
CENTERS FOR MEDICARE & MEDICAID SERVICES
CY 2023 PART C
BID REVIEW OUT-OF-POCKET COST MODEL
METHODOLOGY
APRIL 2022

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Changes in the CY 2023 Part C Bid Review Out-of-Pocket Cost (OOPC) Model

The version of the CY 2023 Part C Bid Review OOPC Model described in this document is an update of the Contract Year (CY) 2022 Part C Baseline OOPC Model. For the CY 2023 Part C Bid Review OOPC Model, the item listed below summarizes the changes that have been made.

- Updated the SAS programs to take into account 2023 Plan Benefit Package (PBP) data structure and variable name changes.

1. Introduction

The Centers for Medicare & Medicaid Services (CMS) uses Out-of-Pocket Cost (OOPC) estimates to evaluate Medicare Advantage (MA) submitted bids. The estimates are generated by the OOPC software available on the OOPC Resources, CMS.gov website (<https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/OOPCResources>).

For the CY 2023 bidding process, an Original Medicare (OM) cohort is identified using 2017 and 2018 MCBS data. The claims and event data for these cohorts are combined with CY 2023 PBPs to produce the estimates.

To inflate the MCBS data for Part C (non-prescription drug), service-specific inflation factors are used.¹

This document describes the general methodology underlying the OOPC Model. The *CY 2023 Part C Bid Review Out-of-Pocket Cost Model User Guide April 2022* provides the information on how to run the model and generate the output.

¹ These inflation factors are provided by the Office of the Actuary (OACT) at CMS (see Appendix A).

2. Selection of the OOPC Cohort Based on the 2017 and 2018 Medicare Current Beneficiary Survey (MCBS)

The variables in the 2017 and 2018 MCBS files are reviewed and used to develop an OM cohort for the OOPC Model. The CMS documentation that includes a basic description and record counts for the MCBS files used for the model development is provided at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS>.

2.1 Screening Process

The following screening criteria are used to exclude beneficiaries from the OM cohort:

1. Beneficiaries who had one or more Part A only months or Part B only months
2. Beneficiaries with one or more months of Medicare Managed Care enrollment
3. Beneficiaries with hospice enrollment
4. Beneficiaries with Veterans Administration (VA) insurance
5. Beneficiaries with Medicare as secondary payer

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 2017 MCBS			
Screening Criteria	Number of Beneficiaries	Number of Beneficiaries Weighted	Percent (Weighted Population)
1. Excluded beneficiaries without both Parts A and B enrollment	357	4,846,781	8.18%
2. Excluded beneficiaries with some MA-PD or MA coverage	3,325	20,539,863	34.65%
3. Excluded beneficiaries with one or more hospice payments	257	874,926	1.48%
4. Excluded beneficiaries with VA insurance	31	68,970	0.12%
5. Excluded beneficiaries with non-Medicare primary payer	185	1,472,836	2.48%
Total number of beneficiaries excluded	4,155	27,803,376	46.90%
Total number of beneficiaries included	5,056	31,482,765	53.10%
Total initial number of beneficiaries	9,211	59,286,141	100.00%

Table 2.2 – Screening Results 2018 MCBS			
Screening Criteria	Number of Beneficiaries	Number of Beneficiaries Weighted	Percent (Weighted Population)
1. Excluded beneficiaries without both Parts A and B enrollment	380	5,050,301	8.29%
2. Excluded beneficiaries with some MA-PD or MA coverage	3,622	22,297,029	36.60%
3. Excluded beneficiaries with one or more hospice payments	219	763,489	1.25%
4. Excluded beneficiaries with VA insurance	30	73,752	0.12%
5. Excluded beneficiaries with non-Medicare primary payer	154	1,161,397	1.91%
Total number of beneficiaries excluded	4,405	29,345,968	48.17%
Total number of beneficiaries included	4,827	31,582,012	51.83%
Total initial number of beneficiaries	9,232	60,927,980	100.00%

Note: The counts and percentages reflect the order by which the beneficiaries were excluded from the Total Population.

3. Development of Out-of-Pocket Cost Estimates

The following assumptions are made as a result of the analysis of MCBS data and CMS requirements to design and develop OOPC estimates.

