
IV. FINDINGS	26
A. Cost of Performing DXA and VFA in Office-based Setting – Survey Results	26
B. CBO-Style Estimate of the Costs and Potential Savings to Medicare of a Proposal to Restore DXA Reimbursement to 2006 Levels	30
V. DISCUSSION	34
APPENDIX A: SURVEY INSTRUMENT	A-1
APPENDIX B: 5-YEAR MODEL	B-1
APPENDIX C: 10-YEAR MODEL	C-1

EXECUTIVE SUMMARY

Introduction and Purpose

Osteoporosis is a disease that is characterized by low bone mass and a deterioration of bone structure that results in bone fragility and an increased risk of fracture. The disease affects 10 million older Americans and is associated with significant mortality and morbidity. An additional 34 million individuals have osteopenia (low bone mass) and are at increased risk of fracture at some time in their lives.

In order to reduce the impact of osteoporosis, it is most important to diagnose it prior to fracture and initiate treatment for those at high risk. Dual-energy x-ray absorptiometry (DXA) is recognized as the “gold standard” for diagnosing osteoporosis and monitoring the response to therapy.

Numerous clinical trials document that the use of FDA approved drugs in women with osteoporosis significantly reduce fracture risk.^{1,2,3} Despite these findings, other studies have highlighted the underutilization of DXA testing for osteoporosis in the high-risk group of females older than 65 years of age.⁴

There have been several important Federal initiatives to promote the use of DXA. CMS has incorporated central DXA testing as a key preventive service, and it is now part of the “Welcome to Medicare” exam. The 2002 United States Preventive Services Task Force recommends screening for all women over the age of 65, and those 60-65 years of age with a body mass less than 70 kilograms.⁵ The 2004 Surgeon General’s report on Bone Health and Osteoporosis cited bone mass measurement as “one of the most significant advances in the last

Key Background Facts

- *Due to Deficit Reduction Act and Medicare Physician Fee Schedule (MPFS) cuts:*
 - *DXA payment was reduced from \$139 to \$82 and further to approximately \$35 in 2010.*
 - *VFA payment was reduced from \$40 to less than \$25 and further to approximately \$19 in 2010.*
- *At least two million individuals experience an osteoporotic fracture each year, with direct health care costs estimated to be approximately \$16.9 billion.*
- *By 2025, the number of osteoporotic fractures is estimated to be over three million and result in costs of approximately \$25 billion.*
- *Less than 20% of eligible Medicare beneficiaries receive a DXA scan within the recommended two year interval.*
- *By 2010, 93% of physicians said that they would no longer be performing DXA in their offices, based on the proposed payment.*
- *Patient access to DXA testing could be severely compromised if DXA reimbursement is undervalued.*

¹ Harris ST, Watts NB, Genant HK, et al. (1999). (Effects of risedronate treatment on vertebral and nonvertebral fractures in women with postmenopausal osteoporosis: a randomized controlled trial. *JAMA* 282: 1344-1352.

² Kanis J, Barton I, Jonell O. (2005). Risedronate decreases fracture risk in patients selected solely on the basis of prior vertebral fracture. *Osteoporosis Int.* 16:475-482.

³ Quandt S, Thompson D, Schneider D, et al. (2005). Effect of alendronate on vertebral fracture risk in women with bone mineral density T-scores of -1.6 to -2.5 at the femoral neck: The Fracture Intervention Trial (FIT). *Mayo Clin Proc* 80(3): 343-349.

⁴ Patton E, Fischer H. (2005). Screening for Osteoporosis in Postmenopausal Women: Adherence to the 2002 USPSTF Guidelines. Presented at the Sixth International Symposium on Osteoporosis: Current Status, Future Directions. Washington D.C.

⁵ Nelson H, Helfand M, Woolf SH, Allan J. (2002). Screening for postmenopausal osteoporosis: A review of the Evidence for the U.S. Preventive Services Task Force. *Annals of Internal Medicine* 137(6), pp. 529-541.

quarter century.”⁶ The August 2006 Federal Register revisions to Coverage of Bone Mass Measurement restricted reimbursement to central DXA as the only technology to monitor response to FDA approved drug therapy.

