Medicare Copayments for Critical Access Hospital Outpatient Services—Update

A report by staff from RTI International for the Medicare Payment Advisory Commission

Allison Briggs, BS
Matthew Toth, PhD
Sara Freeman, MS
RTI International

•

MedPAC
425 I Street, NW
Suite 701
Washington, DC 20001
(202) 220-3700
Fax: (202) 220-3759
www.medpac.gov

•

June 2016

April 2016

Medicare Copayments for Critical Access Hospital Outpatient Services—Update

Final Report

Prepared for

Jeff Stensland, PhD
Medicare Payment Advisory Commission
425 I Street NW
Suite 701
Washington, DC 20001

Prepared by

Allison Briggs, BS
Matthew Toth, PhD
Sara Freeman, MS
RTI International
3040 Cornwallis Road
Research Triangle Park, NC 27709
RTI Project Number 0214979.000
Contract Number MED15P0083

MEDICARE COPAYMENTS FOR CRITICAL ACCESS HOSPITAL OUTPATIENT SERVICES—UPDATE

by

Allison Briggs, BS

Matthew Toth, PhD

Sara Freeman, MS

Medicare Payment Advisory Commission Project Officer: Jeff Stensland, PhD

RTI International*

MED15P0083

April 2016

This project was funded by the Medicare Payment Advisory Commission under contract no. MED15P0083. The statements contained in this report are solely those of the authors and do not necessarily reflect the views or policies of the Medicare Payment Advisory Commission. RTI assumes responsibility for the accuracy and completeness of the information contained in this report.

CONTENTS

Appendix Tables (separate document)

EXECUTIVE SUMMARY

ES.1 Purpose of the Study

This study has two major purposes. The first is to estimate the additional burden of Part B coinsurance on beneficiaries receiving outpatient services at critical access hospitals (CAHs). The second is to identify the Medicare Fee-for-Service (FFS) proportion of key services provided at CAHs.

CAHs receive cost-based reimbursement for inpatient acute, swing-bed, and outpatient services delivered to Medicare beneficiaries. Medicare patients at CAHs owe coinsurance on outpatient services based on 20 percent of applicable Part B charges. In contrast, at hospitals paid using Medicare's outpatient prospective payment system (OPPS), coinsurance is based on 20 percent of the OPPS price under the fee schedule for Ambulatory Patient Classification units. Because the fee schedule is generally much lower than charges, an unintended consequence of cost-based reimbursement implemented under the Rural Hospital Flexibility Program is that beneficiaries receiving care at a CAH have a higher coinsurance burden than those going to prospective payment system (PPS) hospitals.

Under cost-based reimbursement, Medicare pays 101 percent of all Part B allowable costs net of deductibles, coinsurance, and primary payer amounts. Without a change in law, any reduction in coinsurance therefore results in additional outlays for the Medicare program. This program cost could be offset by changes in CAH payments or with more-broadly targeted Medicare savings.

This study builds on previous work conducted by RTI International for the Medicare Payment Advisory Commission (MedPAC) in which we reviewed the coinsurance burden issue and considered possible policy options. Because this is a dynamic problem, we have been asked to conduct further analyses to identify ongoing changes in CAH charges, costs, service mix, and payer mix, and their resulting effects on beneficiary coinsurance burdens and Medicare payments.

ES.2 Scope of Work

RTI was asked to use data from 2012 and 2013 to update our two earlier studies. Specifically, we were asked to review recent changes in the volume of outpatient claims, charges, cost-to-charge ratios (CCRs), payments, and coinsurance in CAHs; compare charge-based coinsurance in CAH settings to the costs of Part B services; look for changes in the rates of growth by service group and differences across CAHs in the costs and payments for the same services; and re-estimate the potential costs to the Medicare program of changing to cost-based coinsurance. As a new topic of study, we were asked to examine the share of costs allocated to Medicare FFS by cost center.

ES.3 Data and Methods

Data for this analysis come from the Medicare cost reports and outpatient claims in the Standard Analytic File (SAF). Our hospital sample included CAHs that were operating as of

January 2013 and had filed a full-year cost report in 2012 or 2013 (Period 2). Cost reports were matched to CAHs with reports from 3 years earlier (Period 1). Corresponding outpatient claims were extracted for both periods and merged with the cost report data to complete the analytic file. There were 1,300 CAHs in the Period 2 sample; 1,198 could be matched to Period 1 data, and the remaining 102 CAHs had complete Period 2 data only. RTI's previous study tracked changes from 2005–2006 to 2008–2009. To review the most-recent available data, this study tracks changes in the same variables over a non-overlapping 3-year period, from 2009–2010 to 2012–2013.

ES.4 Findings

Mean coinsurance per CAH claim in Period 2 was $280; the median was $102, and the 95th percentile was $1,079. We aggregated by beneficiary within CAH and found yearly copayments greater than $1,000 for 27.8 percent of beneficiaries, up from 20.5 percent in our previous analysis. The proportion of beneficiaries with yearly copayments greater than $3,000 rose from 3.3 percent in our previous analysis to 5.9 percent in Period 2. These totals do not include any coinsurance paid at other facilities or to physicians. Most FFS beneficiaries who are not dually eligible for Medicaid buy Medigap coverage. With the higher copayments frequently paid by Medigap plans, beneficiaries may not be price sensitive, which could contribute to hospitals keeping their charges high. However, these beneficiaries may still be affected through higher Medigap premiums. Additionally, in the case of dual eligibles, if the Medicaid program does not cover fully cover the copayments, it becomes Medicare bad debt, for which the Medicare program pays 65 percent.

CCRs for Medicare ancillary services dropped by 1.4 percent from Period 1 to Period 2. This is a smaller decline than we observed in the previous analyses (13% decline from 2003 to 2006; 4.6% decline from 2006 to 2009). Lower CCRs equate to higher mark-up; as mark-up rates increase, the excess coinsurance burden at CAHs increases. The extent to which CCRs dropped or increased varied by service group. CCRs for all service groups except Pharmacy dropped from Period 1 to Period 2. Magnetic Resonance Imaging (MRI), Blood, and Diagnostic Radiology saw the greatest proportional declines: 16 percent, 10 percent and 10 percent, respectively. Pharmacy increased by 0.3 percent. The Computerized Axial Tomography (CAT) Scan service group again had the lowest aggregate CCR for the full Period 2 sample, 0.111, indicating a mark-up rate of 801 percent (up from 675 percent in our previous analysis).

The growth rate of charges from Period 1 to Period 2 (17.1 percent) was comparable to the rate in the previous analysis (17.7), whereas the growth rate for costs (13.9 percent) in this study period increased as compared with the rate in the previous analysis of 11.7 percent. However, because increases in charges continue to outpace those of costs, beneficiary liabilities as a share of the total payment for Medicare services (including diagnostic laboratory testing) rose slightly, from 36.3 percent to 37.4 percent. CAHs in which beneficiary liability was more than 50 percent of the total payment increased to 9.8 percent for the full Period 2 sample (from 6.3 percent in the previous analysis).

Outpatient diagnostic laboratory services are not subject to coinsurance. For CAH services that were subject to Part B coinsurance, coinsurance amounts accounted for 49 percent of the estimated cost of services in Period 2, up from 47 percent in our previous analysis.

Because some individual services (e.g., Cardiology and CAT Scan) frequently have CCRs below 0.20, beneficiaries may pay more in coinsurance for a service than Medicare allows for the cost of that service.

We observed extensive regional and state variation by service in median values of coinsurance as a percentage of covered costs. Six service groups—Pharmacy, Diagnostic Radiology, CAT Scan, MRI, Cardiology, and Anesthesia—had one or more states with median values greater than 100 percent. Florida had the highest median values, above 100 percent in all six of those services. Eleven other states had at least one service group with median values above 100 percent. Diagnostic Radiology, CAT Scan, and MRI showed the greatest regional variation in the median values of coinsurance as a percentage of covered costs, with the West consistently having the lowest percentages and the Northeast or South the highest.

ES.5 Medicare FFS Proportions—Findings and Discussion

RTI analyzed Period 2 Medicare Cost Reports to determine the Medicare FFS inpatient and outpatient proportion of charges, overall and by service group. We examined both facility-level proportions and aggregate proportions (which pooled charges across CAHs). We also looked at state and regional variation. Note that the proportions discussed are for Medicare FFS charges only (not Medicare Advantage [MA]) because that is what can be distinguished by cost report data; all payers' charges, including Medicare FFS and MA, are in the proportion denominators.

The Period 2 mean facility-level proportion of Medicare FFS charges was 0.338, and ranged from a minimum of 0.017 to a maximum of 0.653. The Midwest had the highest mean Medicare FFS proportions, at 0.359, and the West the lowest, at 0.300.

Focusing on service group differences, Blood, Cardiology, and Implantable Devices had the highest facility average Medicare FFS proportions, at 0.576, 0.517, and 0.500; the highest aggregate proportion was Cardiology, at 0.489. Emergency had the lowest mean Medicare FFS proportions (0.292 facility average; 0.266 aggregate). Examining state variation for Cardiology services, Nebraska had the highest proportion (0.626), and Hawaii the lowest (0.254). Distribution analyses by service group showed large variation across CAHs, ranging from close to no Medicare FFS (Anesthesia, Cardiology, Observation) to nearly all Medicare FFS (Surgery, Anesthesia, Blood, Cardiology, Implantable Devices).

Medicare FFS is a major payer for the care delivered at CAHs—over 30 percent of CAH revenue on average.[1] However, even when focused on individual services, Medicare FFS does not have a strongly dominant share for the entire set of CAHs. Further, when looking at all cost-based payers combined (Medicare FFS, subset of MA plans that pay based on costs, and subset of Medicaid plans that pay based on costs), it is not clear what share each payer has overall and

[1] This figure is based on MedPAC data and supported, but not specifically calculated, by this analysis.

for specific services.[2] The incentive to control costs may be reduced if most payers are paying cost-based reimbursement.

ES.6 Cost of Coinsurance Policy Change

RTI reviewed the cost to the Medicare program of policy changes that would reduce the coinsurance burden on CAH patients. We used cost reports and claims data to estimate the cost to the Medicare program if CAH coinsurance were computed as equal to 20 percent of estimated costs rather than 20 percent of charges.

From Period 2 cost report data, RTI estimated that cost-based coinsurance would have added $1.05 billion annually to Medicare program payments for Part B services, although downstream reductions in allowable Medicare bad debt might have offset this by $102 million. The $1.05 billion represents a 59 percent reduction in beneficiary coinsurance payments.

An alternative estimating approach, using information from individual claims instead of aggregate cost report data, yielded similar but higher results (consistent with previous analyses). From 6.6 million Period 2 claims that were matched by dates to the available cost reports, RTI estimated that cost-based coinsurance would have added $1.13 billion to Medicare program payments for Part B services, before taking any offsets for bad debt into consideration.

The cost of the policy change arises from the beneficiary copayment being brought down from the level they pay in the CAH (about 49 percent of estimated covered costs) to the level they would pay in a PPS hospital (probably no more than 20 percent). Policymakers would have to decide how to finance this cost. The Medicare program could absorb the entire cost of the policy change. Alternatively, the program cost could be fully or partially offset with other changes within CAH hospital payments or with more-broadly targeted Medicare changes.

---

[2] As of 2014, 20 percent of rural Medicare beneficiaries are enrolled in MA plans. MA plans negotiate contracts directly with CAHs, with many having some form of cost-based reimbursement. Roughly 60 percent of Medicaid programs have cost-based inpatient or outpatient reimbursement for CAHs, although they are not always reimbursed at the same rate as Medicare FFS.

Kemper, L., Barker, A., McBride, T., and Mueller, K. (2014, Jan). *2014: Rural Medicare Advantage Enrollment Update*. Rural Policy Brief No. 2015-1. RUPRI Center for Rural Health Policy Analysis. Retrieved from http://www.public-health.uiowa.edu/rupri/publications/policybriefs/2014/2014%20MA%20update.pdf

NORC Walsh Center for Rural Health Analysis and RUPRI Center for Rural Health Policy Analysis. (March 2008). *Critical Access Hospitals' Experiences with Medicare Advantage Plans*. Retrieved from https://www.ruralcenter.org/tasc/resources/critical-access-hospitals-experiences-medicare-advantage-plans

Radford, A., Hamon, M., and Nelligan, C. (2010, April). *States' Use of Cost-Based Reimbursement for Medicaid Services at Critical Access Hospitals.* Chapel Hill, NC: North Carolina Rural Health Research & Policy Analysis Center. Retrieved from http://www.shepscenter.unc.edu/rural/pubs/finding_brief/FB94.pdf

SECTION 1.
INTRODUCTION

This report for the Medicare Payment Advisory Commission (MedPAC) presents the findings of RTI International's contract to re-examine coinsurance burdens to beneficiaries receiving outpatient services at critical access hospitals (CAHs). The scope of work for this contract directs RTI to study the coinsurance burden for beneficiaries receiving outpatient care at CAHs, to evaluate the costs of a possible policy change to bring that burden in line with what would apply in prospective payment system (PPS) hospital settings, and to identify the Medicare fee-for-service (FFS) proportion of services at CAHs. Specific questions we were asked to address include the following:

- How have the volumes of outpatient claims, charges, costs, payments, and coinsurance changed for CAHs over recent years? How do the changes compare with previous results?
- How does Part B coinsurance in CAH settings compare with cost of services?
- What is the Medicare FFS share of services at CAHs?
- What would be the cost to the Medicare program of a change in CAH settings from charge-based to cost-based outpatient copayments?

