CENTERS FOR MEDICARE & MEDICAID SERVICES

CY 2019 OUT-OF-POCKET COST MODEL

METHODOLOGY

APRIL 2018

Changes in the CY 2019 OOPC Model

The version of the OOPC model described in this document is an update of the CY 2018 model delivered in April, 2017. For the 2019 OOPC model, the items listed below summarize the changes that have been made.

1. Updated MCBS inflation and drug utilization factors provided by the Office of the Actuary (OACT). These factors inflate the 2012 and 2013 MCBS utilization cost data to CY 2018 levels. The April, 2017 model inflated 2011 and 2012 MCBS utilization data to CY 2017 levels.

2. Updated the Medicare Part A and B deductibles, coinsurance, and premiums to 2018 values. OOPC estimates will be affected if plans apply cost sharing to any of these values.

3. Updated the Part D policy parameters (deductible, initial coverage limit, gap coverage percentages, etc.) to 2019 values.

4. Modified Coverage Gap Brand and Generic discount and subsidy factors to take into account changes for 2019, including the closure of the coverage gap for brand drugs to take place in 2019.

5. Updated Prescription Drug Event (PDE) data for drug price calculation. (The CY 2019 OOPC Plan Model V1 uses 2017 PDE data.)

6. Updated the Part D input data using March, 2018 updates of the FRF, cross-reference, generic substitution, Medispan-FDB, and ADSF (Applicable/Non-Applicable) files.

7. Updated the code to take into account 2019 PBP data structure and variable name changes.

8. Made corrections to the code, including the application of the catastrophic threshold amount.

9. Updated the code to reflect collection of PBP cost sharing for ambulance by mode of transportation (Land or Air).

10. Made revisions to the 2012/2013 MCBS dental data to take into account the lack of reported 2012 and 2013 individual category service data. For the 2019 OOPC model, dental service data is imputed, based upon historical dental service data. Also, the estimated allocation of total costs per dental visit between preventive and comprehensive services has been revised to better reflect the historical cost of individual services.

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1. Introduction

To guide Medicare-eligible beneficiaries with health plan choices, the Center for Medicare & Medicaid (CMS) publishes Out-of-Pocket Cost (OOPC) estimates on the Medicare Plan Finder (MPF) available on the Medicare.gov website. Estimates are available for Medicare Advantage with Prescription Drug (MA-PD), Medicare Advantage Only (MA-Only) standalone Prescription Drug Plans (PDPs), Original Medicare (OM) and Medigap plans. These estimates are provided broken out by five specific health categories.[1]

To develop the OOPCs, a specific cohort of OM individuals from the Medicare Current Beneficiary Surveys (MCBS) is defined. The claims and event data for this cohort are taken from two years of the survey (2012 and 2013) for use in the estimation process. These data are combined with Contract Year (CY) 2018 Plan Benefit Packages (PBPs) and submitted premiums to produce the estimates for the Medicare Advantage and Prescription Drug (MA-PD, PDP, and MA-Only) plans. Original Medicare (and Medigap) plan calculations are then carried out in parallel with MA plans.

All PBP cost-share data are provided in 2018 dollars so the estimated costs from the MCBS must be inflated to 2018 as well. To inflate the OOPCs for Part C (non-prescription drug) service-specific inflation factors are used.[2] The Part D (outpatient drug) calculations apply average prices from the Medicare Prescription Drug Event (PDE) claims 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. The descriptions in many cases will be identical to those used to describe how the CY 2018 MPF version of the model was developed. For a description of how the OOPC Model is structured, and how plan data are input into the PBP, see the CY 2019 Out-of-Pocket Cost Model User Guide April 2018. The User Guide also describes the format of the output data generated by the model for each plan.

[1] For purposes of display on the MPF, only three of the health status groups are used: Excellent, Good, and Poor.

[2] These inflation factors are provided by the Office of the Actuary (OACT) at CMS (see Appendix C).

2. Selection of the MPF Cohort Based on the 2012 and 2013 MCBS

The variables in the 2012 and 2013 MCBS files are reviewed and used to develop an 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. The following screening criteria were used to establish the final cohort. As development of accurate out-of-pocket estimates requires 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 did not have sufficient information to be included in the final cohort.
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 2012 or 2013, 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 because of uncertainties about their use of non-hospice services;
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 2012 or 2013 with claims and imputed survey data, were excluded from the cohort because they did not have sufficient prescription drug or dental usage information for the calculation of OOPCs.

In contrast, beneficiaries who died during the year, but who met all other screening criteria, ***were included*** in the final cohort. Both Medigap and Medicare Advantage Organizations (MAOs) 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. The tables also show the weighted number of MCBS beneficiaries determined using appropriate MCBS sample weights.

