CMS

CY 2014 Out-of-Pocket Cost Model

Methodology

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1. Introduction

The Centers for Medicare & Medicaid Services (CMS) has developed an Out-of-Pocket Cost Model that serves several purposes. The model produces estimates for Medicare Advantage Organizations (MAO), Prescription Drug Plans (PDP), Original Medicare (OM), and Medigap plans to allow for the standardized comparison of plan benefits/costs for each organization. These estimates are published on the Medicare.gov website and available through the Medicare Plan Finder (MPF). In addition, a plan version of the model provides data for use by CMS to evaluate annual bid submissions by MAOs and PDPs. Specifically, CMS uses the results from this plan version to evaluate meaningful differences for Part C and Part D plans and total beneficiary cost for Part C plans based on the data submitted in each Plan Benefit Package (PBP). This same model has been adapted to enable plan sponsors to run their benefit structures through independently as part of the development of their bids prior to submitting to CMS.

The model out-of-pocket cost (OOPC) estimates for the current 2013 MPF and the 2014 plan version used for bidding are based upon a cohort of OM individuals from the 2008 and 2009 Medicare Beneficiary Surveys (MCBS). The MCBS events and claims for this cohort are used to develop the beneficiaries' utilization measures. The utilization or out-of-pocket cost measures for Part C (non-prescription drug costs) are inflated based upon service-specific inflation factors. [1] The Part D (outpatient drug) calculations apply average prices from the Medicare Prescription Drug Event (PDE) claims data (2012). For the plan version, the Contract Year (CY) 2014 Plan Benefit Packages (PBPs) are used to define the OOPCs for the 2014 Medicare Advantage-Prescription Drug (MA-PD, PDP, and MA-Only) plans. The model provides estimates for the Medicare-covered benefits provided by plans (e.g., in-patient hospital care and outpatient services) as well as selected mandatory supplemental benefits (e.g., Non-Medicare covered inpatient additional days).

A few differences between the OOPC model that produces the OOPC estimates for display on the 2013 MPF and the software run by plans are worth noting. The estimates on the MPF are displayed by plan for three self-reported health statuses. In contrast, the 2014 OOPC Model tool reports OOPC values by PBP-based service category at the plan level. The 2013 estimates displayed on the MPF use 2013 PBP plan and formulary data whereas the 2014 Model estimates use submitted 2014 plan and formulary data.

This document describes the general methodology underlying the OOPC model and software tool. The process, data sources, and algorithms necessary are discussed in detail. For a description of how the OOPC Model is structured, and how plan data are input into the PBP, see the CY2014 OOPC Model User's Guide, dated April 2013. This User's Guide also describes the format of the output data generated by the model for each plan.

[1] These inflation factors are provided by the Office of the Actuary (OACT).

2. Selection of the MPF Cohort Based on the 2008 and 2009 MCBS

Fu Associates, Ltd. reviewed the variables in the 2008 and 2009 MCBS files and used this information to develop an Original Medicare (OM) cohort for the MPF. The OM cohort provides the baseline from which the MPF OOPC database was developed. Appendix A provides a basic description and record counts for the MCBS files used.

2.1 Screening Process

Certain criteria were used to either include or exclude beneficiaries in the OM cohort. Assignment to a particular cell was based on the beneficiary's health status. The following screening criteria were used to establish the final cohort. As development of accurate out-of-pocket estimates require the availability of all utilization during the year, beneficiaries who did not meet certain criteria ***were excluded*** from the final cohort:

1. Beneficiaries who did not complete at least one survey interview; beneficiaries newly enrolled in Medicare during the year were not included in the final cohort. They may have generated Medicare claims during the year, but they were not part of the survey process; their survey data had to be imputed using data for beneficiaries who were enrolled during the entire year. The data for these new enrollees, therefore, do not represent their utilization but rather the utilization of other beneficiaries. As a result, these beneficiaries were not included in the calculation of OOPCs.
2. Beneficiaries interviewed in a facility were excluded from the cohort due to potentially insufficient utilization data;
3. Beneficiaries, whose health status was missing, were excluded from the cohort because they could not be mapped into a health status category;
4. Beneficiaries who were not enrolled in Medicare Parts A & B for all twelve months in 2008 or 2009, respectively, or until death, were excluded from the cohort due to potentially insufficient utilization data;
5. Beneficiaries with one or more months of Medicare Managed Care enrollment were excluded from the cohort due to potentially insufficient utilization data;
6. Beneficiaries with a Medicare status of End-Stage Renal Disease (ESRD) were excluded from the cohort due to the inability to join an MA-PD or MA plan;
7. Beneficiaries with hospice utilization were excluded from the cohort since the payment for these beneficiaries is based on excess savings and not a capitated rate;
8. Beneficiaries who did not complete the entire survey were excluded from the cohort due to potentially insufficient data;
9. Beneficiaries with Veterans Administration (VA) insurance were excluded from the cohort due to potentially insufficient utilization data; and
10. "Ghosts," or beneficiaries newly enrolled in Medicare in 2008 or 2009 with claims and imputed survey data, were excluded from the cohort because their utilization duplicated that of other beneficiaries included in the cohort.

In contrast, following table presents the screening criteria used to establish the final cohort of beneficiaries who ***were included*** in the final cohort. The cohort includes beneficiaries who died during the year but meet all other criteria. Medicare Advantage Organizations price their insurance based on the assumption that some beneficiaries will die during the year and have higher utilization than average. Therefore, beneficiaries who died during the year were included in the calculation of OOPCs.

2.2 Screening Results

The number of beneficiaries excluded from each cohort as a result of the screening criteria is provided in the following tables.

Table 2.1 - Screening Results 2008 MCBS

Screening Criteria	Number of Beneficiaries Excluded
1. Beneficiaries who did not complete at least one survey interview	1,532
2. Beneficiaries interviewed in a facility	664
3. Beneficiaries with a health status other than Excellent, Very Good, Good, Fair, and Poor	83
4. Beneficiaries with less than 12 months of Part A/B enrollment	866
5. Beneficiaries with some MA-PD or MA coverage	4,026
6. Beneficiaries with ESRD status	93
7. Beneficiaries with one or more hospice payments	183
8. Beneficiaries with an incomplete survey	880
9. Beneficiaries with VA insurance	664
10.Ghost beneficiaries	618
Total number of beneficiaries excluded	5,461*

Table 2.2 - Screening Results 2009 MCBS

Screening Criteria	Number of Beneficiaries Excluded
1. Beneficiaries who did not complete at least one survey interview	1,537
2. Beneficiaries interviewed in a facility	751
3. Beneficiaries with a health status other than Excellent, Very Good, Good, Fair, and Poor	79
4. Beneficiaries with less than 12 months of Part A/B enrollment	838
5. Beneficiaries with some MA-PD or MA coverage	4,011
6. Beneficiaries with ESRD status	102
7. Beneficiaries with one or more hospice payments	167
8. Beneficiaries with an incomplete survey	945
9. Beneficiaries with VA insurance	634
10.Ghost beneficiaries	704
Total number of beneficiaries excluded	5,366*

***** Note**:** Beneficiaries could have qualified for more than one screening criteria, in which case, the criteria used to screen beneficiaries from the final MPF cohort may NOT be mutually exclusive.

2.2.1 Final MPF Original Medicare Cohort

Of the 10,853 beneficiaries in the 2008 MCBS file, 5,392 were retained in the final cohort that populates the five health status—Excellent, Very Good, Good, Fair, and Poor—cells in the MPF OOPC database. Of the 10,070 beneficiaries in the 2009 MCBS file, 4,704 beneficiaries were used to populate the five health status cells in the OOPC database. Combined, the final FFS cohort thus consists of 10,096 beneficiaries. The following table shows the number of beneficiaries in the 2008/2009 Medicare OM cohort by health status.

Table 2.3 – 2008/2009 Original Medicare Beneficiaries in Cohort by Health Status

Health Status	Excellent*	Very Good	Good*	Fair	Poor*	TOTAL
Number of Beneficiaries	1,356	2,801	3,299	1,895	745	10,096

* Note: The three health status groups with the asterisks are used for display on the MPF.

Data for all 10,096 beneficiaries in the OM cohort was used to develop the baseline MPF utilization measures and OOPC estimates. According to past CMS analysis, the OM cohort is large enough to be nationally representative of the Medicare population in the MCBS (e.g., beneficiaries who are enrolled in both Parts A and B; beneficiaries who are not enrolled in managed care).

3. Development of Out-of-Pocket Cost Estimates

The following assumptions were made as a result of ongoing analysis of MCBS and PBP data, Medigap policies and plans, and CMS requirements to design and develop OOPC estimates for the MPF. These assumptions provide a baseline of the out-of-pocket design and development process and will be modified as the process is refined.