CAHs receive cost-based reimbursement for inpatient acute, swing bed, and outpatient services delivered to Medicare beneficiaries. Medicare patients at CAHs owe coinsurance on outpatient services based on 20 percent of applicable Part B charges. In contrast, at hospitals paid using Medicare's outpatient prospective payment system (OPPS), coinsurance is based on 20 percent of the OPPS price under the fee schedule for Ambulatory Patient Classification units.

RTI first identified the potential for disproportionately higher coinsurance burdens as an unintended consequence of cost reimbursement in a project completed for the Centers for Medicare & Medicaid Services (CMS) in 2006, *Analysis and Monitoring of Critical Access Hospital Growth and Cost Trends*. The project report documented that beneficiaries receiving outpatient care at a CAH paid more in coinsurance than they would have paid if the services had been received at a PPS hospital. Further evidence of this problem was documented in 2008 and 2011 by RTI under contracts to MedPAC.[3] In those studies, RTI found that the burden of excess CAH coinsurance increased over time because CAH charges can increase without restraint, whereas coinsurance computed under the OPPS is constrained by increases in regulated rates.

[3] Freeman, S., & Dalton, K. (2008). *Medicare copayments for critical access hospital outpatient services.* Contract Number RFP0306MEDPAC, Task E4034808. Prepared for MedPAC.
Freeman, S., & Dalton, K. (2011). *Medicare copayments for critical access hospital outpatient services—2009 Update*. Contract Number RFP0306MEDPAC, Task MED11P0062. Prepared for MedPAC.

CAHs may set their charges at any rate they desire. Currently, CAHs have no strong financial incentive to moderate their rate increases, although recent changes in bad debt reimbursement could serve as a disincentive. Charge-based coinsurance that beneficiaries are unable to pay (or that state Medicaid programs do not cover) becomes bad debt. Historically, CAHs have been reimbursed at 100 percent for bad debt; recent legislation reduced these payments to 65 percent over a 3-year phase-in period that began in Fiscal Year (FY) 2013. This policy change affected approximately half of CAHs in our Period 2 sample, but any impacts of the bad debt reimbursement change moderating CAH charges would likely not appear in our current analysis results.

Medicare reimburses CAHs at 101 percent of program cost *net* of any primary payer amounts, deductibles, and coinsurance. Any change in policy that reduces coinsurance for CAH services will necessarily translate to an offsetting increase in Medicare interim payments. In 2010, roughly 16 percent of Medicare FFS beneficiaries are personally responsible for their coinsurance amounts, up from 14 percent in our previous study. For most beneficiaries, coinsurance and deductibles are paid by secondary insurance policies or by state Medicaid programs.[4] For these beneficiaries with secondary insurance, it is the insurer rather than the beneficiary that would benefit by any change to reduce CAH coinsurance burdens.

In this study, RTI returns to the primary study question by examining more-recent data to support the need for a policy change to reduce the coinsurance in CAH settings. We also estimate the budget impact. Our technical approach is described in ***Section 2***. Our findings, from a review of the cost-to-charge ratios (CCRs) for key outpatient services delivered in CAHs to changes in claims volume, charges, costs, and coinsurance, are shown in ***Section 3***. We present our methods, findings, and discussion related to the Medicare FFS proportion analysis in ***Section 4***. Finally, in ***Section 5,*** we conclude our analysis with updated costs to the Medicare program if CAH coinsurance were computed based on 20 percent of estimated costs rather than 20 percent of charges.

[4] Data from the 2010 Medicare Current Beneficiary Survey indicate that 86 percent of all Medicare beneficiaries nationwide had supplemental coverage, in the form of Medicaid or other secondary insurance. In our previous analysis citing data from the 2007 Medicare Current Beneficiary Survey, roughly 89 percent had supplemental coverage, and the rates were lower for rural beneficiaries (85%). Source: Kaiser Family Foundation. (2015, March). *A Primer on Medicare: Key facts about the Medicare Program and the people it covers*. Retrieved from http://kff.org/report-section/a-primer-on-medicare-what-is-medicare/. Kaiser Family Foundation (2009, August). *Chartpack: Examining sources of supplemental insurance and prescription drug coverage among Medicare beneficiaries.* Retrieved from http://kff.org/medicare/report/examining-sources-of-supplemental-insurance-and-prescription/.

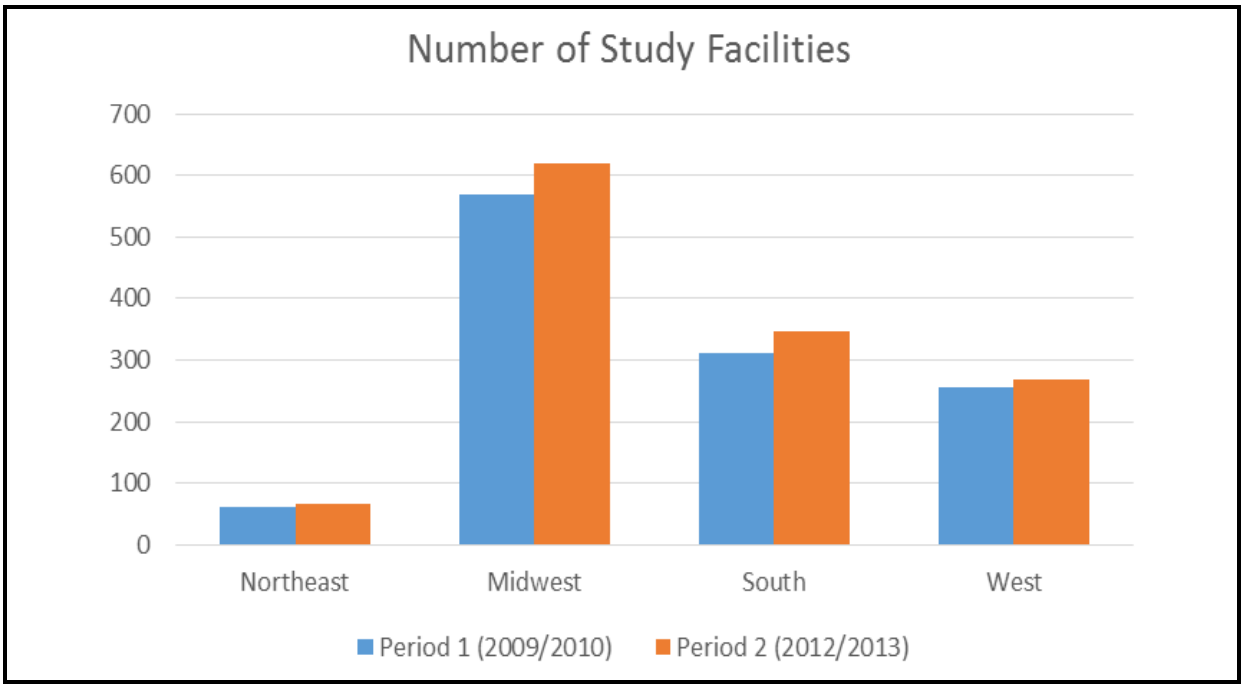
SECTION 2.
TECHNICAL APPROACH

2.1 Study Population

The study sample is defined from the population of CAHs operating as of January 2013, restricted to those with a filed cost report in 2012 or 2013 that covers a full 12-month period or longer (minimum of 363 days) and could be matched to calendar year 2012 or 2013 Standard Analytic File (SAF) outpatient claims. Where possible, the most recent cost report was matched with a report from 3 years earlier to identify changes in key measures over time. The composition of the final sample is 1,198 matched Period 1 (2009–2010) and Period 2 (2012–2013) facilities, with 1,300 Period 2 facilities in all.

As shown in ***Figure 2-1***, CAHs are not evenly dispersed throughout the country. The Midwest has the greatest number, followed by the South. The Northeast has very few CAHs. At least one CAH is present in every state except Connecticut, Delaware, Maryland, New Jersey, and Rhode Island.

Figure 2-1
Hospital study sample by region and period



SOURCE: RTI analysis of Medicare Cost Reports, FY2009-FY2013.

2.2 Data

The two principal data sources for this analysis were the Medicare cost reports from the Hospital Cost Report Information System (HCRIS) files and FFS hospital outpatient claims from the SAF.

Medicare cost reports were used to compute CCRs by type of service from the data on Worksheet C. We also obtained total Part B costs, payments, coinsurance and deductible amounts, and reimbursable bad debts from Worksheet E Part B.

The Medicare cost report was revised during the study period, with the form 2552-96 replaced by 2552-10 for cost reports with a reporting period beginning on or after May 1, 2010. Our analysis required that, for Period 1, the cost reporting period covers at least 363 days and has a beginning date no earlier than January 1, 2009, and an end date no later than December 31, 2010. Because of these restrictions, all of our Period 1 data use the 2552-96 forms, whereas Period 2 data use the 2552-10 forms. Greater specification on the revised forms that creates worksheet line numbers for Magnetic Resonance Imaging (MRI), Computerized Axial Tomography (CAT) Scan, and Implantable Devices led to increased reporting for those services. Analysis of changes for these service groups over the study period, based on cost report data, must be viewed in perspective of reporting changes. The definitions for service groups were refined in the analysis given changes in the cost reports and review of revenue center codes.[5]

CCRs were computed at the level of individual cost centers as reported by each facility and from data rolled up to key service groups.[6] Following the approach used in our previous analyses, CCRs were edited to remove ratios less than 0.01 or greater than 10 or those with normalized ratios greater than ± 3 standard deviations from the geometric mean for each line. See ***Appendix Table A-1*** for results of CCR editing by service group.

MedPAC provided RTI with calendar year (CY) 2009–2010 and 2012–2013 outpatient claims. RTI matched the claims by provider numbers and beginning and ending dates of FY cost reports in the study sample. Extracted variables included line-item data on charges and coinsurance amounts by service, plus claim-level data on payments and deductibles. Ancillary services were identified by revenue center codes and grouped into 20 key service groups,[7] 16 of which were analyzed for this report: Pharmacy, Diagnostic Laboratory Testing, Medical Supplies, Implantable Devices (new breakout from Medical Supplies), Diagnostic Radiology, CAT Scan, MRI, Respiratory Therapy, Rehabilitation Therapy, Cardiology, Emergency Room, Surgery, Blood, Anesthesia, Clinic (including psychiatric services), and Observation.

---

[5] The CCR calculations for Observation in this analysis were based on observation beds cost centers as opposed to routine inpatient services as was done in the previous report. Cardiology, which focuses primarily on electrocardiology, was expanded in this report to include electroencephalogram (EEG) because in some cases the cost center and revenue code crosswalks mapped EEG to electrocardiology and because EEGs may be used in cardiac settings (e.g., following cardiac arrest). Changes such as these may limit the ability to make comparisons to results from previous reports.

[6] In a 2008 project for CMS (*Refining Cost to Charge Ratios for Calculating APC and DRG Relative Payment Weights*), RTI identified problems from misclassification of nonstandard cost centers. RTI developed a routine for correcting the most commonly miscoded cost centers. Although misclassification is less common in the CAH reports than in the reports for larger PPS hospitals, we again ran the CAH HCRIS files through this routine as we had done in previous analyses.

[7] Four service groups were not analyzed for this report: Professional Fees, Dialysis, and Gastrointestinal Services and the catch-all group, Other.

A total of 12,822,389 individual Medicare claims were matched by provider for our analysis. Line-item and claims-level costs were estimated by applying the edited CCRs from the Medicare cost report data to the covered charges in the claims files, using an RTI adaptation of CMS' published Outpatient Revenue Code Crosswalk.

All charge and cost figures are expressed in 2010 dollars unless otherwise noted. Data were adjusted for inflation using the CMS Market Basket Inpatient Hospital Index and the quarter end date of the hospital cost report. Provider-level data were annualized in instances where the Medicare cost report (and therefore also the matched claims) covered more or less than a full year.

2.3 Approach

The following types of analyses were conducted:

- Review of CAH pricing trends based on CCRs from the Medicare cost report
- Conversion of outpatient claims from charges to cost using hospital-specific, service-specific CCRs
- Review of claims volume, charges, cost, and payments over two study periods
- Review of coinsurance amounts as a percentage of estimated cost, by key service areas
- Review of state and regional variation
- Estimation of cost to the Medicare program of changes in coinsurance policy from a percent-of-charges basis to a percent-of-costs basis

SECTION 3.
FINDINGS

Because Medicare beneficiary coinsurance at CAHs is based on charges and the Medicare program's reimbursement to CAHs is cost-based, the relationship between costs and charges is critical. If the growth in charges outpaces the growth in costs, the coinsurance burden increases for beneficiaries. In this section, we present our Period 2 findings and note changes from earlier time periods.