Vertebral fracture assessment, or VFA, is a recent advance which permits imaging of the spine to identify vertebral fractures. The software that permits one to do this can be placed on a DXA machine. Two thirds of vertebral fractures are clinically unappreciated but convey a significant increased risk for future osteoporotic fractures, not only at the spine but also hip and wrist. Thus VFA paired with DXA allows for identification of those who are at high fracture risk and who need medical therapy.

Reductions in Medicare reimbursement of DXA and VFA in the non-facility or physician office setting recently have been enacted. MedPAC asserts that when services are undervalued, providers cease furnishing them, threatening beneficiaries’ access to care.⁷ The Deficit Reduction Act of 2005 (DRA) limited technical component reimbursement for imaging services that are performed in physician offices to the lesser of either the payment under the Medicare Physician Fee Schedule (MPFS) or that under the hospital Outpatient Prospective Payment System (OPPS). Methodological changes to the MPFS from CMS-1321-FC resulted in further Medicare payment reductions over a four year transition period beginning in CY 2007.⁸ Due to DRA and MPFS changes effective January 1, 2007, payment for DXA dropped by 40%, from approximately \$139 to \$82, and will drop to approximately \$35 (an overall 75% reduction) when the MPFS is fully implemented in 2010.⁹ Reimbursement for VFA in 2007 also will drop from approximately \$40 to less than \$25, a 38% reduction. By January 2010, VFA reimbursement will have dropped approximately 50% from the 2006 payment to \$19.

Evaluation and treatment rates for osteoporosis in older individuals with fractures currently fall far below national recommendations,¹⁰ suggesting that a reduction in the availability of DXA will exacerbate access problems further. Since approximately two-thirds of all DXA scans are performed in the non-facility setting, patient access to bone mass measurement and assessment will be compromised severely if physicians discontinue providing these tests in their offices. Barriers to the use of DXA that have been cited in the literature include cost, availability of services, travel time and transportation, and health system factors like intake procedures, facility open times, and appointment availability. These factors tend to erect greater barriers to access at the hospital outpatient departments than in the local physician offices.¹¹ Furthermore, for preventive services,

⁶ U.S Department of Health and Human Services. "Bone Health and Osteoporosis. A Report of the Surgeon General". Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004. www.surgeongeneral.gov/library

⁷ Medicare Payment Advisory Commission: Report to the Congress. Promoting Greater Efficiency in Medicare. June 2007.

⁸ CMS-1321-FC finalized methodological changes to the calculation of Practice Expense RVUs under the Medicare Physician Fee Schedule.

⁹ DXA payments modeled with budget neutrality adjustor of 10.1% to work RVU and SGR reduction of 5% per year through 2010. We assumed conversion factor of \$30.85 for 2011 and 2012 as it was felt that assumptions beyond 2010 would not be credible.

¹⁰ Feldstein A, Elmer PJ, Orwoll E et al. (2003) Bone mineral density measurement and treatment for osteoporosis in older individuals with fractures: A gap in evidence-based practice guideline implementation. *Arch Int Med* 163(18):2165-2172.

¹¹ Scheppers E, van Dongen E, Dekker J, et al. (2006). Potential barriers to the use of health services among ethnic minorities: a review. *Family Practice* 23(3):325-348.

the perception that it is not needed urgently also may represent a major obstacle.¹² Research on mammography shows that delayed referral was associated independently with patient age over 65 and the presence of more than one chronic illness.¹³

The American Association of Clinical Endocrinologists (AACE), the International Society for Clinical Densitometry (ISCD), the American College of Rheumatology (ACR), and The Endocrine Society (TES), commissioned The Lewin Group to survey office-based providers of DXA, in order to develop estimates of the costs associated with providing DXA services to Medicare beneficiaries. There have been concerns that current and future levels of reimbursement for both DXA and VFA are below operating costs, but a detailed cost analysis previously had not been performed. Given the new methodology employed by CMS in the last five-year review and the provider cost data being somewhat dated, this study assumes greater importance. This study should assist policymakers and others to determine whether the current Medicare reimbursement for DXA approximates real world operating costs.

Through a mixed mode distribution (i.e., internet, mail and fax with telephone follow-up) of a multi-specialty survey, Lewin collected cost information from 163 physician practices. Lewin then estimated all costs associated with providing DXA and VFA, including practice expense, malpractice expense, and physician work. Practice expense and malpractice expense estimates were developed using financial information collected through The Lewin Group survey. Physician work estimates were based on information that had been collected previously by the ISCD in a clinical survey of densitometry professionals concerning the time required for clinical input (in minutes) for all aspects of DXA provision. The three types of costs (practice expense, malpractice expense, and physician work) were summed to yield total costs. Finally, Lewin compared the total costs to the global reimbursement for DXA and VFA services in the office-based setting.