3.1 General Assumptions

1. Actual OOPC estimates are produced in terms of dollar values for display through the MPF.
2. OOPC estimates are displayed as "Monthly" and "Annual," and were calculated based on the number of months enrolled for each beneficiary in the cohort.
3. MCBS events and claims for the designated cohort were reviewed to develop the beneficiaries' utilization measures and estimate OOPCs.
4. MCBS sample weights were applied to each of the beneficiaries included in the final MPF cohort as part of the development of the OOPCs for MA-PD or MA plans.
5. Mean OOPCs for each plan were produced for each health status cell.
6. The 2008 and 2009 costs for Physician/Supplier events were inflated to 2013 costs using Berenson-Eggers Type of Service (BETOS) code inflation factors; all Health Care Procedure Codes (HCPCs) within a BETOS code are inflated by that same BETOS rate. These inflation factors were provided by the office of the Actuary (OACT).
7. Long-term care costs were not included in the development of the OOPC estimates.
8. Skilled Nursing Facility (SNF) services were included in the development of the OOPC estimates.
9. Multiple records exist in the Record Identification Code (RIC) files that contain the same values for all data fields. According to CMS/ORDI, one of the perverse elements of a medical expenditure survey, such as the MCBS, is that the interview is frequently most demanding for those who are the sickest, since the interview length is dependent upon the amount of medical utilization reported. To reduce the reporting burden, the MCBS design allows individuals to report repeated utilization in a summary manner. For example, if an individual has physical therapy multiple times a week for several weeks, MCBS captures the utilization in summary form. This summary data was used to generate the correct number of events as part of the back-end processing. Often events generated from summary data appear to be duplicates, since each event will have the same begin and end date. These records are not mistakes; rather, they demonstrate how repeat utilization was collected and processed. As such, the information was included in the analysis.
10. The event-level data in the Medical Provider Event (MPE) file was not used because the previous data provided limited information for mapping an event to a PBP benefit.

3.2 Assumptions Related to the Calculation of MA-PD or MA Out-of-Pocket Cost Estimates

1. Where applicable, the MPF used the PBP cost shares for in-network services to calculate OOPC estimates for benefits.

2. If the PBP cost sharing used coinsurance (i.e., percentages), the coinsurance basis is the reported MCBS Total Amount.
3. The costs for Optional Supplemental benefits were not included in the calculation of OOPCs.
4. Information collected in the PBP Notes fields is not included in the calculation of OOPCs.
5. Utilization of Outpatient services, Physician/Supplier services, and DME benefits was mapped into a PBP service category based on the information provided on the bill. In most instances, services that occurred on the same day and appeared to be related were linked together into a single benefit.
6. The MPF calculation applies the service-category deductibles to annualized costs.
7. For benefits with a minimum and maximum cost share, the minimum cost-share amount was used to calculate the OOPC estimate.
8. The calculation of the category cost equals the sum of the copay amount, plus the coinsurance amount, plus the category deductible.
9. If a plan indicates there is a service-category specific deductible amount, then that deductible amount is used to reduce the total costs for calculating the cost shares, and then added back in to determine the total cost for the category.
10. If a plan indicates that there is a service-category specific maximum enrollee out-of-pocket amount, then the calculated MA-PD or MA cost for that category was compared to the service category specific maximum, and the lesser of the two was used as the OOPC. For example, if the beneficiary's calculated OOPC for lab services totals $600, but the plan limits the enrollee's OOP cost to $500, then the OOPC estimate uses the $500 rather than the $600.
11. The plan-level maximum enrollee out-of-pocket amount for both In-Network Medicare and Non-Medicare services was included in the calculations. [2] The calculated MA-PD or MA cost for the overall plan or subset of PBP service categories was compared to the appropriate plan-level maximum, and the lesser of the calculated cost or the maximum was used as the OOPC. For example, if the beneficiary's calculated OOPC for all services except prescription drugs and dental services totals $1,300, but the plan-level maximum enrollee out-of-pocket amount limits the OOP cost for all services except prescription drugs and dental services to $1,000, then the plan OOPC estimate equals the $1,000 limit plus the service-category specific costs for drugs and dental services. This calculation was applied to Medicare-covered only or all benefits, as designated by the plan. If a separate maximum amount was indicated for Medicare-covered only benefits, then this amount was compared to the costs for Medicare-covered only benefits, and the lesser of the two was used.
12. If a plan indicates that there is a plan-level deductible amount, then this deductible amount is used to reduce the total amount for services that is subject to cost sharing, and the deductible (or portion used) is included in the out-of-pocket costs calculated for each beneficiary.[3]
13. For Medicare Medical Savings Account Plans (MSA), assume the CMS annual contribution amount is used towards meeting the deductible, and then the remainder (if available) is applied to Medicare eligible expenses (non-covered inpatient or SNF care, dental, and/or

[2] For plans with a deductible that applies to both in- and out-of-network services, this deductible is used in the calculations.

[3] For plans with a MOOP that applies to both in- and out-of-network services, this MOOP is used in the calculations.

prescription drugs). Cost shares for Medicare-covered services are zero once the deductible is met.

14. If a service/benefit is covered by Medicare ("allowed"), then it was included in the calculation. If a service/benefit is not covered by Medicare ("denied"), then it was excluded from the calculation.
15. OOPCs are not estimated for Medicare-Medicaid Plans or Dual Eligible Special Needs Plans (SNP).
16. MA plans with Medicare-defined benefits have calculations carried out identically as for the OM plan.

3.2.1 Service Category Specific Assumptions for Calculation of Out-of-Pocket Cost Estimates

Inpatient Hospital

The calculation of the OOPC estimate for the Inpatient Hospital-Acute and Inpatient Psychiatric Hospital Service Category benefits were based on the following assumptions:

1. Each event in the MCBS Inpatient Event (IPE) file is considered one hospital stay.
2. MCBS events with a source of "Survey only" are excluded from the analysis.
3. Inpatient Psychiatric Hospital stays were identified using the Provider Number on the claim.
4. Inpatient Psychiatric Hospital costs were calculated separately in the MA-PD or MA OOPC estimates.
5. The MCBS Total Expenditures are equal to the total charge for the hospital stay.
6. Total Days were calculated as the Discharge Date minus the Admission Date. If the dates are the same, then Total Days are equal to one.
7. The MCBS Utilization Days were defined as the covered days (1-90) during a benefit period and any MCBS lifetime reserve days used during that stay.
8. Medicare Covered Days were calculated as Utilization Days minus the Lifetime Reserve Days.
9. Additional Days were calculated as Total Days minus the Utilization Days.
10. If Utilization Days were greater than zero, then the stay was considered Medicare covered.
11. If Additional Days were equal to zero, then the entire stay was considered Medicare covered.
12. Lifetime reserve days were considered Medicare covered under OM, but were priced as Additional Days or Non-Covered Days under MA.
13. Plan Maximum Additional Days were covered by the plan (but not by Medicare) and designated as unlimited days or as a specified number of days.
14. If Utilization Days are equal to zero, then the entire stay was considered non-covered and the non-covered cost was equal to the Total cost.
15. Non-Covered Days are equal to Additional Days minus the Plan Maximum Additional Days.

The MA-PD or MA calculation of the OOPC estimate for the Inpatient Hospital Service Category benefits is defined according to the following algorithms:

1. If the Maximum Enrollee OOPC amount was designated for a period other than a per-stay cost, then it was converted to an annual cost.

- If the Plan Benefit Package (PBP) periodicity is the benefit period, then it was assumed that the 90-day period is quarterly and it was multiplied by four.

2. If the Maximum Enrollee OOPC amount was based on a per-stay cost, then the annual out-of-pocket expenses for this stay (i.e., event) were equal to the Maximum Enrollee OOPC.
3. For Medicare covered stays, the cost shares were calculated in the following manner:
   - The Copay per Stay amount was added to the total of the Copay per Day multiplied by the Number of Medicare covered Days; and/or
   - The Coinsurance Percent per Stay was multiplied by the Total Amount, and added to the total of the Coinsurance Percent per Day multiplied by the Amount per Day (equal to the Total Amount divided by the Total Number of Days) multiplied by the Number of Medicare Covered Days.
4. For Additional Days, the cost shares were calculated in the following manner:
   - The Number of Additional Days was multiplied by the Additional Days Copay per Day; and/or
   - The Number of Additional Days was multiplied by the Additional Days Coinsurance Percent per Day, which was then multiplied by the Amount per Day for Additional Days (the number of days must be less than or equal to the Number of Plan Maximum Additional Days).
5. For Non-Covered Stays, if the benefit is not Mandatory, the total cost was calculated in the following manner:
   - The Number of Excess Non-Covered Days was multiplied by the Amount per Day.
6. For Non-Covered Stays, if the benefit is Mandatory, the cost shares were calculated in the following manner:
   - The Copay per Stay was added to the Copay per Day multiplied by the Number of Days; and/or
   - The Coinsurance Percent per Stay was multiplied by the Total Amount and added to the total of the Coinsurance Percent per Day multiplied by the Amount per Day multiplied by the Number of Days.
7. Out-of-pocket expenses are equal to the Total Non-Covered Costs (including deductible) plus the minimum of either:
   - The Total Cost calculated using the Per Stay Amount plus the Per Day Amount; or
   - The Maximum Enrollee OOPC.

Prescription Drugs

The calculation of the OOPC estimate for the Part D outpatient drug category is based on the following assumptions and procedures. Appendix B provides a listing of the key parameters used in the calculations for MA-PD and PDP drug plans.

1. Each event in the 2008 and 2009 MCBS PME (i.e., Drug) file is considered one drug prescription. MCBS drug prescriptions are adjusted using OACT-provided survey underreporting of drug prescription counts to estimate total drug usage in 2014.[4]

[4] The prescription utilization adjustment for 2008 and 2009 MCBS data includes an initial underreporting adjustment and subsequent adjustments for increased usage up to the estimate year of 2013. The 2008-2013 utilization adjustment is: 1.12; the 2009-2013 utilization adjustment is 1.11.