3.1 Changes in CAH Costs, Charges, and Pricing Strategies

CCRs for CAHs continue to vary widely across facilities and across services within facilities. In the matched CAH sample, the aggregate average ratio of costs to charges for ancillary services was relatively stable over the 3 years in the study period: 0.438 in Period 1 and 0.432 in Period 2. This represents a reduction of 1.4 percent as compared with 4.6 percent in the previous analysis. An aggregate CCR of 0.432 corresponds to an average mark-up of 131 percent over cost.[8]

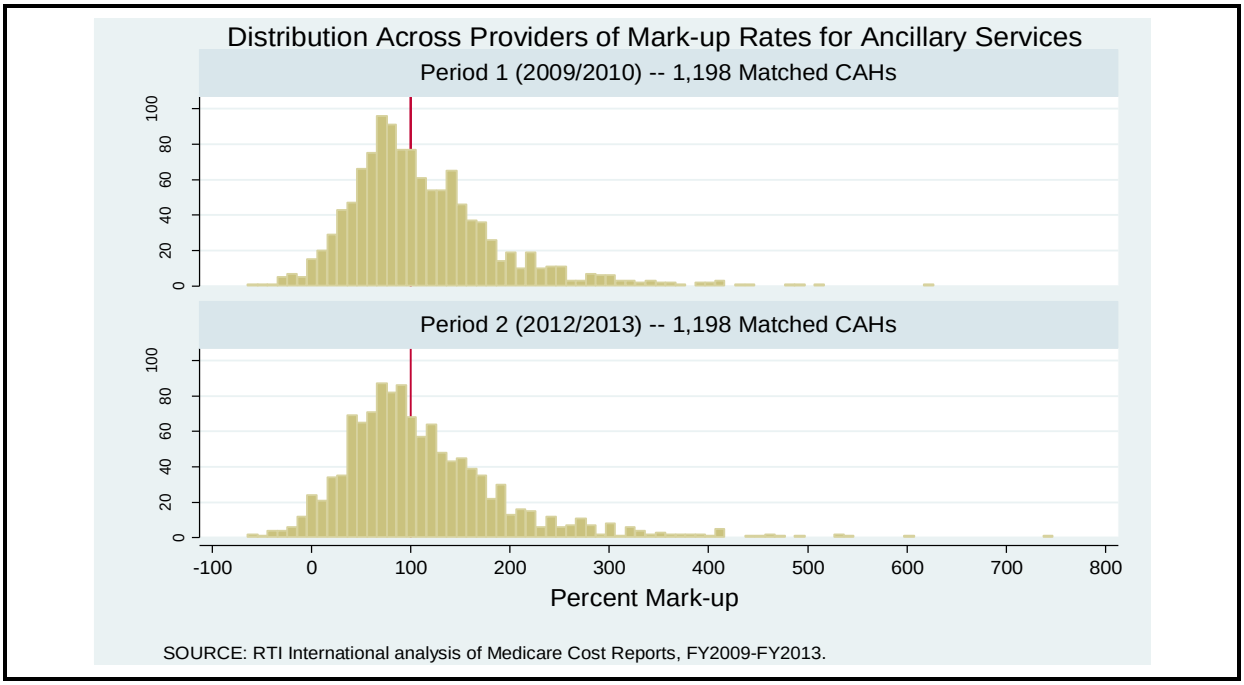
Figure 3-1 shows the distribution of matched Period 1 and Period 2 data expressed as mark-up rather than CCR. A small number of CAHs in both periods have total ancillary charges that are less than total ancillary costs, and these account for the small number of facilities that show a negative mark-up percentage. The median mark-up was stable across periods; Period 2 data show higher values at the 90th percentile and above.

Table 3-1 shows changes over the study period in CCRs computed by service group. The data for matched CAHs in both periods are shown at the top, and data for all Period 2 CAHs are shown below. Aggregated across all providers, the CCR for Clinic is the highest, averaging above 1.100 in both periods; Observation has the second highest CCR, approximately 0.900 in both periods. CAT Scan, MRI, Diagnostic Radiology, and Cardiology have the lowest CCRs, all under 0.300 for both Period 1 and 2 and decreasing over the 3 years.[9] CCRs declined for 15 of the 16 services from Period 1 to Period 2. The largest decline in aggregate CCR is for MRI; Blood and CAT Scan also saw large declines in aggregate CCR.

[8] CCRs are computed as (cost/charge) and can range in value from 0 to infinity. A mark-up rate is an inverse measure derived from the same data, computed as [(charges − cost)/cost] or as [(1/ccr) -1]*100; its values can be negative or positive. A CCR above 1.0 implies a negative mark-up, that is, charges set below cost.

[9] Although claims files confirm that a large percentage of CAHs provide CAT Scan and MRI services, relatively few CAHs specifically report either service in the cost report, even in the new 10 form in which they are separate lines. Most CAHs combine these services with other Diagnostic Radiology.

Figure 3-1
CAH pricing for ancillary services



In addition to changes in the Aggregate CCR, ***Table 3-1*** presents the average percent change in service group CCR at the exact-matched facility level. Presented this way, facility average CCR decreased for 10 service groups, with Anesthesia and Emergency having the largest declines. The largest increases in facility average CCR were for Medical Supplies, Observation, and Surgery.

As was noted in the previous analysis, large differences in CCRs across types of service cost centers have important implications for excess beneficiary liability under charge-based coinsurance. If a CCR is below 0.200 (not uncommon for Cardiology, Diagnostic Radiology, or other Imaging services), then patients at a CAH are absorbing out-of-pocket expenses that are actually greater than the allowable cost of the service to the Medicare program. This places rural beneficiaries at a disadvantage compared with their urban counterparts, where OPPS has eliminated abnormally high charge-based copayments.

We also found variation in mark-up across regions, raising still more equity issues for beneficiaries. Overall, hospital CCRs remain lowest in the Northeast and highest in the West. The South showed the greatest percentage change in mean hospital CCR, dropping 1.7 percent over the 3-year period. Additional detail on CCRs by region and by state has been included with this report as ***Appendix Tables A-2a*** and ***A-2b***. In ***Appendix Table A-2b***, the states are ranked by lowest mean hospital CCR based on the full Period 2 sample. Tennessee, Florida, and Indiana had the lowest CCRs; Tennessee had the largest decrease in the study period, at 14.1 percent.

Table 3-1
Edited CCRs by service group

	Matched pair CAHs									
	Period 1 (2009/2010) CAHs			Period 2 (2012/2013) CAHs			3-year change in aggregate CCR		3-year change in edited mean CCRs for matched facilities	
	Obs	(unweighted) Mean CCR	Aggregate CCR	Obs	(unweighted) Mean CCR	Aggregate CCR	Absolute	Percent	Obs exact match	Percent
Observation	1,133	1.205	0.909	1,149	1.270	0.886	−0.023	−2.6%	1,124	4.6%
Surgery	999	0.623	0.431	1,000	0.667	0.404	−0.026	−6.1%	979	4.2%
Anesthesia	729	0.726	0.371	724	0.664	0.363	−0.008	−2.2%	685	−4.1%
Diagnostic Radiology	1,190	0.398	0.280	1,198	0.404	0.270	−0.010	−3.5%	1,190	−0.1%
CAT Scan	109	0.237	0.118	221	0.211	0.107	−0.011	−9.6%	103	1.3%
MRI	104	0.351	0.258	230	0.292	0.218	−0.040	−15.6%	98	−3.5%
Laboratory	1,187	0.400	0.309	1,198	0.392	0.293	−0.016	−5.3%	1,187	−1.1%
Blood	327	0.782	0.623	327	0.780	0.562	−0.061	−9.8%	294	−1.2%
Respiratory Therapy	1,002	0.565	0.419	1,022	0.567	0.418	−0.001	−0.3%	983	1.0%
Rehabilitation Therapy	1,173	0.722	0.607	1,182	0.697	0.578	−0.029	−4.8%	1,171	−3.1%
Cardiology	715	0.288	0.262	684	0.282	0.246	−0.016	−6.1%	647	−0.3%
Medical Supplies	1,138	0.537	0.393	1,145	0.612	0.388	−0.005	−1.2%	1,119	6.5%
Implantable Devices	287	0.664	0.561	645	0.702	0.554	−0.006	−1.1%	274	−2.5%
Pharmacy	1,187	0.439	0.378	1,198	0.462	0.379	0.001	0.3%	1,187	1.8%
Clinic	696	1.789	1.222	729	1.710	1.149	−0.073	−6.0%	639	−2.6%
Emergency	1,187	0.952	0.588	1,198	0.924	0.538	−0.050	−8.5%	1,187	−4.1%

(continued)

Table 3-1 (continued)
Edited CCRs by service group

	Full Period 2 sample		
	Period 2 (2012/2013) CAHs		
	Obs	(unweighted) Mean CCR	Aggregate CCR
Observation	1,249	1.271	0.889
Surgery	1,088	0.662	0.404
Anesthesia	788	0.655	0.363
Diagnostic Radiology	1,300	0.400	0.271
CAT Scan	242	0.207	0.111
MRI	254	0.285	0.224
Laboratory	1,300	0.388	0.296
Blood	351	0.775	0.577
Respiratory Therapy	1,114	0.564	0.418
Rehabilitation Therapy	1,284	0.690	0.583
Cardiology	735	0.282	0.240
Medical Supplies	1,246	0.608	0.386
Implantable Devices	702	0.701	0.557
Pharmacy	1,300	0.460	0.380
Clinic	792	1.709	1.166
Emergency	1,300	0.913	0.543

NOTES: The unweighted mean CCRs are facility-level averages. The aggregate CCRs are calculated using total charges and total costs across all CAHs in each sample. The matched facilities subset are CAHs that have edited CCRs in both Period 1 and Period 2.

SOURCE: RTI analysis of Medicare Cost Reports, FY2009–FY2013.

3.2 Analysis of CAH Claims

3.2.1 Distribution of Charges, Costs, and Coinsurance Across Claims

To identify the magnitude of excess coinsurance at CAH facilities, RTI examined the distribution of charges and coinsurance across all Period 2 claims that were subject to coinsurance. Under current regulations, beneficiaries do not owe coinsurance on outpatient diagnostic laboratory tests or on certain preventive services. Of the roughly 12 million Period 2 claims, about 6.6 million had coinsurance amounts greater than $1.

Repeating the analysis requested by MedPAC in our previous studies, RTI separately analyzed line items for Part B–covered drugs. Of the 6.6 million claims with coinsurance analyzed, approximately 30 percent included Part B drug charges, and of these, 60 percent included charges for the special revenue code 0636 that is used for infusion agents. This latter finding continues the increasing trend from previous analyses. Although there are several smaller value claims for administered drugs, among drug claims with covered charges of $1,000 or more, most are for infusion agents. These include high-cost items for chemotherapy and rheumatology, which are repeated services for which the burden of coinsurance can be particularly difficult. We caution the reader that the drug results in this analysis are based on each CAH's average Pharmacy CCR applied to charges to estimate costs. There is great variability in the actual costs and markups of drugs—across drugs and across hospitals—that this study cannot capture.

Table 3-2 provides additional information on the distribution of charges, costs, and coinsurance amounts across all claims and then across all line items for drug charges. Median coinsurance due (conditional on having any) was $102, and the mean was $280, but 10 percent of claims had coinsurance higher than $725. The percentage of claims with coinsurance greater than $500 rose to 16.4 percent in Period 2, from 11.9 percent in our previous analysis. In about 6 percent of Period 2 claims, coinsurance is greater than $1,000. Among claims with covered drugs charges, 10 percent show pharmacy-related coinsurance of $218 or more, implying charges for Part B covered drugs of $1093 or more.

To isolate possible differences in impact by small compared with large claims, we estimated cost-based coinsurance from claims in Period 2 using the estimated costs for each claim as computed from the provider CCRs for Pharmacy. We divided claims into groups by level of charges and computed coinsurance for each claim based on 20 percent of the estimated cost net of deductibles. ***Table 3-3*** shows the results of this exercise as run on samples for pharmacy line items and for line items where we found charges for infusion drugs. The rightmost column shows mean values (unweighted) for the percent reduction in coinsurance that was computed across all claims in the sample. For all groups, the percent reduction in coinsurance is consistent with what we expect, given that the Pharmacy aggregate average CCR is 0.380 for these hospitals. The percent reduction Period 2 results are identical or slightly lower than the results in the previous report—again an expected finding, because the matched-pair Pharmacy aggregate CCRs shown in ***Table 3-1*** show little change.