In addition, Lewin was asked to develop a cost estimate for a policy proposal to maintain payment for DXA in physician offices at the 2006 MPFS amount. Supported by analyses of secondary data and expert judgment, The Lewin Group used a cost accounting methodology similar to that used by the Congressional Budget Office (CBO), to determine the budgetary impact to Medicare over one and five years of restoring DXA reimbursement to the 2006 payment of \$139.46.¹⁴ The purpose of this report is to present the findings of both sets of activities.

Summary of Findings

Study findings are organized into two sections. First, we present our median total cost per procedure for DXA and VFA, based on information from our survey of 163 providers and other study activities. Second, we present an estimate of the five-year gross and net costs to Medicare of implementing the proposal to restore DXA reimbursement to the 2006 MPFS amount of \$139.46.

¹² Strickland J, Strickland DL. (1996). Barriers to Preventive Health Services for Minority Households in the Rural South. *J Rural Health*, 22 (4): 367-374.

¹³ Gimotti et al. (2002). Delivering Preventive Health Services for Breast Cancer Control: A Longitudinal View of a Randomized Controlled Trial. *Health Services Research* 37 (1): 63-83.

¹⁴ We used multiple sources of data for this analysis, including secondary Medicare claims and preliminary Part B Extract and Summary System File (BESS) data for 2006, the results of a clinical survey of multi-specialty densitometry professionals conducted in early 2007, the 2007 Medicare Trustees Report, CMS changes to physician payment under Part B rulemaking, and the Medicare Fee Schedule contained in the 2006 Federal Register. In addition, we used evidence contained in the peer-reviewed literature.

1. Cost of Performing DXA and VFA in Office-based Setting - Survey Results

a. Cost of Performing DXA

We found a 2007 median total cost per DXA procedure of \$134.13, which is \$5 less than the 2006 MPFS reimbursement and about \$50 more than the 2007 Medicare reimbursement. This finding represents the costs of performing DXA in a practice that may or may not perform VFA as well. Costs are developed per practice and are reflective of each practice's individual procedure-mix. The 2007 reimbursement of \$82 represents 61% of our median cost. The median number of DXA procedures performed per year was 768. See Figure ES-1.

Key Findings

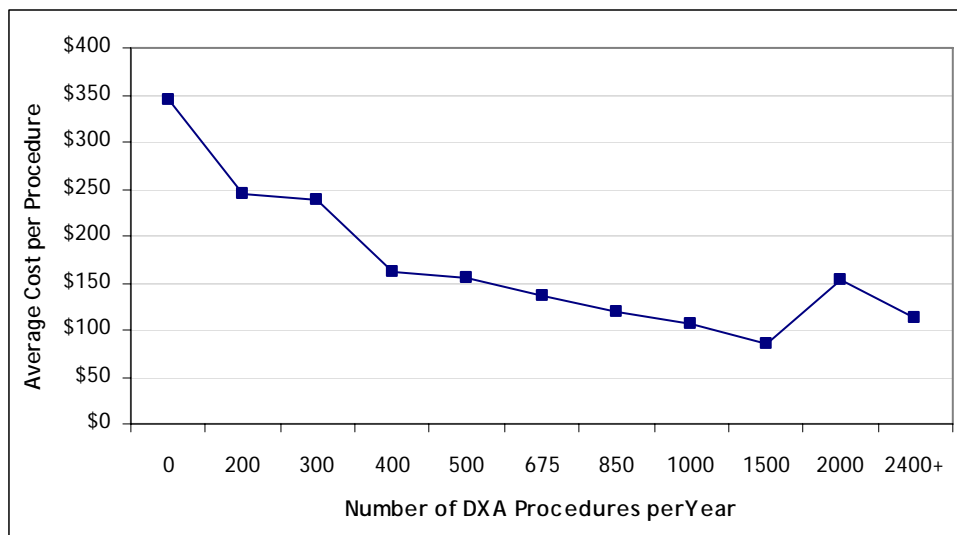
- *The median cost per DXA procedure is \$134.13, \$5 less than the 2006 Medicare reimbursement.*
- *Unlike other imaging equipment, DXA machines have a utilization rate of 13% for DXA (15% for DXA and VFA).*
- *Only 14% of survey respondents are currently reimbursed by Medicare at or above their costs. No provider will be adequately reimbursed for DXA in 2010.*