3.1 General Assumptions

1. OOPC estimates are “monthly” and are calculated by dividing annual OOPC by enrollment months for each beneficiary and calculating a plan average using beneficiary MCBS sample weights.
2. The 2017 and 2018 costs for Carrier events are inflated to 2022 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 are provided by OACT.

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

1. The OOPC Model uses the PBP cost shares for in-network services to calculate OOPC estimates for benefits.
2. If the PBP cost sharing uses coinsurance (i.e., percentages), the coinsurance basis is the reported MCBS Total Amount.
3. Optional Supplemental benefits are 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, Carrier services, and DME are mapped into a PBP service category based on the information provided in the MCBS. In most instances, services that occurred on the same day and appeared to be related are linked together into a single event.
6. The minimum cost sharing amount is used to calculate the OOPC estimate.
7. For PBP categories with both a copay and a coinsurance, the sum of the two costs are included in the OOPCs.
8. Plan level deductibles are applied to the relevant service categories based on the proportion of total cost in each of those relevant categories prior to the application of any category specific cost sharing.
9. Category specific out of pocket costs are applied to the OOPCs. Plan level maximum out of pocket costs are applied proportional to each service category for the relevant service categories.
10. The CMS annual contribution amount for MA Medical Savings Account Plans (MSA) is used towards meeting the deductible, and then the remainder is applied to Medicare eligible expenses (non-covered inpatient or Skilled Nursing Facility (SNF) care, and/or dental). Cost shares for Medicare-covered services are zero once the deductible is met.
11. The selected non-Medicare covered benefits included in the OOPC estimates are non-covered inpatient and SNF stays, preventive dental, and comprehensive dental.

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 is 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 are identified using the Provider Number on the claim.
4. Inpatient Psychiatric Hospital costs are calculated as separate categories in the MA OOPC estimates.
5. Total Days are calculated as the Discharge Date minus the Admission Date. If the dates are the same, then Total Days are equal to one.
6. The MCBS Utilization Days are defined as the covered days (1-90) during a benefit period and any MCBS lifetime reserve days used during that stay.
7. Additional Days are calculated as Total Days minus the Utilization Days.
8. If Utilization Days are greater than zero, then the stay is considered Medicare covered.
9. If Additional Days are equal to zero, then the entire stay is considered Medicare covered.
10. If the Maximum Enrollee OOPC amount is designated for a period other than a per-stay cost, then it is converted to an annual cost. Note that a benefit period is considered the same as quarterly for this analysis.

Skilled Nursing Facility (SNF)

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

1. Each event in the MCBS Skilled Nursing Home Utilization file is considered a SNF stay.
2. MCBS events that have a source of “Survey only” are excluded from the analysis.
3. The MCBS Total Expenditures equal the total charge for the SNF stay.
4. Total Days are calculated as the Discharge Date minus the Admission Date. If the dates are the same, then Total Days equal one.
5. The MCBS Utilization Days are defined as covered days (1-100) during a benefit period.
6. Additional Days are calculated as the Total Days minus the Utilization Days.
7. If Utilization Days are greater than zero, then the stay is considered Medicare covered.
8. If the Maximum Enrollee OOPC is not a per-stay cost, it is converted to an annual cost.

Dental

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

1. Each event in the MCBS Dental Events (DUE) file is considered to be one visit.
2. If the plan offers dental benefits as a mandatory benefit, then the PBP copay and coinsurance cost sharing amounts are applied to the appropriate utilization.
3. Preventive dental benefits include oral exams, cleanings, and X-rays.

4. Comprehensive dental benefits include restorative, endodontics, and prosthodontics.
5. If an event includes more than one dental service, then the cost per service equals the total amount, divided by the number of services.

4. Utilization-to-Benefits Mapping Approach

The conceptual approach for mapping MCBS data to the services/benefits in the PBP is based on the Type of Service, Place of Service, Bill Type Code, or Revenue Center Code reported on the MCBS data. Services that occur on the same day and in the same location are bundled together and considered a single event for cost sharing purposes.