Table 3-2
Distribution of CAH charges, costs, and coinsurance per claim, All Period 2 CAHs (2012/2013)

All Part B outpatient claims 6,607,514 claims with coinsurance > $1			
	Covered charges per claim	Covered costs per claim	Coinsurance per claim
Mean	1,658	652	280
Minimum	5	1	1
25th percentile	236	111	32
Median	677	276	102
75th percentile	2,009	748	329
90th percentile	4,250	1,555	725
95th percentile	6,157	2,395	1,079
99th percentile	12,256	5,166	2,218
Maximum	330,948	147,024	66,190

Part B covered drugs only 1,970,796 claims with coinsurance > $1			
	Covered charges per claim	Covered costs per claim	Coinsurance per claim
Mean	662	264	132
Minimum	5	1	1
25th percentile	50	19	10
Median	137	53	27
75th percentile	378	143	75
90th percentile	1,093	427	218
95th percentile	2,581	1,053	515
99th percentile	10,621	4,332	2,124
Maximum	228,933	86,179	45,787

NOTES: RTI calculated estimated costs by multiplying the service-specific CCRs from the Medicare Cost Reports by covered charges. Claims with costs < $1 were excluded from the analysis. Dollars were not adjusted for inflation.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

Table 3-3
Charge-based versus cost-based coinsurance for Part B covered drugs, All Period 2 CAHs (2012/2013)

Claim type and size	Number of claims	Mean covered charge per claim	Coinsurance per claim		
			Actual	Estimated cost-based	Mean percent reduction
Part B drug claims					
≤ $100	829,331	44	9	4	−56%
$100 to $1,000	930,070	323	64	25	−60%
$1,000 to $10,000	189,883	3,000	599	249	−59%
> $10,000	21,512	18,514	3,702	1,363	−62%
Total	1,970,796	662	132	52	−58%
Infusion drugs only					
≤ $100	561,475	43	9	4	−56%
$100 to $1,000	477,804	312	62	24	−61%
$1,000 to $10,000	130,995	3,442	687	294	−57%
> $10,000	19,511	18,442	3,688	1,349	−62%
Total	1,189,785	827	165	66	−58%

NOTES: RTI calculated estimated costs by multiplying the service-specific CCRs from the Medicare Cost Reports by covered charges. Claims with costs < $1 or coinsurance ≤ $1 were excluded from the analysis. Dollars were not adjusted for inflation.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

Regional differences in coinsurance per CAH claim are more pronounced in this Period 2 analysis than in the previous one (***Table 3-4***). The median coinsurance in the South ($152) is more than double that of the Northeast ($62) and more than 50 percent higher than either the Midwest ($93) or West ($100). This difference is likely attributable to higher mark-up rates in specific high-volume cost centers, such as Diagnostic Radiology, and to geographic differences in service delivery. The percentage increase in the overall volume of claims from our previous analysis was smallest for the Northeast (3%) and greatest for the West (23%). However, the percentage point difference in coinsurance as a percentage of covered costs was greatest for the South. In the Northeast, Midwest, and West, coinsurance is approximately 41.5 percent of costs; coinsurance is proportionally much higher in the South, comprising 48.4 percent of covered costs.

Table 3-4
Coinsurance by region, All Period 2 CAHs (2012/2013)

	Medicare outpatient coinsurance per claim 6,607,514 claims with coinsurance > $1				
	Northeast	Midwest	South	West	All
Mean coinsurance ($)	225	269	315	302	280
Minimum	1	1	1	1	1
25th percentile	23	29	54	33	32
Median	62	93	152	100	102
75th percentile	239	322	384	340	329
90th percentile	578	714	770	771	725
95th percentile	933	1,051	1,116	1,181	1,079
99th percentile	2,122	2,082	2,195	2,610	2,218
Maximum	35,202	46,974	66,190	37,104	66,190
Number of claims	682,231	3,367,955	1,258,408	1,298,920	6,607,514
Number of claims with coinsurance > $500	81,634	544,589	233,263	223,098	1,082,584
Percent of claims with coinsurance > $500	12.0%	16.2%	18.5%	17.2%	16.4%
Number of claims with coinsurance > $1000	30,099	186,539	78,399	87,543	382,580
Percent of claims with coinsurance > $1000	4.4%	5.5%	6.2%	6.7%	5.8%
Total coinsurance	153,461,792	904,987,022	396,643,155	392,571,812	1,847,663,765
Total covered charges	930,170,801	5,360,949,107	2,346,243,829	2,315,753,544	10,953,117,377
Total covered cost	369,910,151	2,178,935,535	820,322,702	942,120,834	4,311,289,236
Coinsurance as a percent of covered charges*	16.5%	16.9%	16.9%	17.0%	16.9%
Coinsurance as a percent of covered costs	41.5%	41.5%	48.4%	41.7%	42.9%

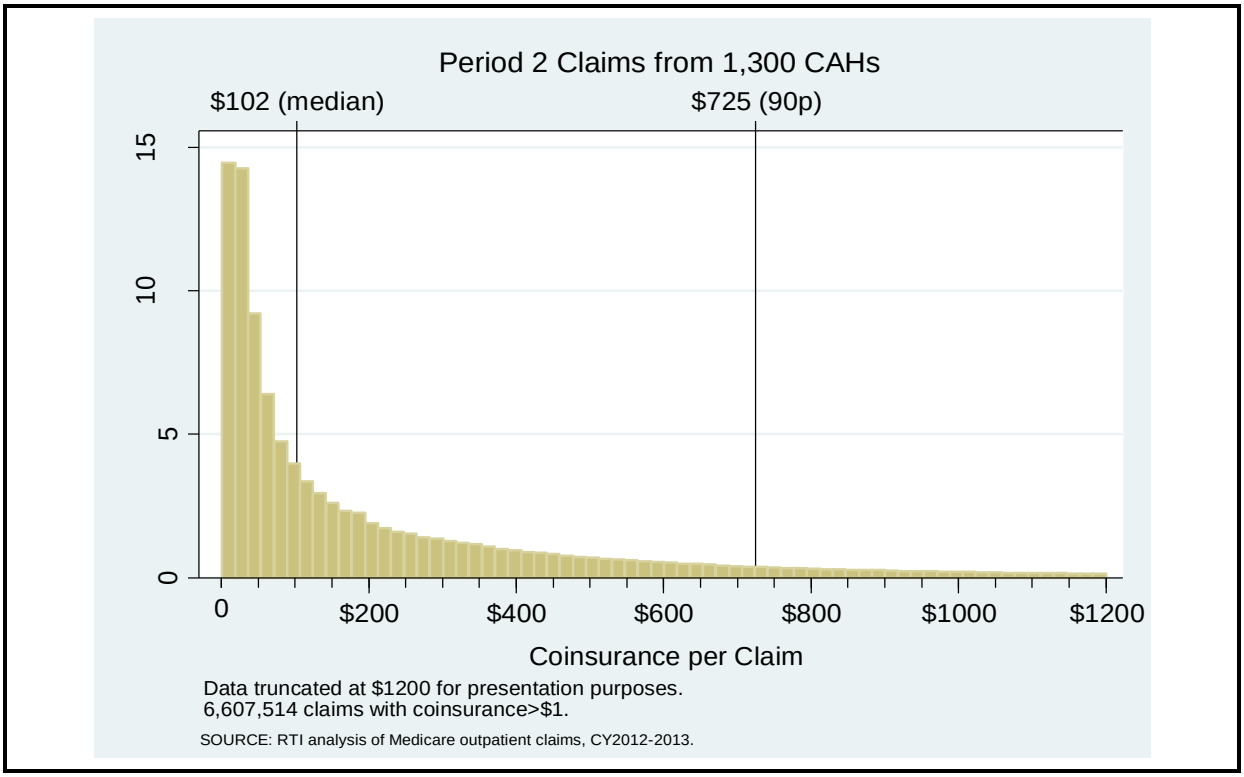
* Percent is less than 20 because diagnostic laboratory testing charges can be included with other charges on a claim.

NOTES: Dollars were not adjusted for inflation.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

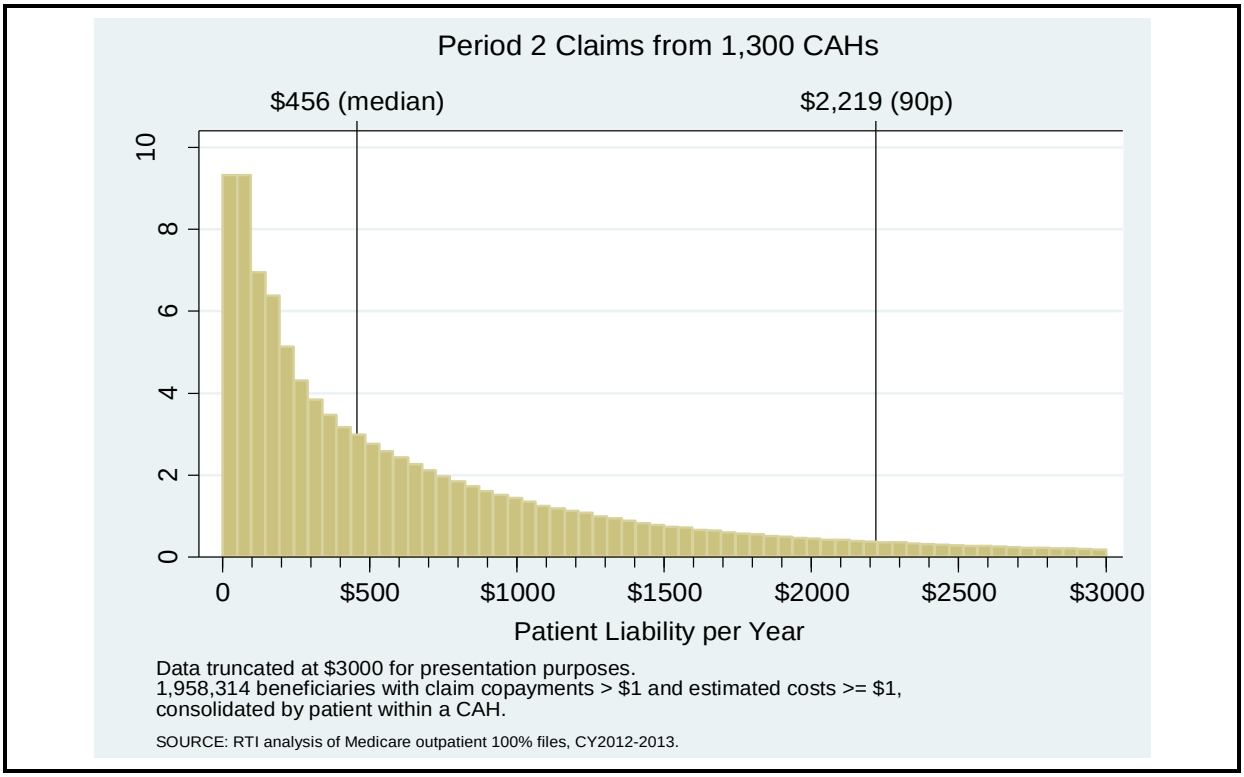
Figure 3-2 is a histogram showing the distribution of total Period 2 coinsurance amounts per CAH claim. As is common with health care expenditure data, the distributions show very long right tails, so for ease of visual representation, we truncated the graphed data near the 99th percentile. Most beneficiaries have multiple visits to a CAH within the same year. ***Figure 3-3*** is a histogram showing the distribution of total Period 2 copayments (coinsurance and deductibles) *per beneficiary*, where the beneficiary is counted once per CAH.[10] Although the median coinsurance per claim is $102, the median Period 2 copayment per beneficiary per CAH is more than 4 times that amount, at $456. Of the 1.96 million beneficiaries with Period 2 copayments, roughly 545,000, or about 28 percent, had yearly Part B copayments to a single CAH that were greater than $1,000, up from 20 percent in the previous analysis. The percentage with yearly copayments greater than $3,000 increased from 3.2 percent to 5.9 percent.

Figure 3-2
Distribution of coinsurance amounts per CAH claim



[10] A beneficiary who received services from more than one CAH during Period 2 would be counted as two (or more) observations in this analysis. Approximately 89 percent of beneficiaries in this sample visited only one CAH and 10 percent visited two. Fewer than 1 percent had visits at 3 to 29 different CAHs.

Figure 3-3
Distribution of yearly copayments per CAH beneficiary



3.2.2 Provider-Level Claims Summaries

Tables 3-5A and 3-5B summarize changes over the 3 years from Period 1 to Period 2 in mean claims volume, charges, estimated costs, deductibles, coinsurance, and payment amounts per CAH. Both tables follow the same data format, and both present annualized data to reflect expected volume over a 12-month period. Actual dollars are summarized in ***Table 3-5A***, and inflation-adjusted dollars are summarized in ***Table 3-5B***. Coinsurance amounts average only 15 percent of net charges because claim charges include line items for diagnostic laboratory tests on which coinsurance is not owed.

Among the matched-pair CAHs, the mean number of Medicare traditional FFS outpatient claims per provider increased slightly (3.5%) from Period 1 to Period 2. This result is an increase in the rate of change from the previous analysis (1.6%). There was a larger increase of 25.0 percent in nominal Medicare charges and 17.1 percent in inflation-adjusted charges per provider.