Figure ES-1: Ratio of 2007 Payment to Cost per DXA Procedure by 25th, 50th and 75th Percentile

Percentile	2007 Cost	2007 Payment	Loss per Procedure	Ratio Payment:Cost
25th percentile	\$95.07	\$82	\$13.07	86%
50% (median)	\$134.13	\$82	\$52.13	61%
75th percentile	\$195.02	\$82	\$113.02	42%

An inverse relationship between the average cost per procedure and the number of DXA procedures performed in a year would be anticipated under basic economic theory. However, this does not extend beyond 1500 procedures per year. As Figure ES-2 below demonstrates, there is a steady decrease in the average cost per procedures as practices increase the number of procedures performed per year, until they reach 1500 procedures per year. The increased cost per procedure at this volume possibly may be attributed to the extra fixed costs and overhead that are associated with operating a high capacity practice.

Figure ES-2: Relationship between Number of DXA Procedures Performed and Average Cost per Procedure



Across all practices represented in the survey, there is an overall utilization rate for DXA machines of 13%, defined as total annual hours equipment is used for patient care, divided by total annual hours equipment is available for DXA.¹⁵ This is substantially lower than the CMS assumption that all imaging equipment is utilized 50% of the time the machine is available for patient care. Unlike advanced imaging services, such as MRI and CT which are used for multiple disease states, DXA is used for just a single disease. Rather than being located in a stand alone imaging center, DXA machines usually are located in the primary care or specialty provider's office. Furthermore, DXA is not subject to overuse since its indications are legislated in the Bone Mass Measurement Act. DXA and VFA tests are integral to providing quality care to patients, as they support both initial diagnosis as well as ongoing monitoring of osteoporosis therapies.

After accounting for cost inflation and the continual decline of DXA payments through 2010, very few providers will be financially able to deliver DXA services to Medicare beneficiaries in the coming years. No provider will be reimbursed by Medicare at or above their costs in 2010. In the course of our data collection, we found that a number of large providers either have closed their doors or totally eliminated DXA as a provided service. If the very largest providers who know their costs best discontinue DXA service, others are likely to follow.

b. Cost of Performing VFA

Our analysis produced a 2007 median total cost per VFA procedure of \$65.83, almost \$26 more than the 2006 MPFS payment amount for VFA performed in the office setting, and about \$30 more than the 2007 reimbursement. This represents the costs of performing VFA as a tandem procedure to DXA. The

Key Findings

- *The median cost per VFA procedure (as a tandem procedure to DXA) is \$65.83, \$26 more than the 2006 Medicare reimbursement.*
- *About 17% of providers are being reimbursed adequately for VFA in 2007, while only 1% will be reimbursed adequately in 2010.*

¹⁵ We found the overall utilization rate for DXA machines used both for DXA and VFA procedures to be 15%.

2007 payment of \$35 represents 53% of our median cost estimate (See Figure ES-3.) With a median number of procedures of only 180 per year, it is evident that most DXA procedures are not accompanied by a VFA.

Figure ES-3: Ratio of 2007 Payment to Cost per VFA Procedure by 25th, 50th and 75th Percentile

Percentile	2007 Cost	2007 Payment	Loss per Procedure	Ratio Payment:Cost
25th percentile	\$43.59	\$35	\$8.59	80%
50% (median)	\$65.83	\$35	\$30.83	53%
75th percentile	\$119.88	\$35	\$84.88	29%

c. Sensitivity Analysis

In developing the Notice of Proposed Rule Making (NPRM), CMS assumed indirect practice expenses account for 63% of the total practice expense. Indirect and direct practice expenses are defined in Figure ES-4 below. The 2007 MPFS indicates that practice expense represents approximately 70% of the total DXA per procedure cost and 78% of the total VFA per procedure cost, based on the allocation of relative value units (RVUs) across practice expense, malpractice expense, and physician work.¹⁶

Figure ES-4: Components of Practice Expense, Indirect and Direct

Indirect Practice Expenses	Direct Practice Expenses
Non-clinical (administrative) labor	Direct labor for clinical personnel
Office space	Equipment expenses
All other expenses not related to directly performing the procedures	Medical supplies and equipment

Results of the Lewin survey show a median indirect percentage for DXA of 37% (\$34) of the total practice expense cost and 47% (\$24) of the VFA total practice expense cost.