The following steps represent the basic approach taken to map utilization (claims and/or line items in the Durable Medical Equipment (DME), Outpatient, and Carrier file) to PBP services/benefits:

1. The claims in the Outpatient file are assigned based on Bill Type code or Revenue Center code, depending upon prioritization.
2. The line items in the DME file are subset based on Bereson-Eggers Type of Service (BETOS) codes.
3. The line items in the Carrier file are subset based on one or more BETOS codes, Healthcare Common Procedure Coding System (HCPCS)/Current Procedural Terminology (CPT) code, Physician Specialty Codes, Service Type, and/or Place of Service, depending upon prioritization and assigned to each applicable PBP service/benefit.

4.1 DME Line Item to PBP Service Categories Mapping

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” are mapped to the Durable Medical Equipment (DME) service category.

Prosthetics Medical Supplies (11b)

All line items where the BETOS code is equal to “Orthotic Devices” are mapped to the Prosthetics, and Orthotics service category.

Medical Supplies (11b2)

All line items where the BETOS code is equal to “Medical/surgical supplies” or “Dialysis Services (non-Medicare fee schedule)” are mapped to the Medical/Surgical supplies service category.

Other Medicare Part B Rx Drugs (15m)

All line items where the BETOS code is equal to “Other Drugs” are mapped to the Other Medicare Part B Rx Drugs service category. The cost share for Other Medicare Part B non-chemotherapy drugs is used.

Medicare Part B Chemotherapy/Radiation Drugs (15c)

All line items where the BETOS code is equal to “Chemotherapy Drugs” are mapped to the Medicare Part B Chemotherapy/Radiation Drugs service category. The cost share for Medicare-covered Chemotherapy/Radiation drugs is used.

4.2 Outpatient Claim to PBP Service Categories Mapping

Ambulance Services (10a)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Ambulance” are mapped to the Ambulance Services service category. Those for ground transport are linked to 10a1 and those for air are linked to 10a2. They are combined to represent Ambulance Services category.

ASC Services (9b)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Ambulatory surgical care” are mapped to the ASC Services service category.

Emergency Services (4a)

Outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Emergency Room” or “Trauma Response” are mapped to the Emergency Services service category.

Dialysis Services (12)

All claims where the BILL TYPE code is equal to “Clinic-hospital based or independent renal dialysis facility,” or at least one REVENUE CENTER code on the claim is equal to “Lab-Non-Routine Dialysis,” or “Hemodialysis,” or “Peritoneal dialysis” are mapped to the Dialysis Services service category.

Hearing Exams (18a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Audiology” are mapped to the Hearing Exams 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” are mapped to the Urgently Needed Services service category.

Outpatient Therapeutic Radiological Services (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” are mapped to the Outpatient Therapeutic Radiological Services service category.

Outpatient Diagnostic Radiological Services (8b1)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “CT scan,” “Magnetic Resonance Technology (MRT)/Magnetic Resonance Imaging (MRI),” “Magnetic Resonance Technology (MRT),” “MRT/Magnetic Resonance Angiography (MRA),” “Nuclear Medicine,” “Radiology Diagnostic,” or “Other Imaging Services” are mapped to the Outpatient Diagnostic Radiological Services service category.

Outpatient X-Ray Services (8b3)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Radiology Diagnostic-Chest x-ray” are mapped to the Outpatient X-Ray Services service category.

Outpatient Lab Services (8a2)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Laboratory” or “Laboratory Pathological,” or the BILL TYPE code is equal to “Hospital-Laboratory Services Provided to Non-patients” are mapped to the Outpatient Lab Services service category.

Outpatient Diagnostic Procedures/Tests (8a1)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Electrocardiography (EKG)/ Electrocardiography (ECG),” “Electroencephalography (EEG),” “Cardiology,” “Other Diagnostic Services,” or “Respiratory Services” are mapped to the Outpatient Diagnostic Procedures/Tests service category.

Primary Care Physician (PCP) Services (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-Free-standing” are mapped to the Primary Care Physician (PCP) Services 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,” or “Professional Fees” are mapped to the Primary Care Physician (PCP) service category.