2. Map the name of each drug linked to appropriate National Drug Codes (NDCs). To associate the MCBS drugs to NDCs, a master list of drug names and their NDC(s) is first created using two commercial sources of data--First DataBank (FDB) and Medispan. Then, each MCBS prescription drug name is mapped to one or more NDCs via this master list. For MCBS drug prescription records that can be linked to Prescription Drug Event (PDE) data, the NDC found on the PDE record is used. Drugs are identified on Part D sponsor formularies using nomenclature and unique identifiers known as RxNorm concept unique identifier codes or RXCUIs. Each RXCUI on the formulary reference file (FRF) that is used to build plan formularies is associated with a related NDC. MCBS drugs are mapped to these RXCUIs using an NDC-RXCUI crosswalk.
3. Drugs that could not be mapped to an NDC (and thus to an RXCUI code) were considered over-the-counter, non-prescription drugs and their costs were not included in OOPCs.
4. An average price for each RXCUI is calculated using the 2012 PDE claims data which contains information on every prescription submitted for payment under the Part D program. The average price is calculated as the total gross expenditure [drug cost + dispensing fee + taxes + vaccination fee (if applicable)] divided by the number of PDE events, or prescriptions for that drug. Once the MCBS prescription record has been linked to a drug name, RXCUI, and average price, it is mapped to each plan's formulary and benefit package to obtain the drug cost sharing information. In instances where a drug event has been mapped into multiple RXCUIs and therefore is possibly covered on more than one tier, the RXCUI associated with the lowest cost tier is assigned to the event for that plan. If the RXCUI that represents an MCBS drug is not on a plan's formulary, this drug is assumed to be non-covered and the full cost, as reflected by the average price, is added to a plan's OOPC value. Generic substitution is assumed such that when a generic version of a brand drug exists and is covered on the plan's formulary, the generic version is the one included in the calculations provided it is lower cost-sharing. However, therapeutic substitution (e.g. drugs in the same therapeutic class) is not assumed. In addition, Food and Drug Administration (FDA) drug approval information was utilized to determine the applicable non-applicable status of MCBS drugs for purposes of coverage gap cost-sharing estimates. This data creation process results in a file that includes the total cost of the drug for each MCBS beneficiary and prescription as well as the each plan's associated cost sharing structure for that drug. Using each plan's drug coverage status of the MCBS drugs and PBP-based cost sharing information (deductible, initial coverage limit, co-copayments and/or coinsurance, gap coverage, etc), the beneficiary's out-of-pocket costs are calculated. The calculations are done according to the type of Part D plan (Defined Standard, Basic Alternative, Actuarially Equivalent, or Enhanced Alternative) and the associated cost share structure. The calculations are based upon the assumption that each prescription is for a one-month (30-day) supply of drugs (rather than the 90- or other-day) from an In-Network Pharmacy. In the event that both a preferred and non-preferred pharmacy exist, the calculations are based on the preferred pharmacy cost-sharing.
5. The OOPC calculations follow as closely as possible those used by the Medicare Drug Plan Finder in terms of sorting the drugs and assigning cost sharing at the various thresholds (deductible, ICL, catastrophic). That is, the prescriptions are reviewed sequentially, with each plan's cost sharing structure used through each phase (e.g., pre-ICL, gap, and post-

ICL). The copayments are used directly in calculations of costs; the coinsurance amounts are determined by multiplying the coinsurance percentage by the full cost of the drug from the PDE data. As noted earlier, throughout the processing, the lowest cost sharing available for a given MCBS drug is used. Additional plan features are also incorporated into the calculations, such as mandatory gap coverage (both the standard benefit for generic and brand drugs and the coverage gap discount program for applicable drugs) and additional gap coverage offered for full and/or partial tiers.

6. For MA plans that do not offer a Part D benefit (MA-Only plans), the calculation is identical to that provided for Original Medicare beneficiaries not participating in the Part D program. This calculation applies 2012 PDE average prices to MCBS prescription counts to calculate a total non-covered drug cost.

- The beneficiary level OOPC values are then aggregated (across all beneficiaries in the data set) using the individual MCBS sample weights in order to yield nationally representative data. The annual costs are adjusted for enrollment to yield average monthly costs.

Dental

The calculation of the OOPC estimate for the Dental Service Category benefits was based on the following assumptions.

1. Each event in the MCBS Dental Utilization Events (DUE) file was considered to be one visit.
2. All DUEs in this file were considered to be non-Medicare covered preventive and comprehensive dental service. (Note that the Medicare-covered dental visits are not included in the DUE file but are present in the Outpatient and Physician/Supplier data and the plan's cost sharing for Medicare covered dental is applied.
3. Each DUE is mapped to a PBP dental benefit, and the appropriate benefit cost share is applied:
   - Exam = Oral Exam;
   - Filling = Restorative;
   - Extraction and Root Canal = Endodontics;
   - Crown, Bridge, Ortho, and Other = Prosthodontics;
   - Cleaning = Cleaning; and
   - X-rays = X-rays.
4. If the plan offers dental benefits as a Mandatory benefit, then the PBP copay and coinsurance cost-share amounts were applied to the appropriate utilization.
5. If the plan's dental benefit was an Optional benefit, or if the plan did not offer a dental benefit (i.e., it is missing in the PBP data), then the total charge is equal to the Total Expenditures.
6. Preventive Dental benefits include oral exams, cleanings, and X-rays.
7. Comprehensive Dental benefits include restorative, endodontics, and prosthodontics.
8. If an event includes more than one Dental service, then the cost per service equals the Total Amount, divided by the number of services.
9. If a plan does not cover a particular Dental service (e.g., cleaning), then the cost of that service equals the calculated cost per service.
10. If the plan has a Maximum Enrollee Cost amount for Preventive Dental services, then the beneficiary cost equals the minimum of the sum of the non-Medicare covered costs or the Maximum Enrollee Cost Amount.

11. If the plan has a separate Maximum Enrollee Cost amount for comprehensive dental services, then the beneficiary cost equals the minimum of the sum of the Medicare-covered dental costs and other comprehensive dental costs, or the Maximum Enrollee Cost Amount.
12. If a plan has a Maximum Enrollee Cost amount for the combined preventive and comprehensive dental costs then this is applied proportionately to the sum of these costs.

Skilled Nursing Facility (SNF)

The calculation of the OOPC estimate for the SNF Service Category benefits was based on the following assumptions.

1. Each event in the MCBS Skilled Nursing Home Utilization file was considered one SNF stay.
2. MCBS events that have a source of "Survey only" were excluded from the analysis.
3. The MCBS Total Expenditures equal the total charge for the SNF stay.
4. Total Days were calculated as the Discharge Date minus the Admission Date. If the dates were the same, then Total Days equal one.
5. The MCBS Utilization Days were defined as covered days (1-100) during a benefit period.
6. Medicare covered Days were calculated as Utilization Days.
7. Additional Days were calculated as the Total Days minus the Utilization Days.
8. If Utilization Days were greater than zero, then the stay was considered Medicare covered.
9. If Additional Days were equal to zero, then the entire stay was considered Medicare covered.
10. Plan Maximum Additional Days are days that are covered by the Plan (but not by Medicare), and were designated by the plan as Unlimited Days or a plan specified number of days.
11. If Utilization Days equal zero, then the entire stay was considered non-covered and the non-covered cost equals the Total Cost.
12. Non-covered days equal Additional Days minus the number of Plan Maximum Additional Days.

The MA-PD or MA calculation of the OOPC estimate for the SNF Service Category benefits was defined according to the following algorithms:

1. If the Maximum Enrollee OOPC is not a per-stay cost, it was converted to an annual cost.
2. If the Maximum Enrollee OOPC is based on per stay, then the out-of-pocket expenses equal the Maximum Enrollee OOPC.
3. For Medicare Covered Stays, if Utilization Days are greater than zero, then the cost shares were calculated in the following manner:
   - The Copay per Stay amount was added to the total of the Copay per Day multiplied by the Number of Medicare covered Days; and/or
   - The Coinsurance Percent per Stay was multiplied by the Total Amount, and added to the total of the Coinsurance Percent per Day multiplied by the Amount per Day (equal to the Total Amount divided by the Total Number of Days) multiplied by the Number of Medicare Covered Days.
4. For Additional Days, if Additional Days are less than or equal to the Number of Plan Maximum Additional Days, then the cost shares were calculated in the following manner:

- The Copay per Day for Additional Days was multiplied by the Number of Additional Days; and/or
- The Coinsurance Percent per Additional Day was multiplied by the Amount per Day, and then multiplied by the Number of Additional Days.

5. For Non-Covered Stays, if the benefit is not Mandatory, then the total cost was calculated in the following manner:
   - The Number of Excess Non-Covered Days was multiplied by the Amount per Day.
6. For Non-Covered Stays, if the benefit is Mandatory, then the cost shares were calculated in the following manner:
   - The Copay per Stay plus the total of the Copay per Day multiplied by the Number of Days); and/or
   - The Coinsurance Percent per Stay was multiplied by the Total Amount, and added to the total of the Coinsurance Percent per Day multiplied by the Amount per Day multiplied by the Number of Days.
7. Out-of-Pocket expenses equal Total Non-Covered Costs (including deductible), plus the minimum of either:
   - The total cost calculated using the per stay amount plus the per day amount; or
   - The Maximum Enrollee OOPC.