As a sensitivity test, we applied the CMS indirect proportion (63%) to our direct practice expense cost of \$60.12, resulting in total practice expense costs of \$162.50. Combining the costs of practice expense, physician work, and malpractice expense produces a total per procedure DXA cost of \$202.33, higher than our base analysis of \$134.13. See Figure ES-5.

¹⁶ Medicare procedure payments often are used as a proxy for cost.

Figure ES-5: Allocation of Practice Expense by Allocation Methodology for DXA, Lewin Survey vs. CMS NPRM Inputs

Methodology	Median Total Cost	Practice Expense			Physician Work	Malpractice
		Indirect	Direct	Total	Total	Total
Lewin Survey	\$134.13	\$34.17	\$60.12	\$94.29	\$38.49	\$1.34
CMS NPRM	\$202.33	\$102.37	\$60.12	\$162.50	\$38.49	\$1.34

Using the same methodology for VFA, we calculate a total practice expense cost of \$73.40 and a total per procedure cost of \$87.63, as compared to our base analysis of \$65.83.

2. CBO-style Estimate of the Costs and Potential Savings to Medicare of a Proposal to Restore DXA Reimbursement to the 2006 MPFS Payment Amount

Per CBO scoring convention, our analysis consisted of the following three steps:

- Develop a baseline estimate of Medicare spending for DXA under the current reimbursement for the five years, 2008-2012.
- Develop an estimate of Medicare spending under a proposal to restore payment for DXA to the 2006 MPFS amount of \$139.46.
- Develop an estimate of potential savings to the Medicare program of avoiding osteoporotic fractures by identifying beneficiaries at-risk using DXA and treating them with pharmaceutical therapy.

First, we present the estimated one- and five-year gross costs of the proposal to restore DXA reimbursement to the 2006 level under Medicare. Then, we present our estimates of the potential cost offsets (savings) from identifying and treating beneficiaries at-risk of an osteoporotic fracture. Potential savings accrue from the avoided cost of treating osteoporotic fractures for a subset of the identified population, net of the costs of implementing the proposal and the costs of providing pharmaceutical treatment to the identified at-risk individuals.

a. Estimated Cost to Medicare of Restoring DXA Reimbursement to the 2006 Level for 2008-2012¹⁷

- The one-year estimate (2008) of net costs (with Part B premium offsets) to Medicare of reimbursing DXA at the 2006 level is approximately \$94 million. (See Figure ES-6, where Medicare outlays are indicated by brackets.)

Key Findings

- The five-year estimate (2008-2012) of costs to Medicare of reimbursing DXA at the 2006 level is approximately \$648 million.
- About 4,256,510 DXA procedures would be "recovered" between 2008-2012 if the 2006 payment level was maintained.

¹⁷ We estimated 10 year baseline Medicare spending at \$220 million; incremental Medicare spending under the proposal of \$1.9 billion, with a 10 year net cost of the proposal of \$1.5 billion. The baseline estimate of DXA procedures is 6.1 million (4 million over five years), with the proposal recovering 11.8 million DXA procedures.

- The five-year estimate (2008–2012) of costs (with Part B premium offsets) to Medicare of reimbursing DXA at the 2006 level is approximately \$648 million (See Figure ES-6.)
- We estimate that the volume of DXA procedures will remain at 1.6 million in 2008, with 8.3 million procedures over the five years, 2008–2012, if DXA reimbursement is restored to the 2006 level. About 4,256,510 DXA procedures would be “recovered” over the five-year period.¹⁸

Figure ES-6: Estimated Cost of Proposal

	2008	2009	2010	2011	2012	Total
Estimated Baseline Medicare Spending for DXA Under DRA and Changes to Physician Part B Payment (in millions)						
Uses data from CMS Preliminary Part B Extract and Summary System File, 2006	[\$74]	[\$39]	[\$18]	[\$16]	[\$15]	[\$162]
Total Estimated Medicare Spending for DXA Under Proposal to Restore DXA Reimbursement to 2006 Levels (in millions)						
Uses data from CMS Preliminary Part B Extract and Summary System File, 2006, also Medicare Trustees Report, 2007	[\$199]	[\$202]	[\$205]	[\$208]	[\$212]	[\$1,026]
Incremental Medicare Spending for DXA Under Proposal Relative to Baseline Spending						
Calculated	[\$125]	[\$164]	[\$187]	[\$192]	[\$196]	[\$864]
Estimated Net Cost of Proposal (in millions)						
Medicare spending minus the 25% premium adjustment	[\$94]	[\$123]	[\$140]	[\$144]	[\$147]	[\$648]