Mental Health Specialty 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-General Classification” or “Behavior Health Treatment/Services-Electroshock Treatment” or “Behavior Health Treatment/Services-Milieu Therapy” or “Behavior Health Treatment/Services-Play Therapy” or “Behavior Health Treatment/Services-Activity Therapy” or “Behavior Health Treatment/Services-Intensive Outpatient Services-Chemical Dependency” or “Behavior Health Treatment/Services-Community Behavioral Health Program (Day Treatment)” or “Behavior Health Treatment/Services-Rehabilitation” or “Behavior Health Treatment/Services-Partial Hospitalization-Less Intensive” or “Behavior Health Treatment/Services-Partial Hospitalization-Intensive” or “Behavior Health Treatment/Services-Individual Therapy” or “Behavior Health Treatment/Services-Group Therapy” or “Behavior Health Treatment/Services-Family Therapy” or “Behavior Health Treatment/Services-Testing” or “Behavior Health Treatment/Services-Other Behavioral Health Treatments” or “Other Therapeutic Services-Drug Rehabilitation” or “Other Therapeutic Services-Alcohol Rehabilitation” are mapped to the Mental Health Specialty Services service 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-Intensive Outpatient Services-Psychiatric” or “Professional Fee-Psychiatric” are mapped to the Psychiatric Services service category.

Physician Specialist Services (7d)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Oncology” or “Professional Fee” are mapped to the Physician Specialist Services service category.

Occupational Therapy (OT) Services (7c)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Occupational Therapy” are mapped to the Occupational Therapy Services service category.

PT and SP Services (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” are mapped to the PT and SP Services service category.

Outpatient Hospital Services (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” are mapped to the Outpatient Hospital (9a1) 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” are mapped to the Outpatient Hospital (9a1) service category.

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Treatment or Observation Room-Observation Hours” are mapped to the Outpatient Hospital Observation Services (9a2).

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” are mapped to the Cardiac Rehabilitation Services service 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,” “Pulmonary function-other,” or “Other therapeutic services- pulmonary rehab” are mapped to the Pulmonary Rehabilitation Services service category.

Diabetes Self-Management Training (14e)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Other Therapeutic Services-Education/Training” are mapped to the Diabetes Self-Management Training service category.

Medical Supplies (11b2)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Medical/surgical supplies” are mapped to the Medical Supplies service category.

Other Medicare Part B Rx Drugs (15m)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to “Drugs requiring specific identification” are mapped to the Other Medicare Part B Rx Drugs service category.

4.3 Carrier Line Item to PBP Service Categories Mapping

The methodology for mapping Carrier Line Items to Inpatient Hospital and SNF events is based on matching the line item last expense date with the Inpatient/SNF Admission and Discharge dates. These matched line items are considered part of the Inpatient/SNF stay.

The methodology for mapping Carrier Line Items to Outpatient services/benefits is based on selecting all related line items for Outpatient claims that occurred on the same day as the Outpatient bill and are related to the service/benefit. These line items are bundled under the designated Outpatient service/benefit.

Line items not bundled under Inpatient, SNF, or Outpatient are mapped to PBP categories using five line item specific variables: place of service, type of service, physician specialty, BETOS or Restructured BETOS Classification System (RBCS), and HCPCS/CPT code. This section summarizes the mapping by PBP category.

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

All line items where the Date of the Service is on or within the Inpatient event are bundled under Inpatient Hospital. Note that some line items are excluded based on transition activities.

Skilled Nursing Facility (SNF) (2)

All line items where the Date of the Service is on or within the SNF event are bundled under SNF. Note that some line items are excluded based on transition activities.

Emergency Services (4a)

All line items that occurred on the same day, where the PLACE OF SERVICE is equal to “ER” are mapped or bundled under Emergency Services.

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” are mapped or bundled to the Urgently Needed Services service category.

Home Health Services (6)

All previously unmapped line items where the BETOS code is equal to “Home Visit” are mapped as Home Health Services service category.

Primary Care Physician (PCP) Services (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” are bundled under the PCP Services 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,” “Internal Medicine,” or “Geriatric Medicine” are mapped as a PCP Services 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” are bundled under the PCP office visit.
3. All line items where the PHYSICIAN SPECIALTY code is equal to “General Practice,” “Family Practice,” “Internal Medicine,” or “Geriatric Medicine” are bundled under the PCP Services office visit.

Chiropractic Services (7b)

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

Occupational Therapy (OT) Services (7c)

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

Physician Specialist Services (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,” “Geriatric Medicine,” “Chiropractic,” “Podiatry,” “Psychiatry,” “Geriatric Psychiatry,” or “Neuropsychiatry” are mapped as a Physician Specialist Services 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” are bundled under the Physician Specialist Services 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” are mapped as a Physician Specialist Services office visit.