4. Utilization-to-Benefits Linking Approach

The conceptual approach to linking MCBS/MPE data to the services/benefits in the PBP was based on the understanding that the majority of MA-PD or MA organizations cost their benefits and services based on the Type of Service and/or the Place of Service. For the purpose of estimating OOPCs, this has been referred to as a "Day-Door Theory." This theory assumes that all the benefits/services received by a beneficiary when he/she enters a "single door" (i.e., the facility or location where the services are provided) on a single day are bundled together for a single copay amount (e.g., an outpatient surgery that includes lab tests and X-rays would all be provided for a single copay amount).

The following steps represent the basic approach taken to link claims and/or line items in the DME, Outpatient, and Physician/Supplier file to PBP services/benefits. This approach does not apply to Dental or Prescription Drug event files where the linking was self-contained to specific procedures or records. In the case of the Dental event file, procedure-based dental events were linked to PBP services/benefits with little difficulty. Prescription Drugs were also independent of the line item-to-PBP linking approach; it was assumed that there is one record per drug event.

The approach for linking utilization-to-PBP services/benefits includes the following steps:

1. All of the utilization files (Outpatient, Physician/Supplier, Home Health, and DME) were subset to include only the records for the beneficiaries in the MPF cohort.
2. The claims in the Outpatient file were a subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All claims were assigned based on Bill Type code or Revenue Center code, depending upon prioritization (e.g., Bill Type code is equal to Ambulatory Surgical Center; Revenue Center code is equal to Emergency Room).
3. The line items in the DME file were subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All line items were assigned based on the BETOS code (e.g., BETOS code is equal to Hospital bed).
4. The line items in the Physician/Supplier file were subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All line items were assigned based on one or more BETOS codes, Physician Specialty Codes, Service Type, and/or Place of Service, depending upon prioritization (e.g., BETOS code is equal to Ambulance).
5. All other line items that occur on the same date were extracted.
6. The entire set of same day line items were reviewed to:
   - Identify and map line items to the specified Service Category (e.g., Ambulance);
   - Identify and map related line items that occurred on the same day and were bundled into the same service, but for which no separate MA-PD or MA cost will be calculated (e.g., Physician Specialty is equal to Ambulance Service Suppliers and BETOS code is equal to Local or Undefined Codes);
   - Identify and map line items to another PBP Service Category (e.g., all line items that fall within the admission and discharge dates for an Inpatient Hospital stay and where

PLACE OF SERVICE code is equal to Inpatient Hospital will be bundled into the PBP 1a - Inpatient Hospital Service Category); and

- Determine if any line items should be reclassified.

7. The mapping identification for each line item in the file was maintained.
8. The analysis by Service Category was repeated to map all possible line items. Line items were reclassified, as required.

4.1 PBP Service Categories to DME Line Item Mapping

The following PBP services/benefits were addressed as part of this analysis: Physician Specialist, Outpatient Labs, Outpatient X-Rays, Outpatient Hospital, Durable Medical Equipment (DME), Prosthetics/Orthotics, Medical/Surgical Supplies, Renal Disease, Part B Medicare-Covered Drugs, and Part B Chemotherapy Drugs. The mappings for these PBP services/benefits (the number in the parentheses identifies the PBP service category) to line items in the DME file are presented in this section.

Physician Specialist (7d)

All line items where the BETOS code is equal to "Specialist-Ophthalmology," "Minor Procedures-Musculoskeletal," "Minor Procedures-Other," "Office visit – established," "Office visits – new," or "Consultations" were mapped to the Physician Specialist (7d) service category.

Outpatient Labs (8al)

All line items where the BETOS code is equal to "Lab tests – other (non-Medicare fee schedule)" were mapped to the Outpatient Labs (8al) service category.

Outpatient X-Rays (8b3) [Selected Services]

All line items where the BETOS code is equal to "Standard imaging - chest" or "Standard imaging – musculoskeletal" were mapped to the Outpatient X-Ray (8b3) service category.

Outpatient Hospital (9a)

All line items where the BETOS code is equal to "Hospital visit – initial" or "Hospital visit – subsequent" were mapped to the Outpatient Hospital (9a) service category.

Durable Medical Equipment (DME) (11a)

All line items where the BETOS code is equal to "Hospital Beds," "Oxygen and Supplies," "Wheelchairs," "Other DME," or "Enteral and Parental" were mapped to the Durable Medical Equipment (DME) (11a) service category.

Prosthetics/Orthotics (11b)

All line items where the BETOS code is equal to "Orthotic Devices" were mapped to the Prosthetics, and Orthotics (11b) service category.

Medical/Surgical Supplies (11bs)

All line items where the BETOS code is equal to "Medical/surgical supplies," "Oncology-other," or "Lab tests – glucose" were mapped to the Medical/Surgical supplies (11bs) service category.

Renal Disease (12)

All line items where the BETOS code is equal to "Dialysis Services" were mapped to the Renal Disease (12) service category.

Part B Medicare-Covered Drugs (15m)

All line items where the BETOS code is equal to "Other Drugs" were mapped to the Part B Medicare-Covered Drugs (15m) service category. The cost share for Medicare-covered Part B non-chemotherapy drugs was used.

Part B Chemotherapy Drugs (15c)

All line items where the BETOS code is equal to "Chemotherapy Drugs" were mapped to the Drugs (15c) service category. The cost share for Medicare-covered Chemotherapy drugs was used.

Any other line items, where the BETOS code is equal to Local Codes, Undefined Codes, and/or Other non-Medicare fee schedule are not included in the calculations.

4.2 PBP Service Categories to Outpatient Claim Mapping

The following PBP services/benefits were addressed as part of this analysis: Primary Care Physician (PCP), Renal Disease, Ambulatory Surgical Center (ASC), Emergency Care, Ambulance, Outpatient Hospital, Urgently Needed Care, Mental Health, Physical Therapy/Speech, Occupational Therapy (OT), Immunizations, Cardiac Rehabilitation, Therapeutic Radiation, Physician Specialist, Diagnostic Radiological Services, Diagnostic Tests/Procedures, Outpatient Labs, Hearing Exams, Pulmonary Rehabilitation, Diabetes Education, Medical/Surgical Supplies, Mammography Screening, and Pap Smears/Pelvic Exams. The mapping of claims in the Outpatient file to the PBP service/benefit categories is done according to a particular order of priority. The presentation of the categories below follows that order of priority.

Primary Care Physician (PCP) (7a)

All claims where the BILL TYPE code is equal to "Clinic-Rural" were mapped to the Primary Care Physician (PCP) (7a) service category.

Renal Disease (12)

All claims where the BILL TYPE code is equal to "Clinic ESRD-Hospital Based" were mapped to the Renal Disease (12) service category.

Ambulatory Surgical Center (ASC) (9b)

All claims where the BILL TYPE code is equal to "Special Facility Hospital Outpatient (ASC)" or "Critical Access Hospital" were mapped to the Ambulatory Surgical Center (ASC) (9b) service category.

Emergency Care (4a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Emergency Room" were mapped to the Emergency Care (4a) service category.

Ambulance (10a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Ambulance" were mapped to the Ambulance (10a) service category.

Renal Disease (12)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Lab-Non-Routine Dialysis" or "Hemodialysis" were mapped to the Renal Disease (12) service category.

Mammography Screening

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Imaging Services-Screening Mammography" were classified as the Mammography Screening service. The first occurrence is assumed to $0 dollar Medicare-covered preventive service and subsequent occurrences are mapped to Diagnostic Radiological services.

Outpatient Hospital (9a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Operating Room Services – General Classification," "Operating Room

Services – Minor Surgery," or "Operating Room Services – Other Operating Room Services" were mapped to the Outpatient Hospital (9a) service category.

Urgently Needed Care (4b)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Clinic-Urgent Care Clinic" were mapped to the Urgently Needed Care (4b) service category.

Pap Smears/Pelvic Exams

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Diagnostic Services-Pap Smear" were classified as the Pap Smears/Pelvic Exams service. The first occurrence is assumed to $0 dollar Medicare-covered preventive service and subsequent occurrences are mapped to Diagnostic Radiological services.

Mental Health (7e)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Clinic-Psychiatric," "Medical Social Services," "Psychiatric/Psychological Treatments," or "Psychiatric/Psychological Services" were mapped to the Mental Health (7e) service category.

Physical Therapy/Speech (7i)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Physical Therapy" or "Speech Language Pathology" were mapped to the Physical Therapy/Speech (7i) service category.

Occupational Therapy (OT) (7c)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Occupational Therapy" were mapped to the Occupational Therapy (7c) service category.

Immunizations - Flu Shot

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Preventative care services-Vaccine Administration," or "Drugs requiring specific identification-detailed coding" were classified as the Immunizations - Flu Shot service. These items are assumed to be for influenza vaccinations; however, there is no cost allowed for the influenza vaccine.

Cardiac Rehabilitation (3c)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Therapeutic Services-Cardiac Rehabilitation" were mapped to the Cardiac Rehab (3c) service category.

Therapeutic Radiation (8b2)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Radiology-Therapeutic" or "Nuclear Medicine-Therapeutic" were mapped to the Therapeutic Radiation (8b2) service category.

Physician Specialist (7d)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Oncology" were mapped to the Physician Specialist (7d) service category.

Diagnostic Radiological Services (8b1) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "CT scan," "MRT/MRI," "MRT," "MRT/MRA," "PET," or "Nuclear Medicine" were mapped to the Diagnostic Radiological Services (8b1) service category.

Ambulatory Surgical Center (ASC) (9b)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Ambulatory surgical care" were mapped to the Ambulatory Surgical Center (ASC) (9b) service category.