Table 2.1 – Screening Results 2012 MCBS

Screening Criteria	Number of Beneficiaries Excluded	Weighted (Millions)	Percent Weighted
1. Beneficiaries who did not complete at least one survey interview	747	2.02	3.9
2. Beneficiaries interviewed in a facility	905	7.69	14.8
3. Beneficiaries with a health status other than Excellent, Very Good, Good, Fair, and Poor	784	2.18	4.2
4. Beneficiaries with less than 12 months of Part A/B enrollment	896	7.10	13.6
5. Beneficiaries with some MA-PD or MA coverage	4,974	24.17	46.4
6. Beneficiaries with ESRD status	107	0.44	0.8
7. Beneficiaries with one or more hospice payments	340	1.21	2.3
8. Beneficiaries with an incomplete survey	1,197	8.96	17.2
9. Beneficiaries with VA insurance	620	3.22	6.2
10.Ghost beneficiaries	738	7.10	13.6
Total number of beneficiaries excluded	7,028*	34.36	66.0
Total number of beneficiaries included	4,271	17.72	34.0
Total initial number of beneficiaries	11,299	52.08	100.0%

Table 2.2 – Screening Results 2013 MCBS

Screening Criteria	Number of Beneficiaries Excluded	Weighted (Millions)	Percent Weighted
1. Beneficiaries who did not complete at least one survey interview	738	1.96	3.62
2. Beneficiaries interviewed in a facility	903	7.80	14.45
3. Beneficiaries with a health status other than Excellent, Very Good, Good, Fair, and Poor	781	2.15	3.99
4. Beneficiaries with less than 12 months of Part A/B enrollment	863	6.91	12.80
5. Beneficiaries with some MA-PD or MA coverage	5,109	26.47	49.07
6. Beneficiaries with ESRD status	105	0.46	0.85
7. Beneficiaries with one or more hospice payments	352	1.25	2.32
8. Beneficiaries with an incomplete survey	1,183	9.08	16.82
9. Beneficiaries with VA insurance	581	3.10	5.73
10.Ghost beneficiaries	727	7.08	13.12
Total number of beneficiaries excluded	7,063*	36.21	67.12
Total number of beneficiaries included	3,986	17.73	33.87
Total initial number of beneficiaries	11,049	53.94	100.0%

*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 (OM) Cohort

Of the 11,299 beneficiaries in the 2012 MCBS file, 4,271 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 11,049 beneficiaries in the 2013 MCBS file, 3,986 beneficiaries were used to populate the five health status cells in the OOPC database. For both years combined, the final FFS cohort thus consists of 8,257 beneficiaries. The following table shows the number of beneficiaries in the 2012/2013 OM cohort by health status.

Table 2.3 - 2012/2013 Original Medicare Beneficiaries in Cohort by Health Status

Health Status	Excellent*	Very Good	Good*	Fair	Poor*	TOTAL
Number of Beneficiaries	1,284	2,364	2,468	1,517	624	8,257

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

Data for all 8,257 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 displayed in dollar values and dollar ranges through the MPF, based upon ranges established by CMS.
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 to 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 Original Medicare, Medigap plans, and MA-PD or MA plans.
5. Mean OOPCs for each plan were produced for each health status cell. Where OOPCs for persons with chronic illnesses are displayed, costs for all beneficiaries—not just those in a specific cell group—were produced.
6. The 2012 and 2013 costs for Carrier events were inflated to 2018 costs using Berenson-Eggers Type of Service (BETOS) code inflation factors; all Healthcare Common Procedure Coding System (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.

3.2 Assumptions Related to the Calculation of Original Medicare Out-of-Pocket Cost Estimates

1. Beneficiaries enrolled in OM do not have any insurance other than Medicare.
2. Beneficiaries go to providers who accept Medicare assignment (i.e., no balance billing).

3. The MPF includes OOPC estimates for some non-Medicare-covered benefits (i.e., drugs and dental services).
4. The MPF uses the MCBS total costs for utilization of non-Medicare-covered services in selected event files (i.e., dental services).
5. Total OOPCs are equal to the monthly Part B premium amounts for a year, plus the sum of out-of-pocket costs for Inpatient Hospital, SNF, Drugs, Dental, Outpatient, Home Health, Carrier, and Durable Medical Equipment (DME) service categories.
6. The OM calculation applies Medicare-defined deductibles, copayments, and premiums to MCBS reported utilization using PBP-defined variables.

3.3 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 taken into account in the calculation of OOPCs.
5. Utilization of Outpatient services, Carrier 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 sharing amount was used to calculate the OOPC estimate.
8. For categories offering a copay or coinsurance, the minimum value of the range for each is used and then the resulting number is summed to calculate the OOPC estimate.
9. The calculation of the deductible seeks to reflect how managed care programs operate in practice. The calculation of the category cost is the sum of the portion of any relevant plan or category-level deductible and the subsequent copayment and/or coinsurance amounts.[3] Any plan-level deductible which includes one or more categories is allocated proportionately based on the ratio of the spending in a given category to the total spending across the relevant categories. As such, the deductible amount is not produced nor displayed in MPF as a standalone value. Where there is both a category and plan-level deductible, the plan-level deductible takes precedence.[4]
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.

[3] For plans with a deductible that applies to both in- and out-of-network services such as an HMOPOS or network PFFS plan, then the in-network deductible is used in the calculations. PPO plans with a deductible are required to offer annual deductible that is used in the calculations. PPOs are not allowed to separate in-network deductibles but may offer differential deductibles. For the purposes of the OOPC calculations for PPOs, any differential deductible for a single category will be treated as an in-network category level deductible.

[4] When the plan level deductible has been met, the individual category deductibles are no longer relevant.