Mental Health Specialty Services (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 Specialty Services 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” are mapped as a Mental Health Specialty Services visit.
3. All other line items that occurred on the same day (i.e., related items) for Psychologist are bundled under the Mental Health Specialty Services visit.

Podiatry Services (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” are mapped as a Podiatry Services office visit.
b) All other line items that occurred on the same day (i.e., related items) for Podiatry are bundled under the Podiatry Services 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” are mapped as a Podiatry Services office visit.
b) All other line items that occurred on the same day (i.e., related items) for Podiatry are bundled under the Podiatry Services office visit.

3. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to “Podiatry” are mapped as a Podiatry Services office visit.

Other Health Care Professional (7g)

1. **a)** All line items where the PHYSICIAN SPECIALTY code is equal to “Non-physician Practitioner” are mapped as an Other Health Care Professional office visit.
b) All other line items that occurred on the same day (i.e., related items) for these Physicians are bundled under the Other Health Care Professional 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” are mapped as a Psychiatric Services office visit.
b) All other line items that occurred on the same day (i.e., related items) for a Psychiatrist are bundled under the Psychiatric Services office visit.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to “Psychiatry,” “Geriatric Psychiatry,” or “Neuropsychiatry” are mapped as a Psychiatric Services office visit.

PT and SP Services (7i)

1. All line items where the PHYSICIAN SPECIALTY code is equal to “Speech Language Pathologists” or “Physical Therapist” are mapped as a PT and SP Services visit.
2. All other line items that occurred on the same day (i.e., related items) for this PT are bundled under the PT and SP Services visit.

Opioid Treatment Program Services (7k)

1. All line items where the HCPCS/CPT code is equal to “Alcohol Substance Abuse Assessment and Intervention” and the DIAGNOSIS CODE is equal to “Opioid abuse” or “Opioid dependence” are mapped to Opioid Treatment Program Services visits.
2. All other line items that occurred on the same day (i.e., related items) for opioid treatment are bundled under the Opioid Treatment Program Services service category.

Outpatient Diagnostic Procedures/Tests Services (8a1)

1. All previously unmapped line items where the BETOS code is equal to “Other Tests” are mapped as Outpatient Diagnostic Procedures/Tests Services.
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)” are mapped as Outpatient Diagnostic Procedures/Tests Services.
3. All line items where the BETOS code is equal to “Office Visits-New” and the SPECIALTY CODE is equal to “Independent Diagnostic Testing Facility (IDTF)” and the SERVICE TYPE is equal to “Diagnostic Laboratory” are mapped as Outpatient Diagnostic Procedures/Tests Services.

Outpatient Lab Services (8a2)

1. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to “Clinical Lab (Billing Independently)” are mapped as an Outpatient Lab service.

2. All previously unmapped line items where the BETOS code is equal to “Lab Tests” and PLACE OF SERVICE is “Independent Laboratory” are 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” are mapped as an Outpatient Lab service.
4. All line items where the SERVICE TYPE is equal to “Diagnostic Laboratory” are mapped as an Outpatient 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” are mapped or bundled under the Outpatient Diagnostic Radiological Services visit.
2. All line items where the SERVICE TYPE is equal to “Diagnostic radiology” are 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” are bundled under the Outpatient Therapeutic Radiological Services visit.
2. All previously unmapped line items where the TYPE OF SERVICE code is equal to “Therapeutic Radiology” are mapped as an Outpatient Therapeutic Radiological Services visit.

Outpatient X-Ray Services (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” are mapped or bundled under the Outpatient X-ray Services visit.
2. All previously unmapped line items where the BETOS code is equal to “Standard imaging” are mapped as an Outpatient X-ray Services visit.

Outpatient Hospital Services (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” are 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 are bundled under the Outpatient Hospital visit.

ASC Services (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” are mapped as an ASC Services visit.
b) All other line items that occurred on the same day (i.e., related items) as the ASC visit are bundled under the ASC Services 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” are mapped as an ASC Services 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” are bundled under the Ambulance Services Ground (10a1) or Air (10a2).
1. 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” are mapped as an Ambulance Services Ground (10a1) or Air (10a2).