Outpatient Hospital (9a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Gastro-Intestinal (GI) Services," "Cardiology—Cardiac Cath, Lab," or "Lithotripsy" were mapped to the Outpatient Hospital (9a) service category.

Diagnostic Tests/Procedures (8ad) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Cardiology" were mapped to the Clinical/Diagnostic Tests/Procedures (8ad) service category.

Diagnostic Radiological Services (8b1) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Radiology Diagnostic" or "Other Imaging Services" were mapped to the Diagnostic Radiological Services (8b1) service category.

Outpatient Labs (8al)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Laboratory" were mapped to the Outpatient Labs (8al) service category.

Diagnostic Tests/Procedures (8ad) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "EKG/ECG" or "EEG" were mapped to the Clinical/Diagnostic Tests/Procedures (8ad) service category.

Hearing Exams (18a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Audiology" were mapped to the Hearing Exams (18a) service category.

Primary Care Physician (PCP) (7a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Clinic," "Professional Fees," "Preventative Care Services—General," or "Treatment or Observation Room," or "Free-standing clinic" were mapped to the Primary Care Physician (PCP) (7a) service category.

Diagnostic Tests/Procedures (8ad) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Respiratory Services" were mapped to the Diagnostic Tests/Procedures (8ad) service category.

Therapeutic Radiation (8b2)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Therapeutic Services" were mapped to the Therapeutic Radiation (8b2) service category.

Pulmonary Rehab (3p)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Pulmonary function-general classification," or "Pulmonary function-other" were mapped to the Pulmonary Rehab (3p) service category.

Diabetes Education (14e)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Therapeutic Services-Education/Training" were mapped to the Diabetes Education (14e) service category.

Diagnostic Tests/Procedures (8ad) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Therapeutic Services – Education/Training" were mapped to the Diagnostic Tests/Procedures (8ad) service category.

Medical/Surgical Supplies (11bs)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Medical/surgical supplies" were mapped to the Medical/surgical supplies (11bs) service category.

4.3 PBP Service Categories to Physician/Supplier Line Item Mapping

The mapping of the Physician/Supplier to PBP services/benefits is addressed as part of this analysis. The methodology for linking Inpatient Hospital and SNF events to line items in the Physician/Supplier file is based on matching the line item last expense date with the Inpatient/SNF Admission and Discharge dates. These benefits/services were considered part of the Inpatient stay, and thus did not generate a separate cost.

The methodology for linking Outpatient services/benefits to line items in the Physician/Supplier file includes selecting all related line items for Outpatient claims mapped to each designated PBP category; that is, line items that occurred on the same day as the Outpatient bill and are related to the service/benefit. These line items were bundled under the designated Outpatient service/benefit.

For the remaining line items that do not link to Inpatient Hospital, SNF, or Outpatient claims, the mapping methodology for these PBP services/benefits to line items in the Physician Supplier file is implemented in a particular order of priority. This section summarizes the mapping by PBP category.

Inpatient Hospital - Acute (1a) and Inpatient Psychiatric Hospital (1b)

1. All line items where the Date of the Service is on or within the Inpatient event Admission and Discharge dates that match psychiatric records if provider is Psychiatric Hospital or the PLACE OF SERVICE code is equal to "Inpatient Psychiatric Facility" or "Inpatient Comprehensive Rehab Facility" were bundled under Inpatient Psychiatric Hospital.
2. All line items where the Date of the Service is on or within the Inpatient event Admission and Discharge dates that match inpatient records if provider is NOT Psychiatric Hospital or the PLACE OF SERVICE code is equal to "Inpatient Hospital" or "ER-Hospital" were bundled under Inpatient Hospital - Acute.

SNF (2)

1. All line items where the Date of the Service is on or within the SNF event Admission and Discharge dates and the PLACE OF SERVICE code is equal to "Inpatient Hospital," "ER-hospital," "Nursing Facility" or "SNF," or the BETOS code is equal to "Nursing Home Visit" were bundled under the SNF category.

Emergency Care (4a)

1. All line items that occurred on the same day as an Outpatient ER visit, where the BETOS code is equal to "ER - visit," or the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," or "ER," were bundled under Emergency Care.

Urgently Needed Care (4b)

1. All line items that occurred on the same day as an Outpatient Urgent Care visit were bundled under the Urgently Needed Care visit.

Primary Care Physician (PCP) (7a)

1. All line items that occurred on the same day as an Outpatient Clinic (independent or rural health) visit, excluding the "Billing Clinical Laboratory" were bundled under the PCP category.
2. All line items that occurred on the same day as an Outpatient Clinic (pediatric, treatment, preventative, or professional) visit, where the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," "ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" and where the PHYSICIAN SPECIALTY code is NOT equal to the "Independent Billing Clinical Laboratory" were bundled under the Primary Care Physician (PCP) category.
3. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "General Practice," "Family Practice," "Internal Medicine," or "Public Health or Welfare" were mapped as a PCP office visit.

b) All other line items that occurred on the same day (i.e., related items) for a PCP were bundled under the PCP office visit.

4. **a)** All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "PCP" were mapped as PCP office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a PCP office visit were bundled under the PCP visit.
5. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Eye Procedures," "Endoscopy," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "PCP" were mapped as a PCP office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a PCP were bundled under the PCP office visit.
6. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "PCP" (specified above) or "Public Health or Welfare Agencies" were mapped as a PCP office visit.
7. All line items where the BETOS code is equal to "Anesthesia," and the PHYSICIAN SPECIALTY code is equal to PCP (specified above), were bundled under the PCP office visit.
8. All previously unmapped line items where the BETOS code is equal to "Office Visit" or Consultations" and where the PHYSICIAN SPECIALTY code is equal to "Diag Lab (GPPP)" or "Diag X-ray" were mapped as a PCP office visit.
9. All line items where the PHYSICIAN SPEICALTY code is equal to "Nurse Practitioner" or "Internal Medicine" were mapped as a PCP office visit.

Chiropractic (7b)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Chiropractic" were mapped as a Chiropractic visit.
2. All other line items that occurred on the same day (i.e., related items) for Chiropractic were bundled under the Chiropractic visit.

Occupational Therapy (OT) (7c)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Occupational Therapist" or "Occupational Therapy (GPPP)" were mapped as an Occupational Therapy visit.
2. All other line items that occurred on the same day (i.e., related items) for an Occupational Therapist were bundled under Occupational Therapy.

Physician Specialist (7d)

1. All line items that occurred on the same day as an Outpatient Specialist visit, and the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," "ER,"

"ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility," were bundled under the Physician Specialist visit.

2. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Specialist," "Critical Care (Intensivists)," "Addiction Medicine," or "Rheumatology," were mapped as a Physician Specialist office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Physician Specialist office visit.
3. **a)** All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" (Rheumatology), were mapped as a Physician Specialist office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Physician Specialist office visit.
4. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" ("Rheumatology," "Critical Care (intensive)," "Addiction Medicine," "Certified Registered Nurse Anesthetist (CRNA)"), were mapped as a Physician Specialist office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Physician Specialist office visit.
5. All previously unmapped line items where the BETOS code is equal to "Oncology – Other" and PLACE is equal to "Office" and TYPE OF SERVICE is NOT equal to "Therapeutic Radiology" were mapped as a Physician Specialist office visit.
6. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" ("Rheumatology," "Critical Care (intensivists)," "Certified Registered Nurse Anesthetist (CRNA)"), were mapped as a Physician Specialist office visit.
7. All line items where the BETOS code is equal to "Anesthesia" and the PHYSICIAN SPECIALTY code is equal to "Specialist" were bundled under Physician Specialist.
8. All previously unmapped line items where the BETOS code is equal to "Chiropractic" and where the PHYSICIAN SPECIALTY code is equal to "Specialist" were mapped as a Physician Specialist office visit.
9. All line items where the PHYSICIAN SPECIALTY code is equal to "Anesthesiology" or "Neuro-surgery" were mapped as a Physician Specialist office visit.
10. All line items where the PHYSICIAN SPECIALTY code is "Otolaryngology," "Cardiology," "Nuclear Medicine," "Nephrology," "Cardiac Surgery," "Hematology/Oncology," or "Medical Oncology" were mapped as a Physician Specialist office visit.

Mental Health (7e)

1. All line items that occurred on the same day as an Outpatient Mental Health visit, where the PHYSICIAN SPECIALTY code is equal to "Psychiatry," "Psychiatry Neurology,"

"Psychologist," "Clinical Psychologist," "Psycho-Therapist," or "Licensed Clinical Social Worker" are bundled under the Outpatient Mental health visit.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Psychologist (billing independently)," "Clinical Psychologist," or "Licensed Clinical Social Worker" were mapped as a Mental Health visit.
3. All other line items that occurred on the same day (i.e., related items) for Psychologist were bundled under the Mental Health visit.

Podiatry (7f)

1. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established), "Consultations," or "Nursing Home or Home Visit," and where the PHYSICIAN SPECIALTY code is equal to "Podiatry," were mapped as a Podiatry office visit.
   b) All other line items that occurred on the same day (i.e., related items) for Podiatry were bundled under the Podiatry office visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Podiatry," were mapped as a Podiatry office visit.
   b) All other line items that occurred on the same day (i.e., related items) for Podiatry were bundled under the Podiatry office visit.
3. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Podiatry," were mapped as a Podiatry office visit.
4. All previously unmapped line items where the BETOS code is equal to "Hospital Visit-initial," and where the PHYSICIAN SPECIALTY code is equal to "Podiatry," were mapped as a Podiatry office visit.