11. The plan-level maximum enrollee out-of-pocket amount for both In-Network Medicare and Non-Medicare services was included in the calculations. 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 only or all benefits, as designated by the plan. If a separate maximum amount was indicated for Medicare only benefits, then this amount was compared to the costs for Medicare only benefits, and the lesser of the two was used.
12. For MA Medical Savings Account Plans (MSA), it is assumed that 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 prescription drugs). Cost shares for Medicare-covered services are zero once the deductible is met.
13. 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.
14. OOPCs are not estimated for National PACE (Programs of All-Inclusive Care for the Elderly), Medicare Medicaid Plans, Employer/Union Only Direct Contract, Point of Sale (POS) Contractor, and Dual Eligible Special Needs Plans (SNP).
15. MA plans with Medicare-defined benefits have calculations carried out identically as for the OM plan.
16. Dental utilization information about individual services (e.g., number of cleanings, exams, x-rays, fillings, root canals, etc.) is absent from the data for the MCBS survey years 2012 and 2013. Without counts of dental services, the dental OOPC estimates, which can be fairly large as a percentage of total OOPCs, could not be produced for MAO plans that offer these supplemental benefits. The total dollar value for each dental visit provided by the 2012 and 2013 MCBS surveys continues to be used for estimating dental costs for the Original Medicare plan and MAO plans that do not offer supplemental dental benefits. This dollar value is also used to calculate costs by applying it to dental coinsurance percentages, as applicable. The imputation method used previously (2017) was modified for 2018. The new approach may be referred to as "ghosting." Here, the distribution of service patterns within each combination of sample weights and spending is produced. Then combinations of services are randomly selected from a recent year of complete data (2011) within these groupings. In other words, a particular combination of services from a "donor" 2011 record was applied to a given 2012 and 2013 beneficiary based upon the available beneficiary-level information. Here the available information is the total dental cost amount and beneficiary survey weight. The advantage of this "ghosting" approach over the previous method is that it explicitly takes into the sample weights which reflect demographic (and other) characteristics. And, by randomly assigning the full patterns of utilization, (1) conditional probabilities are taken into account and (2) non-fractional utilization flags (rather than fractional) estimates are produced thus better representing "real" data.

    Since inception, the OOPC model code has divided total costs into preventive and comprehensive allocations for the purposes of allocating cost sharing based simply on the counts of preventive and comprehensive services, respectively. Beginning in 2018, a new assignment method was instituted that relies upon historical (MCBS) cost information (spending for a single service in 2011) to determine the dollar allocations between preventive and comprehensive dental OOPCs. Estimating this cost split is necessary because the survey does not report dollar amounts by type of service.

3.3.1 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 Hospital Events (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 as separate categories 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 were equal to the Maximum Enrollee OOPC multiplied by the Number of Stays (i.e., events).
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), and then 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).
   - The Copay per Day for Additional Days was multiplied by the Number of Additional Days; and/or
   - The Coinsurance Percent per Additional Days 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, 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, plus the Copay per Day multiplied by the Number of Days; and/or
   - The Coinsurance Percent per Stay multiplied by the Total Amount, plus 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 OOPC estimate for the Part D outpatient drug category is based on the following assumptions and procedures. Appendix B provides a detailed listing of the key Medicare policy parameters used in the calculations for MA-PD and PDP drug plans.

1. Each event in the 2012 and 2013 MCBS PME (Prescribed Medicine Events) file is considered one drug prescription. MCBS drug prescriptions are adjusted using data provided the Office of the Actuary (OACT) summarizing survey underreporting of drug prescription counts to estimate total drug usage in 2018.[5]
2. Map the name of each drug linked to appropriate National Drug Codes (NDC). To associate the MCBS drugs to NDC, a master list of drug names and their NDC 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 NDC via this master list. For MCBS drug prescription records that cannot be linked to FDB or Medispan 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.

[5] The prescription utilization adjustment for 2012 and 2013 MCBS data includes an initial underreporting adjustment and subsequent adjustments for increased usage up to the estimate year of 2018. The 2012-2018 utilization adjustment is: 1.33; the 2013-2018 utilization adjustment is 1.32.