Medical Supplies (11b2)

1. All line items where the BETOS code is equal to “Medical Supplies” are 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” are mapped as a Medical Supplies benefit.

Dialysis Services (12)

2. All line items that occurred on the same day as an Outpatient Dialysis visit, where the BETOS code is equal to “Dialysis services” are bundled under Dialysis Services.
3. All previously unmapped line items where the BETOS code is equal to “Dialysis Services” are mapped as Dialysis Services.

Medicare Part B Chemotherapy/Radiation Drugs (15c)

1. All line items where the BETOS code is equal to “Chemotherapy” are mapped as Medicare Part B Chemotherapy Drugs/Radiation.
2. All other line items that occurred on the same day (i.e., related items) for Chemotherapy are bundled under Medicare Part B Chemotherapy/Radiation Drugs.

Other Medicare Part B Rx Drugs (15m)

1. All previously unmapped line items where the BETOS code is equal to “Other drugs” are mapped as an Other Medicare Part B Rx Drugs benefit.
2. All other line items that occurred on the same day (i.e., related items) for “Other drugs” are bundled under the Other Medicare Part B Rx 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)” are mapped as a Comprehensive Dental office visit.
b) All other line items that occurred on the same day (i.e., related items) for Oral Surgery (Dentists Only) are bundled under the Comprehensive 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)” are mapped as a Comprehensive Dental office visit.

- b) All other line items that occurred on the same day (i.e., related items) for Oral Surgery (Dentists Only) are bundled under the Comprehensive Dental office visit.
- 3. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to “Oral Surgery (Dentists Only)” are mapped as a Comprehensive Dental office visit.

Eye Exams (17a)

- 1. 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” are mapped as an Eye Exams visit.
- 2. All other line items that occurred on the same day (i.e., related items) for Optometry are 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)” are 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” are 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 are bundled under Pap Smears/Pelvic Exams.
- 3. All line items where HCPCS code is associated with preventive Pap Smears/Pelvic Exams are 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” are 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 Mammography Screening, where HCPCS/CPT code is associated with Mammography Screening are mapped as Mammography Screening.
- 3. All other line items that occurred on the same day (i.e., related items) for “Mammography Screening Center” are bundled under the Mammography Screening.

Immunizations

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” are mapped to the Immunizations 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” are mapped to the Immunizations service category.

Appendix A: Inflation and Utilization Adjustments

To inflate the 2017 and 2018 costs on the MCBS event files and the Medicare claims to 2022 dollars, CMS provided the following inflation factors:

Appendix A Table 1			
Fiscal Year	RICIPE (Inpatient Hospital)	RICIUE (SNF)	RICDUE (Dental Prices)
2015	1.4%	2.0%	2.5%
2016	0.9%	1.2%	2.8%
2017	0.15%	2.4%	1.6%
2018	1.2%	1.0%	2.7%
2019	1.9%	2.4%	2.2%
2020	3.1%	2.4%	3.0%
2021	2.9%	2.2%	2.5%
2022	2.5%	1.2%	3.3%

Appendix A Table 2			
Calendar Year	RICPME (Drugs) Price	RICPME (Drugs) Utilization & Intensity per Capita	RICPME (Drugs) Total
2015	1.0%	7.0%	8.1%
2016	1.5%	-0.6%	0.9%
2017	1.0%	0.5%	1.5%
2018	0.0%	4.3%	3.2%
2019	0.0%	5.6%	5.2%
2020	1.1%	0.7%	1.2%
2021	1.8%	4.5%	5.9%
2022	1.9%	3.2%	5.1%

Appendix A Table 3	
Calendar Year	HHA
2015	-0.7%
2016	-1.4%
2017	-0.2%
2018	1.0%
2019	2.1%
2020	1.5%
2021	2.0%
2022	2.6%

Appendix A Table 4	
Fiscal Year	Outpatient
2015	2.1%
2016	-0.3%
2017	1.65%
2018	1.35%
2019	1.35%
2020	2.6%
2021	2.4%
2022	2.0%