Table 3-5A
Outpatient claims, charges, costs, and payments per provider—annualized data

Provider-level distribution of claims data	Matched Period 1 and Period 2 CAHs			All Period 2 CAHs
	Period 1 (2009/2010) mean (N = 1,198)	Period 2 (2012/2013) mean (N = 1,198)	3-year % change	Period 2 (2012/2013) mean (N = 1,300)
Claims	8,973	9,284	3.5%	9,254
Covered charges	7,629,911	9,538,818	25.0%	9,561,945
Estimated covered costs [1]	2,991,756	3,640,655	21.7%	3,626,900
Deductibles	37,597	35,873	−4.6%	35,806
Charges net of deductibles	7,592,314	9,502,945	25.2%	9,526,139
Estimated costs net of deductibles	2,954,159	3,604,782	22.0%	3,591,094
Coinsurance	1,142,981	1,429,819	25.1%	1,433,082
Primary payer amount	10	1	−91.2%	2
Medicare program amount	2,070,334	2,453,826	18.5%	2,434,024
Medicare payments [2]	3,250,922	3,919,519	20.6%	3,902,915
Coinsurance as % of net charges	15.1%	15.0%	−0.1%	15.0%
Coinsurance as % of net estimated costs	38.7%	39.7%	2.5%	39.9%
Medicare payment as % of covered charges	42.6%	41.1%	−3.6%	40.8%
Coinsurance + deductible as % of Medicare payments	36.3%	37.4%	3.0%	37.6%
Medicare program amount as % of net charges	27.3%	25.8%	−5.3%	25.6%
Medicare program amount as % of Medicare payments	63.7%	62.6%	−1.7%	62.4%

NOTES:
1. Data in this table are from the outpatient claims files except for estimated covered costs. RTI calculated estimated covered costs by multiplying the service-specific CCRs from the Medicare cost reports by covered charges.
2. Medicare payment equals the sum of deductibles, coinsurance, primary payer amount, and Medicare program amount.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only) and Medicare cost reports, CY2009–CY2013 and FY2009–FY2013.

Table 3-5B
Outpatient claims, charges, costs, and payments per provider—annualized and inflation-adjusted data (2010 dollars)

Provider-level distribution of claims data	Matched Period 1 and Period 2 CAHs: Period 1 (2009/2010) mean (N = 1,198)	Matched Period 1 and Period 2 CAHs: Period 2 (2012/2013) mean (N = 1,198)	Matched Period 1 and Period 2 CAHs: 3-year % change	All Period 2 CAHs: Period 2 (2012/2013) mean (N = 1,300)
Claims	8,973	9,284	3.5%	9,254
Covered charges	7,567,653	8,859,440	17.1%	8,880,694
Estimated covered costs [1]	2,967,601	3,381,536	13.9%	3,368,691
Deductibles	37,299	33,320	−10.7%	33,258
Charges net of deductibles	7,530,354	8,826,120	17.2%	8,847,436
Estimated costs net of deductibles	2,930,302	3,348,216	14.3%	3,335,433
Coinsurance	1,133,630	1,327,974	17.1%	1,330,970
Primary payer amount	10	1	−91.7%	2
Medicare program amount	2,053,815	2,279,307	11.0%	2,260,872
Medicare payments [2]	3,224,754	3,640,602	12.9%	3,625,102
Coinsurance as % of net charges	15.1%	15.0%	−0.1%	15.0%
Coinsurance as % of net estimated costs	38.7%	39.7%	2.5%	39.9%
Medicare payment as % of covered charges	42.6%	41.1%	−3.6%	40.8%
Coinsurance + deductible as % of Medicare payments	36.3%	37.4%	3.0%	37.6%
Medicare program amount as % of net charges	27.3%	25.8%	−5.3%	25.6%
Medicare program amount as % of Medicare payments	63.7%	62.6%	−1.7%	62.4%

NOTES:
1. Data in this table are from the outpatient claims files except for estimated covered costs. RTI calculated estimated covered costs by multiplying the service-specific CCRs from the Medicare cost reports by covered charges.
2. Medicare Payment equals the sum of deductibles, coinsurance, primary payer amount, and the Medicare program amount.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only) and Medicare Cost Reports, CY2009–CY2013 and FY2009–FY2013. Data were inflation adjusted to 2010 dollars using the Medicare FFS Hospital Input Price Index and the quarter end date of the hospital cost report.

Inflation-adjusted coinsurance amounts per CAH increased commensurate with charges (17.1%). In the same period, inflation-adjusted estimated costs per provider grew 13.9 percent, indicating that only part of the increase in real charges per claim is a reflection of increased numbers of services per visit or a more expensive mix of services. The rest is attributable to increasing mark-up rates. Medicare's cost-based payments did not increase commensurate with the increase in costs, because beneficiary liabilities for coinsurance accounted for an increasing share. Mean Medicare program payments per CAH rose 12.9 percent in the 3-year span. Beneficiaries' share of total payments rose from 36 to 37 percent, and the Medicare program's share of total payments decreased correspondingly from 64 to 63 percent. Increases over time in beneficiary liability as a share of total CAH outpatient payments are strictly a function of increased mark-up.

The growth in charges from Period 1 to Period 2 is comparable to growth in the previous analysis. It still outpaces the growth rate for costs, indicating an increasing coinsurance burden for beneficiaries.

For approximately 10 percent of CAHs, beneficiary payments make up more than 50 percent of the total payments for Medicare outpatient services (***Table 3-6***). The proportion has grown since the previous analysis, when only 6.3 percent of CAHs had this high of a beneficiary liability ratio. Our current matched-pair CAH distribution results show that the mean, median, and lower percentile beneficiary liability ratios either rose slightly or were unchanged from Period 1 to Period 2; the increases were concentrated at the highest percentiles.

Table 3-6
Distribution of beneficiary liabilities as proportion of total Medicare payment

	Beneficiary liability ratio (coinsurance + deductibles)/total payments for Medicare services		
	Matched pair CAHs		Full Period 2 sample
Provider-level distribution	Period 1 (2009/2010) CAHs	Period 2 (2012/2013) CAHs	Period 2 (2012/2013) CAHs
Number of observations	1,198	1,198	1,300
Mean ratio	0.33	0.34	0.34
Minimum	0.07	0.09	0.09
10th percentile	0.20	0.21	0.21
25th percentile	0.26	0.26	0.26
Median	0.32	0.32	0.32
75th percentile	0.39	0.40	0.40
90th percentile	0.47	0.50	0.50
Maximum	0.91	0.97	0.97
Percent of CAHs with ratios above 0.50	7.2%	9.6%	9.8%

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2009–CY2013.

Tables 3-7, 3-8, and ***3-9*** show per-hospital changes in the volume of claims, charges, and costs, by service groups. Volume figures are based on the number of line items rather than whole claims. We have identified the percentage of hospitals in the subgroup that have at least one claim with a line item with this type of service, as a way to indicate the scope of services offered across CAHs. In each table, the 16 service groups are listed in rank order based on their respective Period 2 all-facility data. For all three tables, the Diagnostic Laboratory Testing service group is ranked first, having the greatest number of claims per provider, the greatest total covered charges, and the greatest total covered costs. The second-ranked service group varies by table—Pharmacy is second in terms of claims per provider, CAT Scan in terms of covered charges, and Emergency in terms of total covered costs. These are the same top-ranked service groups from the previous analysis. Additional detail on changes in outpatient claims volume and charges by revenue code group is provided in ***Appendix Table A-3.***

From Period 1 to Period 2, four service groups, Pharmacy, Rehabilitation Therapy, Clinic, and Observation, showed double-digit percent growth in the mean number of claims per provider (***Table 3-7***). Whereas our previous analysis showed only 3 percent growth in Rehabilitation Therapy (which is defined in this report comparably to the previous report), in this study period, the mean number of claims per provider increased 19.8 percent. Nine service groups experienced single-digit percent growth. Three service groups—Medical Supplies, CAT Scan, and Blood—had decreases in the mean number of claims per provider. The number of claims for CAT Scan had the sharpest decrease, falling 12.5 percent from 665 per provider to 582 per provider. During the previous analysis, CAT Scan claims had increased substantially.

CAH service mix is captured in ***Table 3-8***, measured as each service group's percent contribution to total covered charges. Changes in CAH service mix could be a function of many factors—an increased number of CAHs providing the service, changes in the relative frequency of one service compared with another, or simply a differential rate of increase in mark-up rates. Diagnostic Laboratory Testing services continue to dominate the outpatient business for all of these providers. Observation, Emergency, and Clinic showed the largest growth as a percent of total charges. Growth in total charges was highest for Observation, at 35.2 percent; the mean charge per claim for Observation increased 22.4 percent.

To eliminate the mark-up factor in assessing service mix, an alternative measure can be obtained by computing the percentage of estimated costs (***Table 3-9***). This measure shows rankings slightly different from those of the charge-based measure. Emergency, for example, ranks 4th in charges, but 2nd in costs, whereas CAT Scan ranks 2nd in charges, but 8th in costs.

As covered charges rose over the 3-year study period because of increased mark-up, beneficiary coinsurance associated with each service also increased. ***Table 3-10*** presents data from Period 2 on coinsurance as a percentage of charges and as a percentage of costs for each of the 16 service groups. (Similar data by state and region are included as ***Appendix Table A-4***.) In contrast to most service groups, average coinsurance as a percentage of covered cost showed

slight decreases for Pharmacy and Diagnostic Radiology and no change for Observation.[11] Clinic services had the largest increase in this measure: 36 percent. Differences across types of service in coinsurance relative to cost are central to the issue of how the burden of excess coinsurance in CAH settings is distributed across beneficiaries. ***Table 3-10*** reflects the impact of the variation in CCRs by service group (noted in ***Section 3.1***). For example, Cardiology and CAT Scan tend to have the lowest CCRs; consequently, claims with these services have the highest values for coinsurance relative to claims cost. Several providers in our hospital sample continue to report extremely low Cardiology CCRs (below 0.050), and these account for the consistently very high mean value of coinsurance as a percentage of costs for that service group.

A general trend we observe in this analysis is that on average, the percent changes over time were greater at the higher percentiles (75th) than the lower percentiles (25th percentile and median). In Period 1, 10 of the 16 service groups had median coinsurance as a percentage of covered costs greater than 40 percent. The number of service groups with these high median percentages decreased in Period 2, with Implantable Devices dropping below 40 percent. CAT Scan and MRI have the highest median coinsurance as a percentage of covered costs, at 70.6 and 68.5 percent, respectively, in Period 2. Both Cardiology and CAT Scan had coinsurance greater than estimated covered costs at the 75th percentile, with 110.9 and 104.5 percent, respectively. Looking at regional variation (***Appendix Table A-4***), five states—Florida, Indiana, Kentucky, Tennessee, and Virginia—had median values for both CAT Scan and MRI above 100 percent. Seven other states had at least one service group with median values above 100 percent—Alabama, Arizona, Missouri, Ohio, Pennsylvania, South Carolina, and Wyoming. In addition to high rates for CAT Scan and MRI, Florida also reports median coinsurance as a percentage of covered costs greater than 100 percent for Pharmacy, Diagnostic Radiology, Cardiology, and Anesthesia. Though there are only 13 CAHs in Florida (indicating relatively fewer beneficiaries affected than in many other states), for Cardiology, these CAHs have mean and median rates of coinsurance greater than 200 percent of costs.

[11] Changes in the cost report form, where CAT Scan and MRI are now separate line cost centers, could have influenced the Period 2 results. CAT Scan and MRI CCRs are lower than that of the broader Diagnostic Radiology group. As more CAHs increasingly separately reported CAT Scan and MRI in Period 2 cost reports, coinsurance as percentage of covered costs increased correspondingly.