Other Healthcare Professionals (7g)

1. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Certified Nurse Midwife," "Certified Registered Nurse Anesthetist (CRNA), Anesthesia Assistant," "Nurse Practitioner," "Certified Clinical Nurse Specialist," "Preventive Medicine," or "Physician Assistant," were mapped as an Other Healthcare Professionals office visit.
   b) All other line items that occurred on the same day (i.e., related items) for these Physicians were bundled under the Other Healthcare Professionals office visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Nurse Practitioner," "Critical Care (intensivist)," "Preventive Medicine," "Certified Clinical Nurse Specialist," "Physician Assistant" were mapped as an Other Healthcare Professionals office visit.

b) All other line items that occurred on the same day (i.e., related items) for Other Healthcare Professionals were bundled under the Other Healthcare Professionals office visit.

3. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Other Healthcare Professionals" (specified above), were mapped as an Other Healthcare Professionals office visit.
   b) All other line items that occurred on the same day (i.e., related items) for Other Healthcare Professionals were bundled under Other Healthcare Professionals office visit.
4. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "All Other, e.g. Drug and Department Stores," "Physician Assistant," or "Nurse Practitioner" were mapped as an Other Healthcare Professionals office visit.
5. All line items where the BETOS code is equal to "Anesthesia" and the PHYSICIAN SPECIALTY code is equal to "Certified Registered Nurse Anesthetist (CRNA)" were bundled under Other Healthcare Professionals office visit.
6. All line items where the BETOS code is equal to "Specialist" and the PHYSICIAN SPECIALTY is equal to "Certified Clinical Nurse Specialist" were mapped as the Other Healthcare Professionals.

Psychiatry (7h)

1. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry," "Psychiatry, Neurology," or "Neuropsychiatry," were mapped as a Psychiatry office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry" or "Psychiatry, Neurology" were mapped as a Psychiatry office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
3. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," or "Specialist" and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry" (specified above), were mapped as a Psychiatry office visit.
   b) All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
4. **a)** All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to

"Psychiatry," "Psychiatry, Neurology," or "Neuro-psychiatry" were mapped as a Psychiatry office visit.
b) All other line items that occurred on the same day (i.e., related items) for Psychiatry were bundled under the Psychiatry visit.

5. 5. All line items where the BETOS code is equal to "Other Medicare fee schedule," "Other non-Medicare fee schedule," "Local Code," "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry," "Psychiatry, Neurology," "Neuro-psychiatry" were mapped as a Psychiatry visit.

Physical Therapy (PT)/Speech Therapy (7i)

1. **a)** All line items where the PHYSICIAN SPECIALTY code is equal to "Practicing Physical Therapist" or "Physiotherapy, GPPP" were mapped as a Physical Therapy visit.
   b) All other line items that occurred on the same day (i.e., related items) for this Physical Therapy (PT) were bundled under the Physical Therapy visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and the PHYSICIAN SPECIALTY code is equal to "Independent Physiological Laboratory," were mapped as a Physical Therapy visit.
   b) All other line items that occurred on the same day for this Physical Therapy were bundled under the Physical Therapy visit.
3. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee schedule," "Local codes," or "Undefined codes," and where the PHYSICIAN SPECIALTY code is equal to "Independent Physiological Laboratory," were mapped as a Physical Therapy visit.

Diagnostic Procedures/Tests (8ad)

1. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Independent Diagnostic Testing Facility" and the BETOS code is equal to "Major Procedure-cardio," "Minor Procedure," "Ambulatory procedure," or "Local codes" were mapped as a Diagnostic Procedures/Tests.
2. All line items where the BETOS code is equal to "Specialist" and the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as a Diagnostic Procedures/Tests.
3. All line items where the BETOS code is equal to "Minor Procedures" and the PLACE OF SERVICE is equal to "Office" and the PHYSICIAN SPECIALTY code is equal to "Diagnostic Laboratory, GPPP" and the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as a Diagnostic Procedures/Tests.
4. All line items where the BETOS code is equal to "Initial Hospital Visit" were mapped as a Diagnostic Procedures/Tests.

Outpatient Labs (8al)

1. All line items that occurred on the same day as an Outpatient lab service, and the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC,"

"Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" were bundled under the Outpatient lab service.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Clinical Lab (Billing Independently)" were mapped as a Lab service.
3. All previously unmapped line items where the BETOS code is equal to "Lab Tests" or "Other Tests" were mapped as an Outpatient lab service.
4. All previously unmapped line items where the BETOS code is equal to "Local codes" or "Specialist," and the SERVICE TYPE is equal to "Diagnostic Laboratory," were mapped as a Lab service.
5. All line items where the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as an Outpatient Labs service.

Diagnostic Radiological Services (8b1) [selected services]

1. All line items that occurred on the same day as an Outpatient complicated X-ray visit, where the BETOS code is equal to "Standard Imaging," "Advanced Imaging," "Echography," or "Imaging/Procedure," and the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility," were bundled under the Diagnostic Radiological Services visit.
2. All previously unmapped line items where the BETOS code is equal to "Advanced Imaging" and where the PHYSICIAN SPECIALTY code is equal to "Diagnostic Radiology" and where the SERVICE TYPE is "Diagnostic Radiology" were mapped as a Diagnostic Radiological Services visit. The maximum cost share will be applied to these services.
3. All line items where the BETOS code is equal to "Ambulatory Procedures" or "Minor Procedures" and where the PLACE of SERVICE is "Office," the "PHYSICIAN SPECILTY code is equal to "Diagnostic X-ray, GPPP," and the "SERVICE TYPE is "X-ray" were mapped as Diagnostic Radiological Services.
4. All line items where the SERVICE TYPE is equal to "Diagnostic radiology" were mapped as Diagnostic Radiological Services.

Therapeutic Radiological Services (8b2)

1. All line items that occurred on the same day as an Outpatient Radiation Therapy visit, where the BETOS code is equal to "Oncology," were bundled under the Outpatient Therapeutic Radiation visit.
2. All previously unmapped line items where the BETOS code is equal to "Oncology" were mapped as a Therapeutic Radiation visit.
3. All line items where the BETOS code is equal to "Oncology Radiation Therapy" were mapped as a Therapeutic Radiation visit.

Outpatient X-rays (8b3) [selected services]

1. All line items that occurred on the same day as an Outpatient X-ray visit, where the BETOS code is equal to "Imaging," and the PLACE OF SERVICE is equal to "Inpatient

Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" were bundled under the Outpatient X-ray visit.

2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Portable X-ray Supplier" were mapped as an Outpatient X-ray visit.
3. All previously unmapped line items where the BETOS code is equal to "Standard imaging," "Echography," "Advanced Imaging," or "Imaging/Procedure" were mapped as an Outpatient X-ray visit.
4. All previously unmapped line items where the BETOS code is equal to "Standard imaging," "Echography," "Advanced Imaging," or "Imaging/Procedure" and PLACE OF SERVICE is equal to "inpatient Hospital," "Out-patient Hospital," "ER," "ASC," "Birthing Center," "Military Treat," "Nursing Facility," "Other Unlisted Facility" were mapped as an Outpatient X-ray visit.
5. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Diagnostic X-ray" were mapped as an Outpatient X-ray visit.

Outpatient Hospital (9a)

1. All line items that occurred on the same day as an Outpatient Hospital visit, and where the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," "ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility," were bundled under the Outpatient Hospital visit.
2. All previously unmapped line items where the BETOS code is equal to "Oncology-Other" and PLACE OF SERVICE is equal to "Outpatient Hospital" and TYPE OF SERVICE is equal to "Surgery" were mapped as an Outpatient Hospital service.
3. All previously unmapped line items where the BETOS code is equal to "Anesthesia" and the PLACE OF SERVICE is equal to "Outpatient Hospital" were bundled under Outpatient Hospital service.

Ambulatory Surgical Center (ASC) (9b)

1. All line items that occurred on the same day as an Outpatient ASC visit, excluding those where the BETOS code is equal to "Office Visit" or "Consultation" with PLACE OF SERVICE equal to "Office," were bundled under the ASC visit.
   a) All line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedure," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Ambulatory Surgical Center," were mapped as an Ambulatory Surgical Center (ASC) visit.
   b) All other line items that occurred on the same day (i.e., related items) as the ASC visit were bundled under the ASC visit.
2. All line items where the BETOS code is equal to "Anesthesia" were mapped as an Ambulatory Surgical Center (ASC) visit.

Ambulance (10a)

1. All line items that occurred on the same day as an Outpatient ambulance service, where the PHYSICIAN SPECIALTY code is equal to "Ambulance Server Supplier," or the PLACE OF SERVICE code is equal to "Ambulance-Land" or "Ambulance-Air or Water," or the SERVICE TYPE code is equal to "Ambulance," were bundled under the Outpatient Ambulance service.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Ambulance Server Supplier," or the PLACE OF SERVICE code is equal to "Ambulance-Land" or "Ambulance-Air or Water," or the SERVICE TYPE code is equal to "Ambulance," were mapped as an Ambulance service.

Durable Medical Equipment (DME) (11a)

1. All line items where the BETOS code is equal to "Medical/Surgical Supplies," "Hospital Beds," "Oxygen and Supplies." "Wheelchairs," "Other DME," or "Orthotic Devices" were mapped as a Durable Medical Equipment (DME) benefit.