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 2017 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 [ingredient 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(s) associated with the lowest cost tier is (are) 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, and 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 has 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 or 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.
5. Using each plan's drug coverage status of the MCBS drugs and PBP-based cost sharing information (deductible, initial coverage limit, copayments and/or coinsurance, gap coverage, etc.), the beneficiary's OOPC are calculated. The calculations are done according to the plan's 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 60- or 90-day) from an In-Network Pharmacy. In the event that both a preferred and non-preferred pharmacy exists, the calculations are based on the preferred pharmacy cost-sharing.
6. The OOPC calculations sort the drugs and assign 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 amount available for a given MCBS drug is used. If there is more than one matched RXCUI on a low cost tier, for a given drug name, the model uses the median of the RXCUIs' prices (grouped by applicable vs. non-applicable) to determine the total cost of each drug (and if applicable, the coinsurance). Additional plan features are also incorporated into the calculations, such as Free First Fill for selected drugs, 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.
7. 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 2017 PDE average prices to MCBS prescription counts to calculate a total non-covered drug cost.
8. The beneficiary level OOPC values are then aggregated to the health status level (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 Events (DUE) file was considered to be one visit.
2. All DUEs in this file were considered to be non-Medicare-covered.
3. Each DUE is mapped to a PBP dental benefit, and the appropriate benefit cost share is applied:
   - Exam = Oral Exam;
   - Filling = Restorative;
   - Root Canal = Endodontics;
   - Extraction = Extraction;
   - Periodonture = Periodontics;
   - Crown, Bridge, Ortho, and Other = Prosthodontics, other oral/maxillofacial surgery other services;
   - Cleaning = Cleaning;
   - X-rays = X-rays; and
   - Other = Prosthodontics, other oral/maxillofacial surgery other services.
4. If the plan offers dental benefits as a Mandatory benefit, then the PBP copay and coinsurance cost sharing 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 Medicare-covered dental services, then the beneficiary cost equals the minimum of the sum of the Medicare-covered dental costs or the Maximum Enrollee Cost Amount.
12. If there was no Maximum Enrollee Cost amount, then the beneficiary cost is equal to the sum of the Preventive and Comprehensive Dental 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 a 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 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 annual out-of-pocket expenses equal the Maximum Enrollee OOPC, multiplied by the Number of Stays.
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 plus 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, and then multiplied by the Amount per Day.
5. 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.
6. For Non-Covered Stays, if the benefit is not Additional or 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.
7. For Non-Covered Stays, if the benefit is Additional or Mandatory, then the cost shares were calculated in the following manner:
   - The Copay per Stay plus 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, and then multiplied by the Number of Days.
8. 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 for linking MCBS data to the services/benefits in the PBP is 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 Carrier 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, Carrier, 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 Carrier 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 (or HCPCS/CPT code), Physician Specialty Codes, Service Type, and/or Place of Service, depending upon prioritization.
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;
   - 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: Durable Medical Equipment (DME), Prosthetics/Orthotics, Medical/Surgical Supplies, 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.

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 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.

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.

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), Dialysis Services, Ambulatory Surgical Center (ASC), Emergency Care, Ambulance, Outpatient Hospital, Urgently Needed Services, Mental Health Services, Psychiatric Services, Physical Therapy (PT)/Speech-Language Pathology (SP), Occupational Therapy (OT), Cardiac Rehabilitation Services, Therapeutic Radiation, Physician Specialist, Diagnostic Radiological Services, Outpatient X-Rays, Diagnostic Tests/Procedures, Outpatient Labs, Hearing Exams, Pulmonary Rehabilitation Services, Diabetes Education, Medical Supplies, and Part B Medicare-covered Drugs. The mapping of claims in the Outpatient file to the PBP service/benefit categories is done according to a particular order (not displayed) of priority.

Ambulance (10a)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Ambulance" were mapped to the Ambulance (10a) service category. Those for land transport were linked to 10a1 and those for air were linked to 10a2.

Ambulatory Surgical Center (ASC) (9b)

All claims where the BILL TYPE code is equal to "Ambulatory Surgical Center (ASC)" were mapped to the Ambulatory Surgical Center (ASC) (9b) service category. In addition, 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.

Emergency Care (4a)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Emergency Room" or "Trauma Response" were mapped to the Emergency Care (4a) service category.

Dialysis Services (12)

All claims where the BILL TYPE code is equal to "Clinic ESRD-Hospital Based," "Lab-Non-Routine Dialysis," or "Hemodialysis" were mapped to the Dialysis Services (12) 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.

Urgently Needed Services (4b)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Clinic-Urgent Care Clinic" or "Free-Standing Clinic-Urgent Care" were mapped to the Urgently Needed Services (4b) 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," "Nuclear Medicine-Therapeutic," or "Other Therapeutic Services" were mapped to the Therapeutic Radiation (8b2) service category.

Diagnostic Radiological Services (8b1)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Computed Tomographic (CT) scan," "MRT/MRI," "Magnetic Resonance Technology (MRT)," "MRT/MRA," "Positron Emission Tomography (PET)," "Nuclear Medicine," "Radiology Diagnostic," or "Other Imaging Services" were mapped to the Diagnostic Radiological Services (8b1) service category.

Outpatient X-Rays (8b3)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Radiology Diagnostic-Chest x-ray" were mapped to the Outpatient X-Rays (8b3) service category.

Outpatient Labs (8a2)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Laboratory" or "Laboratory Pathological" were mapped to the Outpatient Labs (8a2) service category.

Diagnostic Tests/Procedures (8a1)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "EKG/ECG," "EEG," "Cardiology," "Other Diagnostic Services," or "Respiratory Services" were mapped to the Clinical/Diagnostic Tests/Procedures (8a1) service category.

Primary Care Physician (PCP) (7a)

All claims where the BILL TYPE code is equal to "Clinic-Rural Health," "Clinic - Federally Qualified Health Centers (FQHC)," "Clinic-Community Mental Health Centers (CMHC)," or "Clinic-Freestanding" were mapped to the Primary Care Physician (PCP) (7a) service category.

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

Mental Health Services (7e)

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

Psychiatric Services (7h)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Clinic-Psychiatric" or "Behavior Health Treatment/Services" were mapped to the Psychiatric Services (7h) category.