Table 3-7
Claims volume by service group

Service group (Ranked by Period 2 claims per provider)	Matched pair CAHs							
	Period 1 (2009/2010) CAHs			Period 2 (2012/2013) CAHs			3-year percent change	
	Obs	% providers with claims	Mean number of claims per provider*	Obs	% providers with claims	Mean number of claims per provider*	% providers with claims	Mean number of claims per provider*
Laboratory	1,198	100.0%	21,461	1,198	100.0%	22,110	0.0%	3.0%
Pharmacy	1,198	100.0%	3,804	1,198	100.0%	4,631	0.0%	21.8%
Rehabilitation Therapy	1,156	96.5%	2,823	1,157	96.6%	3,382	0.1%	19.8%
Diagnostic Radiology	1,198	100.0%	2,394	1,198	100.0%	2,502	0.0%	4.5%
Clinic	1,120	93.5%	1,904	1,130	94.3%	2,195	0.9%	15.3%
Emergency	1,198	100.0%	1,874	1,198	100.0%	2,010	0.0%	7.2%
Medical Supplies	1,196	99.8%	1,581	1,195	99.7%	1,547	−0.1%	−2.1%
Cardiology	1,198	100.0%	842	1,197	99.9%	849	−0.1%	0.9%
CAT Scan	1,142	95.3%	665	1,150	96.0%	582	0.7%	−12.5%
Surgery	1,036	86.5%	488	1,032	86.1%	515	−0.4%	5.6%
Respiratory Therapy	1,120	93.5%	474	1,126	94.0%	505	0.5%	6.4%
Observation	1,177	98.2%	179	1,183	98.7%	206	0.5%	14.8%
Anesthesia	879	73.4%	175	845	70.5%	191	−3.9%	9.3%
MRI	940	78.5%	145	965	80.6%	158	2.7%	9.2%
Implantable Devices	777	64.9%	90	798	66.6%	93	2.7%	2.5%
Blood	1,150	96.0%	84	1,159	96.7%	82	0.8%	−2.4%

(continued)

Table 3-7 (continued)
Claims volume by service group

Service group (Ranked by Period 2 claims per provider)	All Period 2 CAHs		
	Period 2 (2012/2013) CAHs		
	Obs	% providers with claims	Mean number of claims per provider*
Laboratory	1,300	100.0%	22,137
Pharmacy	1,300	100.0%	4,622
Rehabilitation Therapy	1,258	96.8%	3,340
Diagnostic Radiology	1,300	100.0%	2,498
Clinic	1,229	94.5%	2,164
Emergency	1,300	100.0%	2,017
Medical Supplies	1,297	99.8%	1,537
Cardiology	1,299	99.9%	847
CAT Scan	1,252	96.3%	579
Surgery	1,124	86.5%	509
Respiratory Therapy	1,222	94.0%	502
Observation	1,285	98.8%	204
Anesthesia	915	70.4%	189
MRI	1056	81.2%	157
Implantable Devices	866	66.6%	93
Blood	1,259	96.8%	82

*Conditional on claims having charges > 0. These are line-item level claims. A single patient claim may have multiple line items of the same service group (e.g., three different labs within the same patient claim).

NOTES: Claims figures have been annualized. The 3-year percent change in mean number of claims per provider was calculated using means before they were rounded to the nearest whole dollar for presentation purposes. Obs = Observations (CAHs).

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2009–CY2013.

Table 3-8
Charges by service group

Service group (Ranked by Period 2 total covered charges)	Matched pair CAHs									
	Period 1 (2009/2010) CAHs				Period 2 (2012/2013) CAHs				3-year percent change	
	Obs	Total covered charges	Service group charges as % of total	Mean charge per claim line*	Obs	Total covered charges	Service group charges as % of total	Mean charge per claim line*	Total covered charges	Mean charge per claim line*
Laboratory	1,198	1,954,752,640	21.6%	75	1,198	2,151,719,414	20.3%	81	10.1%	6.8%
CAT Scan	1,142	1,012,085,509	11.2%	1,275	1,150	1,146,764,130	10.8%	1,614	13.3%	26.6%
Pharmacy	1,198	929,912,758	10.3%	194	1,198	1,117,178,967	10.5%	192	20.1%	−1.2%
Emergency	1,198	786,969,794	8.7%	336	1,198	1,010,394,877	9.5%	394	28.4%	17.2%
Diagnostic Radiology	1,198	793,390,475	8.8%	251	1,198	903,066,776	8.5%	274	13.8%	9.4%
Surgery	1,036	728,036,464	8.0%	1,323	1,029	850,508,528	8.0%	1,484	16.8%	12.2%
Rehabilitation Therapy	1,156	371,419,794	4.1%	117	1,156	458,187,767	4.3%	121	23.4%	3.5%
MRI	1,198	282,504,404	3.1%	1,997	1,197	332,986,278	3.1%	2,100	17.9%	5.2%
Cardiology	940	314,157,410	3.5%	283	965	334,176,904	3.1%	298	6.4%	5.2%
Clinic	1,116	231,028,405	2.5%	118	1,127	292,563,790	2.8%	129	26.6%	9.3%
Medical Supplies	1,196	276,006,900	3.0%	152	1,195	279,470,109	2.6%	155	1.3%	2.5%
Observation	1,177	149,242,423	1.6%	778	1,182	201,750,616	1.9%	952	35.2%	22.4%
Anesthesia	877	92,637,159	1.0%	602	844	96,911,962	0.9%	611	4.6%	1.5%
Implantable Devices	777	71,927,434	0.8%	1,272	795	88,862,954	0.8%	1,445	23.5%	13.6%
Respiratory Therapy	1,118	64,471,192	0.7%	124	1,123	80,228,906	0.8%	142	24.4%	14.8%
Blood	1,150	55,609,055	0.6%	614	1,158	59,807,342	0.6%	651	7.5%	5.9%
Total Charges	1,198	9,066,048,294			1,198	10,613,609,120				

(continued)

Table 3-8 (continued)
Charges by service group

Service group (Ranked by Period 2 total covered charges)	All Period 2 CAHs			
	Period 2 (2012/2013)			
	Obs	Total covered charges	Service group charges as % of total	Mean charge per claim line*
Laboratory	1,300	2,352,387,700	20.4%	81
CAT Scan	1,300	1,255,670,864	10.9%	1,625
Pharmacy	1,300	1,216,929,480	10.5%	193
Emergency	1,299	1,102,209,420	9.5%	397
Diagnostic Radiology	1,300	985,149,620	8.5%	275
Surgery	863	914,940,432	7.9%	1,483
Rehabilitation Therapy	1,252	497,964,687	4.3%	122
MRI	1,056	364,769,434	3.2%	2,111
Cardiology	1,219	364,398,468	3.2%	300
Clinic	1,300	313,797,275	2.7%	130
Medical Supplies	1,120	306,339,986	2.7%	157
Observation	914	218,470,160	1.9%	953
Anesthesia	1,284	104,614,338	0.9%	613
Implantable Devices	1,258	95,065,750	0.8%	1,416
Respiratory Therapy	1,256	86,973,956	0.8%	142
Blood	461	65,483,605	0.6%	652
Total Charges	1,300	11,544,902,200		

* Conditional on claims having charges > 0. These are line-item level claims. A single patient claim may have multiple line items of the same service group (e.g., three different labs within the same patient claim, each with its own charge).

NOTES: Total Charges does not equal the sum of the Total Covered Charges for the Service groups because it includes all other services. Obs = Observations (CAHs).

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2009–CY2013. Charges have been annualized and were inflation-adjusted to 2010 dollars using the Medicare PPS Hospital Input Price Index and the quarter end date of the hospital cost report.

Table 3-9
Estimated costs by service group

Service group (Ranked by Period 2 total covered costs)	Obs	Matched pair CAHs: Period 1 (2009/2010) CAHs: Estimated total costs[1]	Period 1: Service group costs as % of total	Period 1: Mean estimated costs per claim line[2]	Obs	Period 2 (2012/2013) CAHs: Estimated total costs[1]	Period 2: Service group costs as % of total	Period 2: Mean estimated costs per claim line[2]	3-year percent change: Estimated total costs	3-year percent change: Mean estimated costs per claim line[2]
Laboratory	1,198	610,800,420	17.2%	28	1,198	644,996,611	15.9%	29	5.6%	2.9%
Emergency	1,198	476,766,742	13.4%	276	1,198	567,506,257	14.0%	309	19.0%	12.0%
Pharmacy	1,198	369,259,540	10.4%	81	1,198	445,445,511	11.0%	83	20.6%	3.0%
Surgery	1,036	321,246,817	9.0%	708	1,029	360,161,422	8.9%	819	12.1%	15.6%
Clinic	1,116	256,418,856	7.2%	138	1,127	313,058,736	7.7%	135	22.1%	−2.1%
Rehabilitation Therapy	1,156	230,325,602	6.5%	78	1,156	274,971,362	6.8%	82	19.4%	4.8%
Diagnostic Radiology	1,198	237,223,408	6.7%	91	1,198	271,148,012	6.7%	99	14.3%	8.8%
CAT Scan	1,142	254,648,870	7.2%	409	1,150	257,913,950	6.4%	462	1.3%	12.9%
Observation	1,177	142,803,174	4.0%	831	1,182	189,109,480	4.7%	1,031	32.4%	24.1%
Medical Supplies	1,196	108,108,318	3.0%	69	1,195	111,661,708	2.8%	77	3.3%	11.1%
Cardiology	1,198	102,184,165	2.9%	98	1,197	105,652,439	2.6%	103	3.4%	4.5%
MRI	940	79,557,812	2.2%	650	965	86,204,512	2.1%	633	8.4%	−2.6%
Implantable Devices	777	38,439,511	1.1%	667	795	51,269,749	1.3%	832	33.4%	24.8%
Respiratory Therapy	1,118	29,702,320	0.8%	67	1,123	37,797,676	0.9%	80	27.3%	19.8%
Anesthesia	877	33,936,857	1.0%	319	844	31,535,917	0.8%	294	−7.1%	−7.7%
Blood	1,150	25,591,042	0.7%	319	1,158	26,924,403	0.7%	336	5.2%	5.4%
Total Covered Costs	1,198	3,555,185,998			1,198	4,051,080,128				

(continued)

Table 3-9 (continued)
Estimated costs by service group

Service group (Ranked by Period 2 total covered costs)	All Period 2 CAHs			
	Period 2 (2012/2013)			
	Obs	Estimated total costs[1]	Service group costs as % of total	Mean estimated costs per claim line[2]
Laboratory	1,300	698,737,650	16.0%	28
Emergency	1,300	614,640,650	14.0%	309
Pharmacy	1,300	484,585,530	11.1%	83
Surgery	1,120	388,645,264	8.9%	818
Clinic	1,226	334,950,188	7.6%	137
Rehabilitation Therapy	1,256	295,645,695	6.8%	81
Diagnostic Radiology	1,300	294,770,450	6.7%	99
CAT Scan	1,252	278,401,481	6.4%	463
Observation	1,284	204,667,032	4.7%	1,030
Medical Supplies	1,297	122,983,006	2.8%	77
Cardiology	1,299	113,893,969	2.6%	103
MRI	1,056	93,300,979	2.1%	633
Implantable Devices	863	54,296,240	1.2%	818
Respiratory Therapy	1,219	41,033,624	0.9%	80
Anesthesia	914	33,825,824	0.8%	293
Blood	1,258	29,451,441	0.7%	336
Total Covered Costs	1,300	4,379,298,300		

NOTES:

1. Estimated costs are calculated by multiplying the Medicare Cost Report CCRs by the outpatient claims file covered charges. Costs have been annualized and were inflation-adjusted to 2010 dollars using the Medicare PPS Hospital Input Price Index and the quarter end date of the hospital cost report.

2. Conditional on claims having charges > 0.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only) and Medicare Cost Reports, CY2009–CY2013 and FY2009–FY2013.

Table 3-10
Distribution of Coinsurance Relative to Costs, by Service Group

	Matched pair CAHs															
	Period 1 (2009/2010) 1,198 CAHs						Period 2 (2012/2013) 1,198 CAHs						Percent change from Period 1 to Period 2 in coinsurance as % of estimated covered costs			
	Coinsurance as % of covered charges		Coinsurance as % of estimated covered costs				Coinsurance as % of covered charges		Coinsurance as % of estimated covered costs							
	Obs	Mean	Mean	25th percentile	50th percentile	75th percentile	Obs	Mean	Mean	25th percentile	50th percentile	75th percentile	Mean	25th percentile	50th percentile	75th percentile
Pharmacy	1,198	19.8	53.8	37.6	48.7	63.5	1,198	19.8	53.1	35.5	47.2	62.4	−1%	−6%	−3%	−2%
Laboratory	1,120	1.3	4.0	1.8	3.3	5.0	1,182	1.5	4.7	2.1	3.9	6.2	18%	21%	19%	24%
Medical Supplies	1,196	19.9	57.3	31.8	47.1	68.7	1,195	19.9	63.8	28.7	45.9	69.6	11%	−10%	−3%	1%
Implantable Devices	777	20.0	49.2	29.4	40.8	57.6	795	20.0	51.7	24.8	34.8	51.1	5%	−16%	−15%	−11%
Diagnostic Radiology	1,198	18.7	60.4	38.8	55.1	74.4	1,198	17.6	58.3	36.1	51.5	73.0	−3%	−7%	−7%	−2%
CAT Scan	1,142	19.9	77.1	47.5	66.2	88.9	1,150	19.9	93.3	50.7	70.6	104.5	21%	7%	7%	18%
MRI	940	19.9	69.8	47.7	64.5	82.8	965	20.0	77.0	50.8	68.5	94.2	10%	6%	6%	14%
Rehabilitation Therapy	1,155	19.8	32.5	23.9	29.7	39.0	1,156	19.9	34.0	24.4	31.3	40.1	5%	2%	5%	3%
Respiratory Therapy	1,118	19.8	54.4	28.7	43.0	62.8	1,123	19.9	61.2	28.9	42.5	66.0	13%	0%	−1%	5%
Cardiology	1,198	19.8	100.0	40.6	57.0	108.0	1,197	19.8	112.4	39.9	58.8	110.9	12%	−2%	3%	3%
Emergency	1,198	19.8	29.9	17.2	26.0	38.0	1,198	19.8	31.8	17.9	26.4	39.9	6%	4%	2%	5%
Surgery	1,036	20.1	41.8	29.5	38.6	49.2	1,029	19.3	42.1	26.8	37.4	51.0	1%	−9%	−3%	4%
Blood	1,150	20.0	43.8	32.7	41.0	51.6	1,158	20.0	46.9	32.8	40.5	52.8	7%	0%	−1%	2%
Anesthesia	877	20.0	93.0	27.7	43.0	84.3	843	20.0	97.8	28.6	44.9	88.6	5%	3%	5%	5%
Clinic	1,080	17.8	21.7	9.5	15.2	27.9	1,080	17.6	29.4	9.9	18.8	36.7	36%	4%	23%	32%
Observation	1,177	20.0	23.5	13.4	19.3	27.9	1,182	20.0	23.4	13.3	19.4	28.1	0%	−1%	0%	1%

NOTES: Coinsurance is not applicable to diagnostic laboratory testing charges included within other claims. Estimated costs were calculated by multiplying the service-specific cost-to-charges ratios from the Medicare Cost Reports by covered charges. Obs = Observations (CAHs).