Appendix A Table 5		
CARRIER AND DME BETOS Code	2017-2022 Change	2018-2022 Change
D1A: Medical/surgical supplies	1.099939	1.091210
D1B: Hospital beds	1.099939	1.091210
D1C: Oxygen and supplies	1.099939	1.091210
D1D: Wheelchairs	1.099939	1.091210
D1E: Other DME	1.099939	1.091210
D1F: Orthotic devices	1.099939	1.091210
D1G: Drug administered through DME	1.023242	1.033515
I1A: Standard imaging – chest	1.008149	1.003133
I1B: Standard imaging - musculoskeletal	1.008149	1.003133
I1C: Standard imaging – breast	1.008149	1.003133
I1D: Standard imaging - contrast gastrointestinal	1.008149	1.003133
I1E: Standard imaging - nuclear medicine	1.008149	1.003133
I1F: Standard imaging – other	1.008149	1.003133
I2A: Advanced imaging - CAT: head	1.008149	1.003133
I2B: Advanced imaging - CAT: other	1.008149	1.003133
I2C: Advanced imaging - MRI: brain	1.008149	1.003133
I2D: Advanced imaging - MRI: other	1.008149	1.003133
I3A: Echography – eye	1.008149	1.003133
I3B: Echography - abdomen/pelvis	1.008149	1.003133
I3C: Echography – heart	1.008149	1.003133
I3D: Echography - carotid arteries	1.008149	1.003133
I3E: Echography - prostate, transrectal	1.008149	1.003133
I3F: Echography – other	1.008149	1.003133
I4A: Imaging/procedure – heart, including cardiac catheterization	1.008149	1.003133
I4B: Imaging/procedure – other	1.008149	1.003133
M1A: Office visits – new	1.008149	1.003133
M1B: Office visits – established	1.008149	1.003133
M2A: Hospital visit – initial	1.008149	1.003133
M2B: Hospital visit – subsequent	1.008149	1.003133
M2C: Hospital visit - critical care	1.008149	1.003133
M3 : Emergency room visit	1.008149	1.003133
M4A: Home visit	1.008149	1.003133
M4B: Nursing home visit	1.008149	1.003133
M5A: Specialist – pathology	1.008149	1.003133
M5B: Specialist – psychiatry	1.008149	1.003133
M5C: Specialist – ophthalmology	1.008149	1.003133

Appendix A Table 5

CARRIER AND DME BETOS Code	2017-2022 Change	2018-2022 Change
M5D: Specialist – other	1.008149	1.003133
M6 : Consultations	1.008149	1.003133
O1A: Ambulance	1.099939	1.091210
O1B: Chiropractic	1.008149	1.003133
O1C: Enteral and Parental	1.099939	1.091210
O1D: Chemotherapy	1.023242	1.033515
O1E: Other drugs	1.023242	1.033515
O1F: Vision, hearing and speech services	1.074952	1.071737
O1G: Influenza immunization	1.178188	1.178188
P0 : Anesthesia	1.008149	1.003133
P1A: Major procedure – breast	1.008149	1.003133
P1B: Major procedure - colectomy	1.008149	1.003133
P1C: Major procedure - cholecystectomy	1.008149	1.003133
P1D: Major procedure – turp	1.008149	1.003133
P1E: Major procedure – hysterectomy	1.008149	1.003133
P1F: Major procedure - explor/decompr/excisc	1.008149	1.003133
P1G: Major procedure – Other	1.008149	1.003133
P2A: Major procedure, cardiovascular - cabg	1.008149	1.003133
P2B: Major procedure, cardiovascular - aneurysm repair	1.008149	1.003133
P2C: Major Procedure, cardiovascular - thromboendarterectomy	1.008149	1.003133
P2D: Major procedure, cardiovascular - coronary angioplasty (PTCA)	1.008149	1.003133
P2E: Major procedure, cardiovascular - pacemaker insertion	1.008149	1.003133
P2F: Major procedure, cardiovascular - other	1.008149	1.003133
P3A: Major procedure, orthopedic hip fracture repair	1.008149	1.003133
P3B: Major procedure, orthopedic hip replacement	1.008149	1.003133
P3C: Major procedure, orthopedic knee replacement	1.008149	1.003133
P3D: Major procedure, orthopedic - other	1.008149	1.003133
P4A: Eye procedure - corneal transplant	1.008149	1.003133
P4B: Eye procedure - cataract removal/lens insertion	1.008149	1.003133
P4C: Eye procedure - retinal detachment	1.008149	1.003133
P4D: Eye procedure – treatment of retinal lesions	1.008149	1.003133
P4E: Eye procedure – other	1.008149	1.003133
P5A: Ambulatory procedures – skin	1.107270	1.094140
P5B: Ambulatory procedures - musculoskeletal	1.107270	1.094140
P5C: Ambulatory procedures – inguinal hernia repair	1.107270	1.094140