Physician Specialist (7d)

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

Physical Therapy (PT)/Speech-Language Pathology (SP) (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 (PT)/Speech-Language Pathology (SP) (7i) service category.

Outpatient Hospital (9a and 9b)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal is equal to "Observation" were linked to the Outpatient Hospital service category (9a1). Those where the REVENUE CENTER code 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 (9a2) service category. Other 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 (9a2) service category.

Cardiac Rehabilitation Services (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 Services (3c) category.

Pulmonary Rehabilitation Services (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 Services (3p) 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.

Medical 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 supplies (11bs) service category.

Part B Medicare-covered Drugs (15m)

All previously-unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Drugs requiring specific identification" were mapped to the Part B Medicare-covered Drugs (15m) service category.

4.3 PBP Service Categories to Carrier Line Item Mapping

The mapping of the Carrier 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 Carrier 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 under Medicare Advantage.

The methodology for linking Outpatient services/benefits to line items in the Carrier 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.

Outpatient data is used to identify whether some Carrier line items are associated with facilities, such as inpatient hospital or SNF. If the Carrier line items are associated with facility then they are mapped or bundled under appropriate facility related service category.

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 Carrier file is implemented by using four criteria; place of service, type of service, physician specialty, and BETOS (or HCPCS/CPT) code. 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 Rehabilitation 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.

Skilled Nursing Facility (SNF) (2)

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 "SNF" were mapped or bundled under the SNF category.

Emergency Care (4a)

All line items that occurred on the same day, where the PLACE OF SERVICE is equal to "ER" were mapped or bundled under Emergency Care.

Urgently Needed Services (4b)

All line items that occurred on the same day visit, where the PLACE OF SERVICE is equal to "Urgent Care Facility" were mapped or bundled to the Urgently Needed Services category.

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. **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," or "Internal Medicine" 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 and BETOS code is NOT equal to "Chemo Therapy" were bundled under the PCP office visit.
3. All line items where the PHYSICIAN SPECIALTY code is equal to "General Practice," "Family Practice," or "Internal Medicine" were bundled under the PCP office visit.

Chiropractic Care (7b)

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

Occupational Therapy (OT) (7c)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Occupational Therapist" 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. **a)** All line items where the PHYSICIAN SPECIALTY code is NOT equal to "Non-physician Practitioner/Supplier/Provider Specialty," "General Practice," "Family Practice," "Internal Medicine," "Chiropractic," "Podiatry," "Psychiatry," "Geriatric Psychiatry," or "Neuropsychiatry" 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 and BETOS code is NOT equal to "Chemotherapy" were bundled under the Physician Specialist office visit.

2. 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.

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 "Psychologist," "Clinical Psychologist," 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)," "Nursing Home Visit," 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 PHYSICIAN SPECIALTY code is equal to "Podiatry" were mapped as a Podiatry office visit.

Other Healthcare Professionals (7g)

a) All line items where the PHYSICIAN SPECIALTY code is equal to "Non-physician Practitioner" 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.

Psychiatric Services (7h)

1. **a)** All line items where the BETOS code is equal to "Office Visit (e.g., new or established)," "Consultations," "Hospital Visit," "Nursing Home Visit," "Home Visit," "Major Procedures," "Minor Procedures," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry," "Geriatric Psychiatry," 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. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Psychiatry," "Geriatric Psychiatry," or "Neuropsychiatry" were mapped as a Psychiatry office visit.

Physical Therapy (PT)/Speech-Language Pathology (SP) (7i)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Speech Language Pathologists" or "Physical Therapist" were mapped as a Physical Therapy (PT)/Speech-Language Pathology Therapy (SP) visit.
2. 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 (PT)/Speech-Language Pathology (SP) visit.

Diagnostic Procedures/Tests (8a1)

1. All previously unmapped line items where the BETOS code is equal to "Other Tests" were mapped as a Diagnostic Procedures/Tests.
2. All line items where the BETOS code is equal to "Minor Procedures" or "Major Procedures" and the PHYSICIAN SPECIALTY code is equal to "Independent Diagnostic Testing Facility (IDTF)" were mapped as a Diagnostic Procedures/Tests.
3. All line items where the BETOS code is equal to "Office Visits-New" and the SPECILTY CODE is equal to "Independent Diagnostic Testing Facility (IDTF)" and the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as a Diagnostic Procedures/Tests.

Outpatient Diagnostic Procedures, Tests/Lab Services (8a2)

1. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Clinical Lab (Billing Independently)" were mapped as a Lab service.
2. All previously unmapped line items where the BETOS code is equal to "Lab Tests" and PLACE OF SERVICE is "Independent Laboratory" were mapped as an Outpatient lab service.
3. All previously unmapped line items where the BETOS code is equal to "Local codes" and the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as a Lab service.
4. All line items where the SERVICE TYPE is equal to "Diagnostic Laboratory" were mapped as an Outpatient Diagnostic Procedures, Test/Lab service.

Outpatient Diagnostic Radiological Services (8b1)

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" were mapped or bundled under the Outpatient Diagnostic Radiological Services (8b1) visit.
2. All line items where the SERVICE TYPE is equal to "Diagnostic radiology" were mapped as Outpatient Diagnostic Radiological Services.