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only) and Medicare Cost Reports, CY2009–CY2013 and FY2009–FY2013.

SECTION 4.
ANALYSIS OF MEDICARE FFS PROPORTION OF CHARGES

In addition to this year's analysis of critical access hospital CCRs and copayments among Medicare beneficiaries, MedPAC requested an analysis of the Medicare FFS proportion of total charges by service group, and the distribution of these charges across regions and states.

Although we have data to analyze the share of charges that received cost-based reimbursement from Medicare FFS, we do not have comparable data on what share of charges received cost-based payments from Medicare Advantage (MA) plans or Medicaid, or the level of those cost-based payments. Approximately 20 percent of rural Medicare beneficiaries are enrolled in MA plans. These MA plans negotiate contracts directly with CAHs, and many have some form of cost-based reimbursement. Roughly 60 percent of Medicaid programs have cost-based inpatient or outpatient reimbursement for CAHs, although they do not always reimburse at the same rate as Medicare FFS. Nevertheless, it can be instructive to see the overall Medicare FFS proportion and the variation in Medicare FFS's shares across service lines, both to better understand Medicare's role in the financial status of CAHs and because Medicare FFS payment policy may influence other payers.

4.1 Data

We analyzed total Medicare FFS charges using Medicare Cost Reports for the reporting period in 2012 and 2013. We combined values in Worksheet D-V (outpatient charges) with values reported in Worksheet D-3 (inpatient charges) for each service group, and divided the sum of Medicare outpatient and inpatient charges by the sum of total inpatient and outpatient charges found in Worksheet C. We report the Medicare FFS proportion of charges in two ways: (1) calculating proportions for each CAH and reporting the average proportion across facilities, and (2) calculating the total Medicare charges and the total overall charges by service group and dividing the totals to create an aggregate proportion of Medicare charges. We also calculated the overall Medicare FFS proportion of total charges for each CAH (i.e., not broken out by service group).

To inform the discussion on budget implications, we calculated actual Medicare payments based on 101 percent of costs using Medicare Cost Report settlement Worksheet E Part B for the outpatient portion and Worksheet E-3 Part V for the inpatient portion. We used the Program payment subtotals before sequestration and interim payment adjustments.

4.2 Findings

Table 4-1 provides the facility average Medicare FFS proportion of total charges and the aggregate Medicare FFS proportion of total charges across service groups. Blood had the highest facility average proportion of Medicare charges, at 0.576, and Emergency had the lowest, at 0.292. Aggregated across all providers, Cardiology had the highest proportion (0.489), and Emergency was still the lowest, at 0.266. In aggregate, no service groups had a Medicare FFS proportion of charges greater than 0.500.

Table 4-1
Medicare FFS proportion of hospital service group charges—outpatient, inpatient, and total, facility average and aggregate, All Period 2 CAHs (2012/2013)

	B	C	D	E	F	G	H
Service group	Worksheet D-V Observations	Aggregate Medicare outpatient charges (Worksheet D-V)	Worksheet D-3 Observations	Aggregate Medicare inpatient charges (Worksheet D-3)	Aggregate Medicare total charges (sum of columns C+E)	Aggregate total outpatient charges (Worksheet C)	Aggregate total inpatient charges (Worksheet C)
Surgery	1,087	1,115,672,192	941	386,801,632	1,502,473,824	3,352,842,240	1,050,222,592
Anesthesia	769	127,010,768	650	43,949,424	170,960,192	398,022,432	132,388,544
Diagnostic Radiology	1,300	2,401,394,176	1,294	293,531,584	2,694,925,760	7,361,175,040	637,442,816
CAT Scan	239	309,253,088	240	34,150,656	343,403,744	861,825,152	82,555,760
MRI	248	103,350,272	229	8,320,146	111,670,418	329,223,552	16,039,599
Laboratory	1,299	2,227,110,400	1,299	522,341,280	2,749,451,680	5,972,562,944	1,110,723,200
Blood	186	9,583,466	339	15,002,887	24,586,353	32,281,310	28,700,752
Respiratory Therapy	1,101	265,311,584	1,060	276,870,272	542,181,856	649,645,888	610,748,992
Rehabilitation Therapy	1,252	532,435,168	1,259	107,415,968	639,851,136	1,531,569,664	540,454,528
Cardiology	735	195,868,704	707	44,175,680	240,044,384	414,516,224	75,966,704
Medical Supplies	1,236	313,164,416	1,242	395,068,640	708,233,056	890,824,896	835,285,760
Implantable Devices	677	86,936,496	488	216,225,344	303,161,840	218,700,992	438,198,432
Pharmacy	1,299	1,305,698,944	1,298	698,457,280	2,004,156,224	2,951,041,024	1,695,408,768
Clinic	751	324,638,464	289	1,979,604	326,618,068	854,138,240	18,124,324
Emergency	1,300	1,293,608,832	992	32,647,216	1,326,256,048	4,772,820,992	209,324,096
Observation	1,243	241,811,360	419	5,225,231	247,036,591	525,145,696	27,168,556

(continued)

Table 4-1 (continued)
Medicare FFS proportion of hospital service group charges—outpatient, inpatient, and total, facility average and aggregate, All Period 2 CAHs (2012/2013)

Service group	I Aggregate total charges (Worksheet C)	J Facility average Medicare proportion of outpatient charges (Medicare OP/Total OP)	K Facility average Medicare proportion of total charges (Medicare [OP+IP]/ Total [OP+IP])	L Aggregate Medicare OP proportion (columns C/G)	M Aggregate Medicare IP proportion (columns E/H)	N Aggregate Medicare total proportion (columns F/I)
Surgery	4,403,064,832	0.385	0.379	0.333	0.368	0.341
Anesthesia	530,410,976	0.366	0.355	0.319	0.332	0.322
Diagnostic Radiology	7,998,617,600	0.347	0.357	0.326	0.460	0.337
CAT Scan	944,380,928	0.388	0.393	0.359	0.414	0.364
MRI	345,263,136	0.343	0.350	0.314	0.519	0.323
Laboratory	7,083,286,016	0.401	0.411	0.373	0.470	0.388
Blood	60,982,064	0.597	0.576	0.297	0.523	0.403
Respiratory Therapy	1,260,394,880	0.423	0.431	0.408	0.453	0.430
Rehabilitation Therapy	2,072,024,192	0.383	0.325	0.348	0.199	0.309
Cardiology	490,482,944	0.505	0.517	0.473	0.582	0.489
Medical Supplies	1,726,110,592	0.407	0.416	0.352	0.473	0.410
Implantable Devices	656,899,456	0.501	0.500	0.398	0.493	0.462
Pharmacy	4,646,449,664	0.452	0.430	0.442	0.412	0.431
Clinic	872,262,592	0.437	0.417	0.380	0.109	0.374
Emergency	4,982,145,024	0.303	0.292	0.271	0.156	0.266
Observation	552,314,240	0.496	0.470	0.460	0.192	0.447

NOTES: Columns B and C include CAHs with Worksheet D-V outpatient (Medicare) charges ≤ Worksheet C total outpatient charges.
Columns D and E include CAHs with Worksheet D-3 inpatient (Medicare) charges ≤ Worksheet C total inpatient charges.
Columns G, H, and I include all CAHs with outpatient and/or inpatient charges.
The Column J facility average Medicare proportions include all CAHs with Worksheet D-V outpatient (Medicare) charges ≤ Worksheet C total outpatient charges. The Column K facility average Medicare proportions include only CAHs with both Worksheet D-V outpatient (Medicare) charges ≤ Worksheet C total outpatient charges and Worksheet D-3 inpatient (Medicare) charges ≤ Worksheet C total inpatient charges. The regional and state breakouts for the CAHs in Column K are presented in Appendix Table A-5.
The Column L, M, and N aggregate Medicare proportions include all CAHs with Medicare outpatient and/or inpatient charges.
OP = outpatient. IP = inpatient.

SOURCE: RTI analysis of Medicare Cost Reports FY2009–FY2013.

The Medicare FFS proportion of inpatient charges by service group varied more than that of outpatient charges. For example, four service groups had proportions lower than 0.200: Rehabilitation Therapy (0.199), Observation (0.192), Emergency (0.156), and Clinic (0.109). In addition, three service groups had inpatient proportions greater than 0.500: MRI[12] (0.519), Blood (0.523), and Cardiology (0.582). In contrast, no service group had a Medicare FFS proportion of outpatient charges below 0.200. Emergency and Blood had the lowest proportions: 0.271 and 0.297, respectively. The remaining service groups had outpatient proportions between 0.300 and 0.400. These proportions suggest that Medicare FFS is a sizable payer for these service groups within CAHs, but does not generally on its own make up the majority of payments for these services.

We examined the distribution of the facility average of Medicare FFS proportion of charges across regions and states again by service group (***Appendix Table A-5***). In general, CAHs in the Midwest had higher Medicare FFS proportions of charges for service groups than other regions. The Midwest had the highest proportions for 8 of the 12 service groups, the exceptions being Surgery, Rehabilitation Therapy, Clinic, and Observation. By region, the service group with the highest proportion of Medicare charges was Blood in the Northeast (0.582) and Midwest (0.603), Clinic in the South (0.555), and Cardiology in the West (0.487). The service group with the lowest proportion of Medicare charges in the Northeast was Anesthesia, at 0.299. Emergency had the lowest proportion in the Midwest, South, and West (0.318, 0.258, and 0.281, respectively).

Medicare FFS proportion of charges also varied by state. For example, Nebraska and South Dakota had Medicare FFS proportions of charges over 0.600 for Cardiology (0.626 and 0.604, respectively), whereas the states with the lowest proportion were Hawaii at 0.254 and Ohio at 0.382. Variation in Medicare FFS proportion of charges may in part may be explained the by rate of MA penetration; high state MA rates could indicate a greater total Medicare FFS proportion than appears in this FFS analysis.[13] In Hawaii and Ohio, for example, the 2012 MA penetration was 45.1 percent and 36.5 percent, respectively. By contrast, the 2012 MA penetration rate in Nebraska and South Dakota was 12.6 percent and 13.0 percent, respectively. Reversing the more-logical pattern of low MA rate corresponding to a high FFS proportion, Minnesota has both a high MA rate (47.6%) and a high Medicare FFS proportion for Cardiology services (0.510)—possibly because MA concentration may be in urban areas, where CAHs are not located.

Finally, we examined the full sample distributions by service group. Blood and Cardiology had the highest median Medicare FFS proportion of charges, at 0.583 and 0.517, respectively. Four service groups—Surgery, Anesthesia, Blood, and Implantable Devices—had

[12] It is difficult to accurately calculate Medicare FFS proportions for MRI and CAT Scan using cost report data because most CAHs record their MRI and CAT Scan costs and charges within the broader Diagnostic Radiology cost center.

[13] Although the charges attributable to MA beneficiaries appear in cost report total charges (and thus in the denominator for the Medicare FFS proportions), the charges are paid by private MA plans and not directly by the Medicare program and are therefore not in the numerator.

maximum proportions at 1.000, meaning the reporting CAHs only provided services to Medicare FFS beneficiaries.

In addition to identifying the Medicare FFS proportion of charges by service group, we looked at the overall Medicare FFS proportion for CAHs. ***Table 4-2*** presents the distribution of total Medicare FFS proportions by region. The median Medicare FFS proportion for all Period 2 CAHs was 0.341, ranging from a minimum of 0.017 to a maximum of 0.653. Similar to the results by service group, CAHs in the Midwest had the highest Medicare FFS proportions (mean 0.359; median 0.360), and CAHs in the West had the lowest Medicare FFS proportions (mean 0.300; median 0.301).