Our baseline estimate of Medicare spending under the DRA and other cuts for DXA for 2008 is \$74 million, and for the five-year period of 2008-2012 is \$162 million. We estimate that the annual volume of DXA procedures under the DRA and other cuts will decline to 1,236,298 in 2008 and to 4,048,103 over the five years 2008-2012.¹⁹

A March 2007 ISCD multi-specialty survey found that 8% of physicians already had discontinued providing DXA in their offices due to cuts in reimbursement, and 36% reported that they would discontinue the procedures over the next year. By 2010, 93% of respondents said that they no longer would be performing DXA in their offices. We used this data to model a decline in DXA testing in the non-facility setting of 25% for 2008 and 2009, and 10% for 2010 through 2012.

If the proposal to restore DXA reimbursement to the 2006 level is implemented, we estimate Medicare spending for DXA to be \$199 million in 2008 and \$1,026 million over five years 2008-2012. After netting out baseline Medicare spending and a 25% premium adjustment, the 2008 net cost of the proposal is \$94 million. For 2008-2012, the net cost of the proposal is \$648 million.

¹⁸ Per CMS correspondence, office-based DXA volume in 2006 was 1.55 million procedures.

¹⁹ We assumed that volume would decline by 25% per year in 2008, 2009, and 2010, and 10% in 2011 and 2012. Our 25% rate is based on conversations with providers who felt that some physicians would be able to shift costs and would continue providing services to Medicare beneficiaries as a clinical accommodation and despite fiscal loss.

b. Estimated Cost Offsets of Avoided Osteoporotic Fractures due to Increased DXA under Proposal for 2008-2012²⁰

- The estimated cost offsets (gross savings) to Medicare of avoiding increased osteoporotic fractures from the recovery of approximately 4,256,510 DXA procedures under the proposal is **\$175 million** in 2008 and **\$2.1 billion** over the five years 2008-2012.
- Performing approximately 360,951 more DXA procedures in 2008 and 4,256,510 more DXA procedures over the five-year period would allow for identification and treatment of patients with osteoporosis, preventing approximately 18,048 osteoporotic fractures in 2008 and 212,826 fractures over the five years 2008-2012. Approximately 3,406,877 individuals could receive treatment over the five years at a cost to Medicare Part D of \$25 million in 2008 and \$294 million over the five years.²¹
- After the cost of the proposal and the resulting increased DXA utilization (\$94 million) and the cost of treating identified individuals for osteoporosis with drug therapy (\$25 million), the one-year estimate (2008) of potential savings (after Part D premium offsets) to Medicare is approximately **\$56 million** (see Figure ES-7).
- After the cost of the proposal and the cost of treating identified individuals for osteoporosis with drug therapy, the five-year estimate (2008–2012) of net savings (after Part D premium offsets) to Medicare of preventing fractures by identifying and treating at-risk beneficiaries using DXA is approximately \$1.144 billion.

Key Findings

- *The estimated savings to Medicare for using DXA to identify at-risk individuals and avoiding fractures by maintaining the 2006 payment rates from 2008 to 2012 is \$2.1 billion.*
- *Considering the cost of the proposal and the cost of treating identified individuals with drug therapy, the five-year estimate of net savings to Medicare of preventing fractures is approximately \$1.144 billion.*

²⁰ Our 10 year estimate of recovered DXA procedures under the proposal is 11.8 million procedures. We estimate preventing 586,000 osteoporotic fractures, saving Medicare \$4.5 billion over 10 years. We estimate treatment costs to be \$810 million. We estimate a net savings to Medicare over 10 years after treating at-risk beneficiaries to be \$3.7 billion.

²¹ Based on results of the FRAME study (Fracture Reduction Affects Medicare Expenditures), we assumed that, for every 100 scans, five fractures would be prevented.