Medical/Surgical Supplies (11bs)

1. All line items where the BETOS code is equal to "Medical/Surgical Supplies" were mapped as a Medical Supplies benefit.

Renal Disease (12)

1. All line items that occurred on the same day as an Outpatient Dialysis visit, where the BETOS code is equal to "Dialysis services," were bundled under Renal Disease service.
2. All previously unmapped line items where the BETOS code is equal to "Dialysis Services" were mapped as a Renal Disease service.

Immunizations (14a)

Influenza

1. Medicare policy is that the copay for influenza immunizations is equal to $0.
2. All line items where the BETOS code is equal to "Immunizations/Vaccinations" were mapped to the Immunizations (14a) service category.

Pneumococcal

1. Medicare Policy is that the copay for pneumococcal immunizations is equal to $0.
2. All line items where the SERVICE TYPE code is equal to "Vaccine" were mapped to the Immunizations (14a) service category.

Chemotherapy (15c)

1. **a)** All line items where the BETOS code is equal to "Chemotherapy" were mapped as Chemotherapy.
   b) All other line items that occurred on the same day (i.e., related items) for Chemotherapy were bundled under Chemotherapy.

Part B Medicare-Covered Drugs (15m)

1. **a)** All previously unmapped line items where the BETOS code is equal to "Other drugs," were mapped as a Part B Medicare-covered Drugs benefit.
   b) All other line items that occurred on the same day (i.e., related items) for "Other drugs" were bundled under the Part B Medicare-Covered Drugs category.

Comprehensive Dental (16b)

1. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Oral Surgery (Dentists Only)," were mapped as a Dental office visit.
   b) All other line items that occurred on the same day (i.e., related items) for Oral Surgery (Dentists Only) were bundled under the Dental office visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," or "Specialist" and where the PHYSICIAN SPECIALTY code is equal to "Oral Surgery (Dentist only)" were mapped as a Dental office visit.
   b) All other line items that occurred on the same day (i.e., related items) for Oral Surgery (Dentists Only) were bundled under the Dental office visit.
3. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Oral Surgery (Dentists Only)," were mapped as a Dental office visit.

Eye Exams (17a)

1. **a)** All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Optometry," were mapped as an Eye Exams visit.
   b) All other line items that occurred on the same day (i.e., related items) for Optometry were bundled under the Eye Exams visit.
2. **a)** All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Optometry" were mapped as an Eye Exam visit.
   b) All other line items that occurred on the same day (i.e., related items) for Optometry were bundled under the Eye Exams visit.
3. **a)** All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye

Procedures," or "Specialist," and the PHYSICIAN SPECIALTY code is equal to "Optometry Independent Diagnostic Testing Facility" were mapped as an Eye Exams visit.

b) All other line items that occurred on the same day (i.e., related items) for Optometry were bundled under the Eye Exam visit.

4. All previously unmapped line items where the BETOS code is equal to "Specialist," and the PHYSICIAN SPECIALTY code is equal to "Independent Diag Testing Facility," and SERVICE TYPE is equal to "Vision items/services" and PLACE is equal to "Office" were mapped as an Eye Exams visit.

Hearing Exams (18a)

1. **a)** All line items where the PHYSICIAN SPECIALTY code is equal to "Audiologist (billing independently)" were mapped as a Hearing Exams visit.

   b) All line items that occurred on the same day as an Outpatient service for Hearing Exams is bundled under the Hearing Exams service.
2. All line items where the BETOS code is equal to "Lab Tests-Other (Medicare fee schedule)" and the SERVICE TYPE is equal to "Hearing" were mapped as the Hearing Exams visit.

Pap Smears/Pelvic Exams

1. Medicare policy is that the copay for preventive Pap Smears/Pelvic exams is $0.
2. All line items that occurred on the same day as an Outpatient Pap Smear were bundled under Pap Smears/Pelvic Exams.
3. All line items where the BETOS code is equal to "Lab Tests – Other" and the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," "ER," "ASC," "or "Other Unlisted Facility" were mapped as a Pap Smears/Pelvic Exams.

Mammography Screening

1. Medicare policy is that the copay for preventive Mammography Screening exams is $0.
2. All line items that occurred on the same day as an Outpatient Mammography Screening, where the BETOS code is equal to "Standard Imaging - Breast," were bundled under Outpatient Mammography Screening.
3. All line items where the PHYSICIAN SPECIALTY code is equal to "Mammography Screening Center" were mapped as a Mammography Screening visit.
4. All other line items that occurred on the same day (i.e., related items) for "Mammography Screening Center" were bundled under the Mammography Screening.

Appendix A: 2008 and 2009 MCBS Documentation

The MCBS is a continuous, multipurpose survey of a representative national sample of the Medicare population, conducted by the Office of Strategic Planning (OSP) of CMS. The central goals of the MCBS are to:

- determine expenditures and sources of payment for services used by Medicare beneficiaries, including copayments, deductibles, and non-covered services;
- ascertain all types of health insurance coverage and relate coverage to sources of payment; and
- trace processes over time, such as changes in health status, spending down to Medicaid eligibility, and the impacts of program changes.

Between 10,000 and 11,000 beneficiaries are included in the survey every year. There are 21 survey files, identified by a RIC code. There are also seven claims files that are linked to the survey respondents by a unique identification number.

Of the 21 survey files, there are 12 files that contain information related to:

- the survey respondent and survey information
- health status and functioning
- health insurance
- household composition
- facility characteristics (if in a facility)
- interview information
- timeline of events; and
- survey weights.

Seven files contain "event" level health care utilization information:

- Dental
- Facility
- Inpatient
- Institutional
- Medical Provider
- Outpatient Hospital; and
- Prescription Drug.

There are two utilization summary files: one at the service level (seven categories and home health and hospice) and one at the person level. The event file records are linked to a claim by a claim identification number when there is a claim-generated event or when a survey event can be linked to the claim.

Appendix B: CY 2014 Part D Benefit Assumptions – MA-PD & PDP Plans

Appendix B Table 1				
CY 2014 Medicare Part D Cost Share and Cost Limit Parameters	**Defined Standard**	**Actuarially Equivalent**	**Basic Alternative**	**Enhanced Alternative**
Pre-ICL Cost Shares	25%	25% or Tiers	25% or Tiers	25% or Tiers or No Cost Sharing
Pre-Deductible	No Coverage	No Coverage	Yes, optional	Yes, optional
Deductible	$310	$310	$310 or Plan-specified or No Deductible	$310 or Plan-specified or No Deductible
ICL	$2,850	$2,850	$2,850 or Plan-specified or No ICL	$2,850 or Plan-specified or No ICL
Gap Coverage	72% Generic Beneficiary Cost 47.5% Brand Beneficiary Cost	72% Generic Beneficiary Cost 47.5% Brand Beneficiary Cost	72% Generic Beneficiary Cost 47.5% Brand Beneficiary Cost	72% Generic Beneficiary Cost 47.5% Brand Beneficiary Cost
Additional Gap Coverage	N/A	N/A	N/A	No Additional Coverage Or Gap Tiers
Threshold (TROOP)	$4,550	$4,550	$4,550	$4,550
Threshold (Fixed Capitated Demos)	N/A	N/A	N/A	$6,455
Post-Threshold Cost Shares	Greater of $2.55 or 5% for generics (including brands treated as generic, or Greater of $6.35 or 5% for all other drugs	Greater of $2.55 or 5% for generics (including brands treated as generic, or Greater of $6.35 or 5% for all other drugs or Post-Threshold Tiers or No Cost Sharing	Greater of $2.55 or 5% for generics (including brands treated as generic, or Greater of $6.35 or 5% for all other drugs or Post-Threshold Tiers or No Cost Sharing	Greater of $2.55 or 5% for generics (including brands treated as generic, or Greater of $6.35 or 5% for all other drugs or Post-Threshold Tiers or No Cost Sharing
Excluded Drugs Maximum Benefit Coverage Limit	N/A	N/A	N/A	Yes, optional*. *Coverage limit applies to Excluded Drugs tier only.
Charge Lesser of Copayment or Cost of the Drug	N/A	Yes, optional.	Yes, optional	Yes, optional

Appendix C: Inflation Factors

To inflate the 2008/2009 costs on the MCBS event files and the Medicare claims to 2014 dollars, CMS provided the following inflation factors.