Outpatient 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 TYPE OF SERVICE code is equal to "Therapeutic Radiology" were mapped as a Therapeutic Radiation visit.

Outpatient X-Rays (8b3)

1. All line items that occurred on the same day as an Outpatient X-ray visit, where the BETOS code is equal to "Standard Imaging" were mapped or bundled under the Outpatient X-ray visit.
2. All previously unmapped line items where the BETOS code is equal to "Standard imaging" 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 where PLACE OF SERVICE is equal to "Outpatient Hospital" and TYPE OF SERVICE is equal to "Surgery" were mapped as an Outpatient Hospital service.
2. All other line items that occurred on the same day (i.e., related items) as the Outpatient visit were bundled under the Outpatient Hospital visit.

Ambulatory Surgical Center (ASC) (9b)

1. **a)** All line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedure," "Anesthesia," 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 previously unmapped line items where the BETOS code is equal to "Undefined" and the PLACE OF SERVICE is "Ambulatory Surgical Center" and the PHYSICIAN SPECIALTY code is equal to "Ambulatory Surgical Center" were mapped as an Ambulatory Surgical Center (ASC) visit.

Ambulance Services (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 Service 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 Land (10a1) or Air (10a2)
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Ambulance Service 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 Land or Air.

Medical Supplies (11bs)

1. All line items where the BETOS code is equal to "Medical Supplies" were mapped as a Medical Supplies benefit.
2. All line items where the BETOS code is equal to "Medical Supplies" and the PLACE OF SERVICE is equal to "Office" and the PHYSICIAN SPECIALTY code is equal to "Podiatry" and the SERVICE TYPE code is equal to "Lump Sum Purchase of DME" were mapped as a Medical Supplies benefit.

Dialysis Services (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 Dialysis Services.
2. All previously unmapped line items where the BETOS code is equal to "Dialysis Services" were mapped as a Dialysis Services.

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 "Influenza Immunizations" 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 "Pneumococcal/Flu Vaccine" were mapped to the Immunizations (14a) service category.

Chemotherapy (15c)

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)

a) All 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)" 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," or "Ambulatory Procedures" 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 PHYSICIAN SPECIALTY code is equal to "Oral Surgery (Dentists Only)" were mapped as a Dental office visit.

Eye Exams (17a)

a) All line items where the BETOS code is equal to "Office Visit (e.g., new or established)," "Consultations," or "Specialist – ophthalmology," 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.

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 SERVICE TYPE is equal to "Hearing Items and Services" were bundled under 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 HCPCS code is equal to "G0101," "G0123," "G0124," "G0141," "G0143," "G0144," "G0145," "G0147," "G0148," "P3000," "P3001," or "Q0091," and ICD-9-CM code is equal to "V72.31," "V76.2," "V76.47," "V76.49," or "V15.89" were mapped as preventive Pap Smears/Pelvic Exams.
4. 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," 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 HCPCS/CPT code is equal to "77052," "77057," "77063," or "G0202," and ICD-9-CM code is equal to "V76.11" or "76.12" were mapped as Outpatient Mammography Screening.
3. 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: 2012 and 2013 MCBS Documentation

The MCBS is a continuous, multipurpose survey of a representative national sample of the Medicare population, conducted by 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.

Approximately 8,300 beneficiaries from the survey are used 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: 2019 Part D Benefit Assumptions – MA-PD & PDP Plans

Appendix B Table 1				
CY 2018 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	$415	$415	$415 or Plan-specified or No Deductible	$415 or Plan-specified or No Deductible
ICL	$3,820	$3,820	$3,820 or Plan-specified or No ICL	$3,820 or Plan-specified or No ICL
Gap Coverage	37% Generic Beneficiary Cost 25% Brand Beneficiary Cost	37% Generic Beneficiary Cost 25% Brand Beneficiary Cost	37% Generic Beneficiary Cost 25% Brand Beneficiary Cost	37% Generic Beneficiary Cost 25% Brand Beneficiary Cost
Additional Gap Coverage	N/A	N/A	N/A	No Additional Coverage Or Gap Tiers
Threshold (TROOP)	$5,100	$5,100	$5,100	$5,100
Catastrophic Coverage Threshold	$8,139.54	$8,139.54	$8,139.54	$8,139.54
Post-Threshold Cost Shares	Greater of $3.40 or 5% for generics (including brands treated as generic, or Greater of $8.50 or 5% for all other drugs	Greater of $3.40 or 5% for generics (including brands treated as generic, or Greater of $8.50 or 5% for all other drugs or Post-Threshold Tiers or No Cost Sharing	Greater of $3.40 or 5% for generics (including brands treated as generic, or Greater of $8.50 or 5% for all other drugs or Post-Threshold Tiers or No Cost Sharing	Greater of $3.40 or 5% for generics (including brands treated as generic, or Greater of $8.50 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 2012/2013 costs on the MCBS event files and the Medicare claims to 2018 dollars, CMS provided the following inflation factors:

Appendix C Table 1			
Fiscal Year	RICIPE (Inpatient Hospital)	RICIUE (SNF)	RICDUE (Dental Prices)
2012	1.2%	-11.1%	2.3%
2013	2.8%	1.8%	3.4%
2014	0.9%	1.3%	2.1%
2015	1.4%	2.0%	2.5%
2016	1.9%	1.2%	2.8%
2017	0.15%	2.4%	2.9%
2018	2.02%	1.0%	3.2%

Appendix C Table 2			
	RICPME (Drugs)		
Calendar Year	Price	Utilization & Intensity per Capita	Total
2012	1.9%	-2.4%	-0.5%
2013	2.3%	-0.7%	1.6%
2014	3.6%	7.7%	11.6%
2015	2.5%	5.5%	8.1%
2016	2.1%	1.9%	4.0%
2017	1.6%	3.1%	4.7%
2018	3.8%	2.6%	6.5%

Appendix C Table 3	
Fiscal Year	HHA
2012	-2.4%
2013	0.0%
2014	-1.05%
2015	-0.7%
2016	-1.4%
2017	-0.2%
2018	1.0%

Appendix C Table 4	
Fiscal Year	Outpatient
2012	1.9%
2013	1.8%
2014	1.7%
2015	2.1%

2016	-0.3%
2017	1.65%
2018	1.75%

Appendix C Table 5		
CARRIER AND DME	**2012-2018**	**2013-2018**
BETOS Code	**Change**	**Change**
D1A:Medical/surgical supplies	1.068394	1.059914
D1B:Hospital beds	1.068394	1.059914
D1C:Oxygen and supplies	1.068394	1.059914
D1D: Wheelchairs	1.068394	1.059914
D1E:Other DME	1.068394	1.059914
D1F:Orthotic devices	1.068394	1.059914
D1G:Drug administered through DME	1.100525	1.098328
I1A:Standard imaging – chest	1.025242	1.025242
I1B:Standard imaging - musculoskeletal	1.025242	1.025242
I1C:Standard imaging – breast	1.025242	1.025242
I1D:Standard imaging - contrast gastrointestinal	1.025242	1.025242
I1E:Standard imaging - nuclear medicine	1.025242	1.025242
I1F:Standard imaging – other	1.025242	1.025242
I2A:Advanced imaging - CAT: head	1.025242	1.025242
I2B:Advanced imaging - CAT: other	1.025242	1.025242
I2C:Advanced imaging - MRI: brain	1.025242	1.025242
I2D:Advanced imaging - MRI: other	1.025242	1.025242
I3A:Echography – eye	1.025242	1.025242
I3B:Echography - abdomen/pelvis	1.025242	1.025242
I3C:Echography – heart	1.025242	1.025242
I3D:Echography - carotid arteries	1.025242	1.025242
I3E:Echography - prostate, transrectal	1.025242	1.025242
I3F:Echography – other	1.025242	1.025242
I4A:Imaging/procedure – heart, including cardiac catheterization	1.025242	1.025242
I4B:Imaging/procedure – other	1.025242	1.025242
M1A:Office visits – new	1.025242	1.025242
M1B:Office visits – established	1.025242	1.025242
M2A:Hospital visit – initial	1.025242	1.025242
M2B:Hospital visit – subsequent	1.025242	1.025242
M2C:Hospital visit - critical care	1.025242	1.025242
M3 :Emergency room visit	1.025242	1.025242

Appendix C Table 5		
CARRIER AND DME	**2012-2018**	**2013-2018**
BETOS Code	**Change**	**Change**
M4A:Home visit	1.025242	1.025242
M4B:Nursing home visit	1.025242	1.025242
M5A:Specialist – pathology	1.025242	1.025242
M5B:Specialist – psychiatry	1.025242	1.025242
M5C:Specialist – ophthalmology	1.025242	1.025242
M5D:Specialist – other	1.025242	1.025242
M6 :Consultations	1.025242	1.025242
O1A:Ambulance	1.068394	1.059914
O1B:Chiropractic	1.025242	1.025242
O1C: Enteral and Parental	1.068394	1.059914
O1D:Chemotherapy	1.100525	1.098328
O1E:Other drugs	1.100525	1.098328
O1F:Vision, hearing and speech services	1.092517	1.074252
O1G:Influenza immunization	1.067448	1.060028
P0 :Anesthesia	1.025242	1.025242
P1A:Major procedure – breast	1.025242	1.025242
P1B:Major procedure - colectomy	1.025242	1.025242
P1C:Major procedure - cholecystectomy	1.025242	1.025242
P1D:Major procedure – turp	1.025242	1.025242
P1E:Major procedure – hysterectomy	1.025242	1.025242
P1F:Major procedure - explor/decompr/excisdisc	1.025242	1.025242
P1G:Major procedure – Other	1.025242	1.025242
P2A:Major procedure, cardiovascular - cabg	1.025242	1.025242
P2B:Major procedure, cardiovascular - aneurysm repair	1.025242	1.025242
P2C:Major Procedure, cardiovascular - thromboendarterectomy	1.025242	1.025242
P2D:Major procedure, cardiovascular - coronary angioplasty (PTCA)	1.025242	1.025242
P2E:Major procedure, cardiovascular - pacemaker insertion	1.025242	1.025242
P2F:Major procedure, cardiovascular - other	1.025242	1.025242
P3A:Major procedure, orthopedic hip fracture repair	1.025242	1.025242
P3B:Major procedure, orthopedic hip replacement	1.025242	1.025242
P3C:Major procedure, orthopedic knee replacement	1.025242	1.025242
P3D:Major procedure, orthopedic - other	1.025242	1.025242
P4A:Eye procedure - corneal transplant	1.025242	1.025242
P4B:Eye procedure - cataract removal/lens insertion	1.025242	1.025242
P4C:Eye procedure - retinal detachment	1.025242	1.025242