Appendix A Table 5		
CARRIER AND DME BETOS Code	2017-2022 Change	2018-2022 Change
P5D: Ambulatory procedures - lithotripsy	1.107270	1.094140
P5E: Ambulatory procedures - other	1.107270	1.094140
P6A: Minor procedures – skin	1.008149	1.003133
P6B: Minor procedures - musculoskeletal	1.008149	1.003133
P6C: Minor procedures - other (Medicare fee schedule)	1.008149	1.003133
P6D: Minor procedures - other (non-Medicare fee schedule)	1.008149	1.003133
P7A: Oncology - radiation therapy	1.008149	1.003133
P7B: Oncology – other	1.008149	1.003133
P8A: Endoscopy – arthroscopy	1.008149	1.003133
P8B: Endoscopy - upper gastrointestinal	1.008149	1.003133
P8C: Endoscopy – sigmoidoscopy	1.008149	1.003133
P8D: Endoscopy – colonoscopy	1.008149	1.003133
P8E: Endoscopy – cystoscopy	1.008149	1.003133
P8F: Endoscopy – bronchoscopy	1.008149	1.003133
P8G: Endoscopy - laparoscopic cholecystectomy	1.008149	1.003133
P8H: Endoscopy – laryngoscopy	1.008149	1.003133
P8I: Endoscopy – other	1.008149	1.003133
P9A: Dialysis services (Medicare Fee Schedule)	1.008149	1.003133
P9B: Dialysis services (Non-Medicare Fee Schedule)	1.008149	1.003133
T1A: Lab tests - routine venipuncture (non-Medicare fee schedule)	1.023000	1.000000
T1B: Lab tests - automated general profiles	1.023000	1.000000
T1C: Lab tests – urinalysis	1.023000	1.000000
T1D: Lab tests - blood counts	1.023000	1.000000
T1E: Lab tests – glucose	1.023000	1.000000
T1F: Lab tests - bacterial cultures	1.023000	1.000000
T1G: Lab tests - other (Medicare fee schedule)	1.023000	1.000000
T1H: Lab tests - other (non-Medicare fee schedule)	1.023000	1.000000
T2A: Other tests – electrocardiograms	1.008149	1.003133
T2B: Other tests - cardiovascular stress tests	1.008149	1.003133
T2C: Other tests - EKG monitoring	1.008149	1.003133
T2D: Other tests - other	1.008149	1.003133
Y1 : Other - Medicare fee schedule	1.008149	1.003133
Y2 : Other - non-Medicare fee schedule	1.008149	1.003133
Z1 : Local codes	1.008149	1.003133
Z2 : Undefined codes	1.008149	1.003133

List of Acronyms

ASC	Ambulatory Surgical Center
BETOS	Berenson-Eggers Type of Service
CMS	Centers for Medicare & Medicaid Services
CPT	Current Procedural Terminology
CT	Computed Tomography
CY	Contract Year
DUE	Dental Events
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
ICL	Initial Coverage Limit
IDTF	Independent Diagnostic Testing Facility
IPE	Inpatient Event
MA	Medicare Advantage
MCBS	Medicare Current Beneficiary Survey
MRA	Magnetic Resonance Angiography
MRI	Magnetic Resonance Imaging
MRT	Magnetic Resonance Technology
MSA	Medical Savings Account Plans
OACT	Office of the Actuary
OM	Original Medicare
OOPC	Out-Of-Pocket Cost
OT	Occupational Therapy
PBP	Plan Benefit Package
PCP	Primary Care Physician
PET	Positron Emission Tomography
PT	Physical Therapy
RIC DUE	Record Identification Code - Dental Events
RIC IPE	Record Identification Code - Inpatient Hospital Events

List of Acronyms

RIC IUE	Record Identification Code - Institutional Events
RBCS	Restructured BETOS Classification System
SNF	Skilled Nursing Facility
SP	Speech Language Pathology
VA	Veterans Administration