Appendix C Table 1			
Fiscal Year	**RICIPE (Inpatient Hospital)**	**RICIUE (SNF)**	**RICDUE (Dental Prices)**
2009	3.6%	3.4%	3.0%
2010	1.9%	-1.1%	2.7%
2011	-0.4%	1.7%	2.3%
2012	1.2%	-11.1%	3.1%
2013	2.8%	1.8%	3.6%

Appendix C Table 2			
Calendar Year	**RICPME (Drugs)**		
	Price	**Utilization & Intensity per Capita**	**Total**
2009	3.4%	0.9%	4.3%
2010	4.3%	-3.3%	0.9%
2011	1.3%	0.7%	2.0%
2012	0.7%	0.8%	1.5%
2013	0.2%	1.8%	2.0%

Appendix C Table 3	
Fiscal Year	**HHA**
2009	2.9%
2010	1.8%
2011	-5.1%
2012	-2.4%
2013	0.0%

Appendix C Table 4	
FISCAL YEAR	**OUTPATIENT**
2009	3.0%
2010	1.9%
2011	2.4%
2012	1.9%
2013	2.1%

Appendix C Table 5		
PHYSICIAN/SUPPLIER AND DME	**2008-2013 Increase**	**2009-2013 Increase**
BETOS Code		
D1A:Medical/surgical supplies	1.021034	1.021034
D1B:Hospital beds	1.021034	1.021034
D1C:Oxygen and supplies	1.021034	1.021034
D1D: Wheelchairs	1.021034	1.021034
D1E:Other DME	1.021034	1.021034
D1F:Orthotic devices	1.071065	1.021034
I1A:Standard imaging – chest	1.037496	1.026208
I1B:Standard imaging - musculoskeletal	1.037496	1.026208
I1C:Standard imaging – breast	1.037496	1.026208
I1D:Standard imaging - contrast gastrointestinal	1.037496	1.026208
I1E:Standard imaging - nuclear medicine	1.037496	1.026208
I1F:Standard imaging – other	1.037496	1.026208
I2A:Advanced imaging - CAT: head	1.037496	1.026208
I2B:Advanced imaging - CAT: other	1.037496	1.026208
I2C:Advanced imaging - MRI: brain	1.037496	1.026208
I2D:Advanced imaging - MRI: other	1.037496	1.026208
I3A:Echography – eye	1.037496	1.026208
I3B:Echography - abdomen/pelvis	1.037496	1.026208
I3C:Echography – heart	1.037496	1.026208
I3D:Echography - carotid arteries	1.037496	1.026208
I3E:Echography - prostate, transrectal	1.037496	1.026208
I3F:Echography – other	1.037496	1.026208
I4A:Imaging/procedure – Heart	1.037496	1.026208

Appendix C Table 5		
I4B:Imaging/procedure – other	1.037496	1.026208
M1A:Office visits – new	1.037496	1.026208
M1B:Office visits – established	1.037496	1.026208
M2A:Hospital visit – initial	1.037496	1.026208
M2B:Hospital visit – subsequent	1.037496	1.026208
M2C:Hospital visit - critical care	1.037496	1.026208
M3 :Emergency room visit	1.037496	1.026208
M4A:Home visit	1.037496	1.026208
M4B:Nursing home visit	1.037496	1.026208
M5A:Specialist – pathology	1.037496	1.026208
M5B:Specialist – psychiatry	1.037496	1.026208
M5C:Specialist – ophthalmology	1.037496	1.026208
M5D:Specialist – other	1.037496	1.026208
M6 :Consultations	1.037496	1.026208
O1A:Ambulance	1.071065	1.021034
O1B:Chiropractic	1.037496	1.026208
O1C: Enteral and Parental	1.071065	1.021034
O1D:Chemotherapy	1.087155	1.087155
O1E:Other drugs	1.087155	1.087155
O1F:Vision, hearing and speech services	1.050000	1.000000
O1G:Influenza immunization	0.924819	1.069156
P0 :Anesthesia	1.037496	1.026208
P1A:Major procedure – breast	1.037496	1.026208
P1B:Major procedure - colectomy	1.037496	1.026208
P1C:Major procedure - cholecystectomy	1.037496	1.026208
P1D:Major procedure – turp	1.037496	1.026208
P1E:Major procedure – hysterectomy	1.037496	1.026208
P1F:Major procedure - explor/decompr/excisdisc	1.037496	1.026208
P1G:Major procedure – Other	1.037496	1.026208
P2A:Major procedure, cardiovascular - cabg	1.037496	1.026208
P2B:Major procedure, cardiovascular - aneurysm repair	1.037496	1.026208
P2C:Major Procedure, cardiovascular - thromboendarterectomy	1.037496	1.026208
P2D:Major procedure, cardiovascular - coronary angioplasty (PTCA)	1.037496	1.026208
P2E:Major procedure, cardiovascular - pacemaker insertion	1.037496	1.026208
P2F:Major procedure, cardiovascular - other	1.037496	1.026208
P3A:Major procedure, orthopedic hip fracture repair	1.037496	1.026208
P3B:Major procedure, orthopedic hip replacement	1.037496	1.026208

Appendix C Table 5		
P3C:Major procedure, orthopedic knee replacement	1.037496	1.026208
P3D:Major procedure, orthopedic - other	1.037496	1.026208
P4A:Eye procedure - corneal transplant	1.037496	1.026208
P4B:Eye procedure - cataract removal/lens insertion	1.037496	1.026208
P4C:Eye procedure - retinal detachment	1.037496	1.026208
P4D:Eye procedure – treatment of retinal lesions	1.037496	1.026208
P4E:Eye procedure – other	1.037496	1.026208
P5A:Ambulatory procedures – skin	1.029260	1.029260
P5B:Ambulatory procedures - musculoskeletal	1.029260	1.029260
P5C:Ambulatory procedures – inguinal hernia repair	1.029260	1.029260
P5D:Ambulatory procedures - lithotripsy	1.029260	1.029260
P5E:Ambulatory procedures - other	1.029260	1.029260
P6A:Minor procedures – skin	1.037496	1.026208
P6B:Minor procedures - musculoskeletal	1.037496	1.026208
P6C:Minor procedures - other (Medicare fee schedule)	1.037496	1.026208
P6D:Minor procedures - other (non-Medicare fee schedule)	1.037496	1.026208
P7A:Oncology - radiation therapy	1.037496	1.026208
P7B:Oncology – other	1.037496	1.026208
P8A:Endoscopy – arthroscopy	1.037496	1.026208
P8B:Endoscopy - upper gastrointestinal	1.037496	1.026208
P8C:Endoscopy – sigmoidoscopy	1.037496	1.026208
P8D:Endoscopy – colonoscopy	1.037496	1.026208
P8E:Endoscopy – cystoscopy	1.037496	1.026208
P8F:Endoscopy – bronchoscopy	1.037496	1.026208
P8G:Endoscopy - laparoscopic cholecystectomy	1.037496	1.026208
P8H:Endoscopy – laryngoscopy	1.037496	1.026208
P8I:Endoscopy – other	1.037496	1.026208
P9A:Dialysis services (Medicare Fee Schedule)	1.037496	1.026208
P9B: Dialysis services (Non-Medicare Fee Schedule)	1.037496	1.026208
T1A:Lab tests - routine venipuncture (non-Medicare fee schedule)	0.929914	0.929914
T1B:Lab tests - automated general profiles	0.929914	0.929914
T1C:Lab tests – urinalysis	0.929914	0.929914
T1D:Lab tests - blood counts	0.929914	0.929914
T1E:Lab tests – glucose	0.929914	0.929914
T1F:Lab tests - bacterial cultures	0.929914	0.929914
T1G:Lab tests - other (Medicare fee schedule)	0.929914	0.929914
T1H:Lab tests - other (non-Medicare fee schedule)	0.929914	0.929914

Appendix C Table 5		
T2A:Other tests – electrocardiograms	1.037496	1.026208
T2B:Other tests cardiovascular stress tests	1.037496	1.026208
T2C:Other tests - EKG monitoring	1.037496	1.026208
T2D:Other tests - other	1.037496	1.026208
Y1 :Other - Medicare fee schedule	1.037496	1.026208
Y2 :Other - non-Medicare fee schedule	1.037496	1.026208
Z1 :Local codes	1.037496	1.026208
Z2 :Undefined codes	1.037496	1.026208

List of Acronyms

AHC	Acute Heart Condition
ASC	Ambulatory Surgical Center
BASEID	Unique Person Identification Number
BETOS	Berenson-Eggers Type of Service
CBC	Center for Beneficiary Choices
CHF	Congestive Heart Failure
CMS	Centers for Medicare & Medicaid Services
CORF	Comprehensive Outpatient Rehabilitation Facility
CT	Computed Tomography
CY	Contract Year
DCG	Diagnostic Cost Group
DUE	Dental Utilization Event
DME	Durable Medical Equipment
ECG	Electrocardiography
EEG	Electroencephalography
EKG	Electrocardiography
ER	Emergency Room
ESRD	End-stage Renal Disease
GI	Gastro-intestinal
HCPCS	Healthcare Common Procedure Coding System
HHA	Home Health Agencies
HCC	Hierarchical Condition Category
HMO	Health Maintenance Organization
ICL	Initial Coverage Limit
IPE	Inpatient Event
MA	Medicare Advantage
MA - PD	Medicare Advantage with Prescription Drug
MCBS	Medicare Current Beneficiary Survey
MDS	Minimum Data Set
MOC	Medicare Options Compare
MPE	Modern Provider Event
MPF	Medicare Plan Finder
MRI	Magnetic Resonance Imaging
MSA	Medicare Medical Savings Account Plans

List of Acronyms

OACT	Office of the Actuary
OM	Original Medicare
OOPCs	Out-of-pocket Costs
OSP	Office of Strategic Planning
ORDI	Office of Research, Development & Information
OT	Occupational Therapy
PBP	Plan Benefit Package
PCP	Primary Care Physician
PDE	Prescription Drug Event
PDP	Prescription Drug Plans
PET	Positron Emission Tomography
PHI	Premium Hospital Insurance
PME	Prescribed Medicine Event
PPS	Prospective Payment System
PT	Physical Therapy
RIC	Record Identification Code
RICDUE	Record Identification Code - Dental Services
RICIPE	Record Identification Code - Inpatient Hospital
RICIUE	Record Identification Code - Skilled Nursing Facility
RICMPE	Record Identification Code - Medical Provider Events
RICPS	Record Identification Code - Personal Summary
RXCUI	RxNorm Concept Unique Identifiers
SNF	Skilled Nursing Facility
SNP	Special Needs Plan
VA	Veterans Administration