Appendix C Table 5		
CARRIER AND DME BETOS Code	2012-2018 Change	2013-2018 Change
P4D:Eye procedure – treatment of retinal lesions	1.025242	1.025242
P4E:Eye procedure – other	1.025242	1.025242
P5A:Ambulatory procedures – skin	1.075185	1.061387
P5B:Ambulatory procedures - musculoskeletal	1.075185	1.061387
P5C:Ambulatory procedures – inguinal hernia repair	1.075185	1.061387
P5D:Ambulatory procedures - lithotripsy	1.075185	1.061387
P5E:Ambulatory procedures - other	1.075185	1.061387
P6A:Minor procedures – skin	1.025242	1.025242
P6B:Minor procedures - musculoskeletal	1.025242	1.025242
P6C:Minor procedures - other (Medicare fee schedule)	1.025242	1.025242
P6D:Minor procedures - other (non-Medicare fee schedule)	1.025242	1.025242
P7A:Oncology - radiation therapy	1.025242	1.025242
P7B:Oncology – other	1.025242	1.025242
P8A:Endoscopy – arthroscopy	1.025242	1.025242
P8B:Endoscopy - upper gastrointestinal	1.025242	1.025242
P8C:Endoscopy – sigmoidoscopy	1.025242	1.025242
P8D:Endoscopy – colonoscopy	1.025242	1.025242
P8E:Endoscopy – cystoscopy	1.025242	1.025242
P8F:Endoscopy – bronchoscopy	1.025242	1.025242
P8G:Endoscopy - laparoscopic cholecystectomy	1.025242	1.025242
P8H:Endoscopy – laryngoscopy	1.025242	1.025242
P8I:Endoscopy – other	1.025242	1.025242
P9A:Dialysis services (Medicare Fee Schedule)	1.025242	1.025242
P9B: Dialysis services (Non-Medicare Fee Schedule)	1.025242	1.025242
T1A:Lab tests - routine venipuncture (non-Medicare fee schedule)	0.988288	1.018854
T1B:Lab tests - automated general profiles	0.988288	1.018854
T1C:Lab tests – urinalysis	0.988288	1.018854
T1D:Lab tests - blood counts	0.988288	1.018854
T1E:Lab tests – glucose	0.988288	1.018854
T1F:Lab tests - bacterial cultures	0.988288	1.018854
T1G:Lab tests - other (Medicare fee schedule)	0.988288	1.018854
T1H:Lab tests - other (non-Medicare fee schedule)	0.988288	1.018854
T2A:Other tests – electrocardiograms	1.025242	1.025242
T2B:Other tests cardiovascular stress tests	1.025242	1.025242
T2C:Other tests - EKG monitoring	1.025242	1.025242

Appendix C Table 5		
CARRIER AND DME	2012-2018	2013-2018
BETOS Code	Change	Change
T2D:Other tests - other	1.025242	1.025242
Y1 :Other - Medicare fee schedule	1.025242	1.025242
Y2 :Other - non-Medicare fee schedule	1.025242	1.025242
Z1 :Local codes	1.025242	1.025242
Z2 :Undefined codes	1.025242	1.025242

List of Acronyms

AHC	Acute Heart Condition
ASC	Ambulatory Surgical Center
BASEID	Unique Person Identification Number
BETOS	Berenson-Eggers Type of Service
CAP	Competitive Acquisition Program
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 Events
DME	Durable Medical Equipment
ECG	Electrocardiography
EEG	Electroencephalography
EKG	Electrocardiography
ER	Emergency Room
ESRD	End-stage Renal Disease
FDA	Food and Drug Administration
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
IDTF	Independent Diagnostic Testing Facility
IPE	Inpatient Event
MA	Medicare Advantage
MAO	Medicare Advantage Organization
MAPD	Medicare Advantage Prescription Drug
MCBS	Medicare Current Beneficiary Survey
MDS	Minimum Data Set
MOC	Medicare Options Compare

List of Acronyms

MPF	Medicare Plan Finder
MRI	Magnetic Resonance Imaging
MSA	Medical Savings Account Plans
NDC	National Drug Codes
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
PPO	Preferred Provider Organization
PPS	Prospective Payment System
PT	Physical Therapy
RIC	Record Identification Code
RIC DUE	Record Identification Code - Dental Events
RIC IPE	Record Identification Code - Inpatient Hospital Events
RIC IUE	Record Identification Code - Institutional Events
RIC MPE	Record Identification Code - Medical Provider Events
RIC PS	Record Identification Code - Person Summary
RXCUI	RxNorm Concept Unique Identifier
SNF	Skilled Nursing Facility
SNP	Special Needs Plan
VA	Veterans Administration