Figure ES-7: Estimated Cost Offsets Using DXA for Identifying and Treating Individuals At-Risk of Osteoporotic Fractures

	2008	2009	2010	2011	2012	Total
Number of DXA Procedures "Recovered" Under Proposal (in thousands)						
Number of DXA procedures not lost due to DRA and other cuts	361	694	950	1,069	1,182	4,256
Number of Fractures that Could Be Prevented by DXA (in thousands)						
Assumes a 1/20 fracture/scan ratio	18	35	48	53	59	213
Savings to Medicare Under the Proposal to Restore DXA Reimbursement (in millions)						
Assumes \$9,699 per fracture cost after beneficiary co-payments and deductibles in 2008 inflated to 2012	\$81	\$214	\$320	\$381	\$442	\$1,438
Estimated Net Cost of Proposal (in millions)						
Difference between spending under DRA and other cuts and Act	[\$94]	[\$123]	[\$140]	[\$144]	[\$147]	[\$648]
Cost to Medicare of Treating At-risk Individuals (in millions)						
Annual cost to Medicare of \$900 incurred by each at-risk individual for drug therapy after cost management factor, beneficiary premium, and availability of generic drug	[\$25]	[\$48]	[\$66]	[\$74]	[\$81]	[\$294]
Savings to Medicare of Avoided Osteoporotic Fractures after Cost of Proposal to Restore DXA Reimbursement and Treatment of Identified At-risk Individuals (in millions)						
Net savings to Medicare of maintaining payment for DXA at 2006 rates	\$56	\$166	\$254	\$308	\$360	\$1,144

Discussion

Osteoporosis care has become a focus worldwide as the population ages. CMS recognizes the impact of osteoporosis on beneficiary health by providing osteoporosis testing at the "Welcome to Medicare" physical exam for qualified beneficiaries and by covering osteoporosis testing at least every two years.²²

Given the importance of DXA and VFA as integral to the prevention of osteoporotic fractures, the results of this study indicate that the recent Medicare payment reductions for DXA and VFA are ill advised on several grounds.

First, the level of payment reduction is such that physician costs averaging about \$135 to perform DXA no longer will be covered, and the losses will be too large to be cross-subsidized within their practices. When larger practices with low unit DXA costs indicate that they no longer are able to provide DXA services, it suggests that the payment rates are too low. This finding is particularly troublesome, because it means that typical practices with generally low

²² DHHS press release dated January 10, 2005: HHS Promotes New Medicare Preventive Benefits for Better Senior Health. www.hhs.gov/news/press/2005pres/20050110.html

DXA volume where services are provided as part of ongoing patient care will find that providing DXA is no longer feasible.

Second, if physicians discontinue DXA services in their offices, beneficiary access to DXA will be reduced significantly. Currently less than 20% of eligible Medicare beneficiaries receive a DXA study within a two-year interval, despite the efforts of providers and the Medicare program to promote the service. Even for patients who sustain fractures, within one to two years after the fracture, only 12%-24%^{23,24} had undergone DXA testing.

Third, because approximately 63% of DXA and VFA services currently are provided in physician offices, the loss of these services will be significant. Other sites of service (i.e., hospital outpatient departments) will not be able to meet demand. Furthermore, introducing barriers such as complicated intake procedures and/or additional time and travel expense will hinder patient compliance with obtaining the recommended DXA test.

Finally, given the evidence that identification of at-risk individuals using DXA, together with treatment of these individuals, can reduce osteoporotic fractures, the loss of DXA services could mean an increase in osteoporotic fractures, if access to DXA by Medicare beneficiaries is reduced.

The net result, as we have indicated in this study, is the unintended consequence that reductions in payment for DXA actually cost, rather than save, Medicare dollars. This appears to be an instance in which prevention serves the role society asks of it – that is, to reduce morbidity and health care expenditures. Medicare is not serving its beneficiaries well to essentially eliminate office-based DXA services.

From this perspective, the Medicare goal of increasing beneficiaries' use of preventive services is undercut by the large reduction in DXA payment rates. To reduce DXA payment by 75%, thereby reducing access to services, can only exacerbate this already low attainment of an important public policy goal.

²³ National Institutes of Health Consensus Development Panel on Osteoporosis Prevention, Diagnosis, and Therapy. (2001). *JAMA* 285:785-795.

²⁴ Cuddihy MP, Gabriel SE, Crowson C, et al. (2002) Osteoporosis intervention following distal forearm fracture. *Arch Int Med* 162: 421-426.