Medicare FFS is a major payer for the care delivered at CAHs. However, even when focused on individual services, Medicare FFS does not have a strongly dominant share for the entire set of CAHs. As noted earlier, when looking at all cost-based payers combined (Medicare FFS, subset of MA plans that pay based on costs, and subset of Medicaid plans that pay based on costs), it is not clear what share each payer has overall and for specific services.

Table 4-2
Distribution of hospital-level proportion of total Medicare FFS charges, by region, All Period 2 CAHs (2012/2013)

By region	Obs	Hospital-level mean proportion of Medicare FFS charges	Minimum	10th percentile	25th percentile	50th percentile	75th percentile	90th percentile	Maximum
Northeast	65	0.333	0.025	0.228	0.281	0.343	0.395	0.425	0.517
Midwest	620	0.359	0.119	0.248	0.300	0.360	0.420	0.463	0.653
South	346	0.332	0.035	0.217	0.275	0.335	0.393	0.448	0.561
West	269	0.300	0.017	0.163	0.235	0.301	0.369	0.426	0.562
Total	1,300	0.338	0.017	0.222	0.279	0.341	0.400	0.454	0.653

NOTE: Obs = Observations (CAHs).

SOURCE: RTI analysis of Medicare Cost Reports, FY2012–FY2013, Worksheets C, D-V, and D-3.

SECTION 5.
ESTIMATES OF PROGRAM PAYMENTS UNDER COST-BASED COINSURANCE

In this final section, we estimate the costs to the Medicare program of shifting CAH outpatient copayments from 20 percent of charges to 20 percent of costs.

5.1 Cost to the Medicare Program of Converting to Cost-Based Coinsurance

5.1.1 Estimations Using Summary Cost Report Data

Repeating the methods from our previous analysis, we first estimated the cost to Medicare of the policy change to cost-based coinsurance using existing cost report data from Worksheet E Part B (***Table 5-1***). Actual coinsurance amounts reported for 1,293 CAHs[14] in Period 2 total about $1.78 billion, implying that approximately $8.9 billion in charges were subject to coinsurance ($1.78 ÷ 0.20 = 8.9). (From this Line 2/Line 1 ratio, we can infer that roughly 20% of charges reported on Worksheet D Part V must have been for diagnostic laboratory tests or other items not subject to coinsurance.) The aggregate ratio of covered costs to charges on Worksheet D Part V across all 1,293 CAHs is 0.41, so coinsurance based on 20 percent of costs rather than charges would be approximately $725 million. Medicare's share of allowable program costs would increase by $1.05 billion to offset the providers' loss in coinsurance collected from Medicaid, secondary payers, and beneficiaries.

Worksheet E Part B also shows the total allowable debts claimed for reimbursement. These were previously paid at 100 percent by the Medicare program. Under the Middle Class Tax Relief and Job Creation Act of 2012, bad debt reimbursement rates have been reduced for CAHs to 65 percent following this phase-in schedule: 88 percent in FY2013, 76 percent in FY2014, and 65 percent in FY2015.[15] In our Period 2 (2012/2013) sample, 55 percent of CAHs were reimbursed at the 88 percent rate for bad debt. We made that adjustment to the corresponding claimed values, resulting in our estimate that the Medicare program paid $176 million to these CAH providers for allowable bad debts attributable to outpatient coinsurance and deductibles. It is reasonable to assume that if a policy change reduces the amount of coinsurance owed by 59 percent, it should reduce the amount of Medicare bad debt incurred as a result of unpaid coinsurance by a similar amount. The reduction in bad debt would offset some of the estimated increase in Medicare interim payments. We computed the ratio of coinsurance to total beneficiary liabilities on the Part B claims file; using this ratio, we estimated that about $173 million of the total Part B bad debts claimed by the CAHs was applicable to coinsurance. ***Table 5-1*** therefore includes an offset of $102 million (or 59% of estimated bad debt

[14] Seven of the 1,300 CAHs in the full Period 2 sample did not report coinsurance on their cost reports and were omitted from the Table 5-1 calculations.

[15] Full text of the Act accessed here: https://www.congress.gov/112/plaws/publ96/PLAW-112publ96.pdf

The plain language summary accessed here: http://www.finance.senate.gov/news/press-releases/summary-of-the-middle-class-tax-relief-and-job-creation-act-of-2012

coinsurance) to the estimated increase in Medicare interim payments, leaving a net additional Medicare program outlay estimate of $948 million. Note that in future years, as the Medicare

Table 5-1
Estimated cost to the Medicare program of implementing coinsurance based on 20 percent of Part B costs, Period 2 CAHs (2012/2013)

Line	Description	Medicare Cost Report source or calculation	Medicare cost report data and computations[1]
1	Total charges	[Worksheet D Part V, Column 3, Line 202]	$11,107,943,190
2	Estimated charges subject to coinsurance	*line 5 / 0.2*	$8,877,169,080
3	Total Part B costs	[Worksheet E Part B, Line 1]	$4,536,345,684
4	Estimated costs subject to coinsurance	*line 2 * (line 3 / line 1)*	$3,625,325,315
5	Actual coinsurance paid	[Worksheet E Part B, Line 26] [2]	$1,775,433,816
6	Actual coinsurance paid as a percent of costs subject to coinsurance	*line 5* / *line 4*	49%
7	Estimated coinsurance, based on 20% of costs	*0.2 * (line 4)*	$725,065,063
8	Dollar reduction in coinsurance payments	*line 7 – line 5*	−$1,050,368,753
9	Percent reduction in coinsurance payments	*line 8* / *line 5*	−59%
10	Total allowable bad debts claimed for reimbursement at rate Medicare program pays by fiscal year	[Worksheet E Part B, Line 34] * (1.0 or 0.88)[3]	$176,438,976
11	Coinsurance portion of total allowable bad debts claimed for reimbursement	[Worksheet E Part B, Line 34] * [coinsurance / (coinsurance + deductible)][4]	$172,600,899
12	Possible reduction in reimbursed bad debts	*line 9 * line 11*	−$102,112,841
13	Net cost to Medicare program	*–(line 8 – line 12)*	$948,255,912
	Estimated cost to Medicare program grossed up for 2013 total of 1,334 CAHs	*line 13 * (1,334/1,293)*	$978,324,351

NOTES:

1. The dollars are annualized but not adjusted for inflation.

2. The calculations in this table are based on 1,293 CAHs; seven of the 1,300 CAHs in the Period 2 sample did not report coinsurance on line 26 as instructed and are omitted from these calculations.

3. The 704 CAHs in the sample with cost reporting periods on or after October 1, 2012 have line 34 multiplied by 0.88 to reflect the decrease in bad debt reimbursement.

4. The ratio of coinsurance to (coinsurance + deductible) was derived for each CAH from Period 2 outpatient claims data.

SOURCE: RTI analysis of Medicare Cost Reports, Worksheets E Part B and D Part V, FY2012-2013, and Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

program's bad debt reimbursement decreases, the possible reduction in reimbursed bad debts will also decrease.

The net additional Medicare program outlay estimate of $948 million represents a substantial proportional increase in the Medicare program's share of payments to CAHs and an increase of 2.46 percent in Medicare's total hospital Part B payments, which were estimated at $38.5 billion.[16] Furthermore, the net additional program outlay is computed for 1,293 CAHs in our sample, but there were 1,334 certified CAHs as of March 2013.[17] Under an assumption that these additional CAHs resemble those in the analysis sample, the addition to program outlay should be grossed up proportionally, to roughly $978 million, or 2.54 percent of hospital Part B payments.

5.1.2 Estimations from Claims Data

RTI also estimated the cost to the Medicare program of the proposed policy change using claims rather than cost report summary data. We recomputed cost-based coinsurance for each claim by applying the CAH's overall ancillary CCR to the coinsurance amount appearing on the claim. We stratified claims by size to identify differences in impact across low-, medium-, and high-charge claims. ***Table 5-2*** shows the impact on a per-claim basis to provide an estimate of the effects from the beneficiaries' perspective. ***Table 5-3*** shows the total estimated impact on Medicare interim payments.

The cost of implementing cost-based coinsurance as estimated from the claims files is approximately $1.09 billion. If we gross up the charges to account for 1,334 CAHs in operation in 2013 (compared with 1,300 in our Period 2 sample), the estimated increase in Medicare interim payments is $1.13 billion, before taking into account any reduction in Medicare bad debt.[18]

In doing the claim-level analysis, we noted that among claims below $100, the mean coinsurance based on 20 percent of costs is about half that of charge-based coinsurance, but the

[16] Total Medicare spending in 2013 was $551 billion (Chart 1–3). Total Medicare OPPS spending in 2013 was $35 billion (Chart 7–9). Source: MedPAC. (2015, June). *MedPAC Data Book*. Retrieved from http://medpac.gov/documents/data-book/june-2015-databook-health-care-spending-and-the-medicare-program.pdf?sfvrsn=0

Hospital outpatient spending was 7% of total Medicare spending according to Congressional Budget Office data. Source: Kaiser Family Foundation. (2015, July). *The facts on Medicare spending and financing*. Retrieved from http://files.kff.org/attachment/fact-sheet-the-facts-on-medicare-spending-and-financing

[17] We used the Provider of Service files to identify the total number of CAHs in 2013.

[18] From Table 5-1, the dollar reduction in coinsurance estimated from Worksheet E Part B data is $1.05 billion. The difference between claims-file totals and covered program charges on the cost report is likely attributable to timing.

differences are greater for the higher charge claims. For ***Table 5-2*** and ***Table 5-3***, the cost-based figures are derived from aggregate CCRs for each CAH. Consequently, the difference between low- and high-cost claims must reflect something about the mark-up practices and overall service mix of CAHs that have larger claims. Claims over $10,000 represent less than 2 percent of all claims, although they account for 17.5 percent of charges (10 percent in our previous analysis) and therefore of coinsurance owed.

Table 5-2
Estimated impact on coinsurance per claim from policy change, All Period 2 CAHs (2012/2013)

				Coinsurance per claim	
Outpatient claims by claim size[1]	Number of claims	Percent distribution of claims	Charge per claim subject to coinsurance[2]	Actual (20% of charges)	Policy change (20% of costs)[3]
≤ $100	531,759	8.0%	$52	$10	$5
$100 to $1,000	3,396,659	51.4%	$319	$64	$29
$1,000 to $10,000	2,569,640	38.9%	$2,534	$507	$207
> $10,000	109,456	1.7%	$14,757	$2,951	$1,100
Total	6,607,514	100.0%	$1,398	$280	$114

NOTES:

1. Medicare outpatient claims with total costs ≥ $1 and total coinsurance > $1.

2. Covered charges net of deductibles and diagnostic laboratory testing.

3. Cost-based coinsurance was calculated by multiplying the ancillary services CCR derived from Worksheet D Part V of Medicare Cost Reports by the actual coinsurance.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

Table 5-3
Estimated impact on total coinsurance amounts from policy change, All Period 2 CAHs (2012/2013)

Outpatient claims by claim size[1]	Actual Period 2 coinsurance (20% of charges)	Percent distribution of actual Period 2 coinsurance	Dollar reduction in coinsurance from policy change (20% of costs)[2]	Mean percent reduction from policy change
≤ $100	$5,523,420	0.3%	−$2,734,171	−50%
$100 to $1,000	$216,684,148	11.7%	−$119,235,774	−55%
$1,000 to $10,000	$1,302,411,628	70.5%	−$769,977,465	−59%
> $10,000	$323,044,611	17.5%	−$202,693,686	−63%
Total	$1,847,663,807	100.0%	−$1,094,641,075	−59%
Total (annualized)[3]	$1,847,673,016		−$1,094,645,700	
Reduction grossed up for 2013 total of 1,334 CAHs			−$1,129,356,044	

NOTES:

1. Medicare outpatient claims with total costs ≥ $1 and total coinsurance > $1.

2. Cost-based coinsurance was calculated by multiplying the ancillary services CCR derived from Worksheet D Part V of Medicare Cost Reports by the actual coinsurance.

3. Annualized totals are slightly higher than actual because 0.15% of the 1,300 Period 2 CAHs had reporting periods less than one year.

SOURCE: RTI analysis of Medicare 100% outpatient SAF (FFS claims only), CY2012–CY2013.

5.2 Discussion

If Medicare wants to avoid having beneficiaries pay high rates of coinsurance when CAHs set their charges well above cost, then the CAH coinsurance policy needs to be adjusted. One such option is setting coinsurance at 20 percent of costs rather than 20 percent of charges. Under this option, beneficiaries would see a significant decrease in their coinsurance. Although they would likely still be paying more than their OPPS counterparts (because CAHs have higher costs on average than OPPS hospitals), they would be paying a proportionate share for access to their local CAH. In this section, we estimated the cost of that policy change in 2013 at roughly $1 billion, depending on the data source and reductions for bad debt. Policymakers would have to decide how to finance this cost. The Medicare program could absorb the entire cost of the policy change. Alternatively, the program cost could be fully or partially offset with other changes within CAH hospital payments or with more-broadly targeted Medicare changes.