2004 Medicare Personal Plan Finder Cohort Selection and Out-of-Pocket Cost Estimates Development Process Requirements

1. INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) defined and developed the process, data sources, and algorithms necessary to populate the Medicare Personal Plan Finder (MPPF) Out-of-Pocket Cost (OOPC) database for Original Fee-for-Service (FFS) Medicare, Medicare+Choice (M+C), and Medigap. Working with the Center for Beneficiary Choices (CBC), the Office of Research, Development & Information (ORDI), and the Office of the Actuary (OACT), Fu Associates, Ltd. defined a cohort of FFS individuals based on the 1999 and 2000 Medicare Current Beneficiary Surveys (MCBS).

This cohort provides the basis from which to identify the utilization measures and OOPC estimates for the MPPF OOPC database. The nationally representative cohort is used to populate 30 cells, each based on an age group and self-reported health status, in the MPPF OOPC database. The MCBS events and claims for the designated cohort were reviewed to develop the beneficiaries' utilization measures and estimate OOPCs.

Where necessary, Fu Associates, Ltd., inflated the out-of-pocket costs to reflect 2004 costs using inflation factors provided by OACT. In general, costs were inflated based on service-based inflation factors, such as Inpatient and Skilled Nursing Facility (SNF) groups of procedure codes. The outpatient data used the 2004 Ambulatory Procedure Code (APC) prices, not inflated 1999 and 2000 data, where APCs could be determined. Premiums, deductibles, and selected FFS copayments used actual 2004 data. These costs formed the basis for the FFS component of the MPPF OOPC database. The Contract Year (CY) 2004 Plan Benefit Packages (PBPs) were used to define the OOPCs associated with CY 2004 M+C plans. All PBP cost share data are provided in 2004 dollars. Finally, Medigap premium data were used to define the OOPCs for CY 2004 Medigap plans.

2. SELECTION OF THE MPPF COHORT BASED ON THE 1999 AND 2000 MCBS

Fu Associates, Ltd. reviewed the variables in the 1999 and 2000 MCBS files and used this information to develop an Original Medicare FFS cohort for the MPPF. The FFS cohort provides the baseline from which the MPPF OOPC database was developed.

2.1 SCREENING PROCESS

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

The following screening criteria were used to establish the final cohort:

1. Beneficiaries interviewed in a facility were excluded from the cohort due to potentially insufficient utilization data;
2. Beneficiaries whose health status was missing were excluded from the cohort because they could not be mapped into an age/health status category;
3. Beneficiaries who were not enrolled in Medicare Parts A & B for all twelve months in 1999 or 2000, respectively, or until death, were excluded from the cohort due to potentially insufficient utilization data;
4. Beneficiaries with one or more months of Medicare Managed Care enrollment were excluded from the cohort due to potentially insufficient utilization data;
5. Beneficiaries with a Medicare status of End Stage Renal Disease (ESRD) were excluded from the cohort due to the inability to join an M+C plan;
6. Beneficiaries with Hospice utilization were excluded from the cohort since the payment for these beneficiaries is based on excess savings and not a capitated rate;
7. Beneficiaries who did not complete the entire survey were excluded from the cohort due to potentially insufficient data;
8. Beneficiaries with Veterans Administration (VA) insurance were excluded from the cohort due to potentially insufficient utilization data; and
9. Ghosts, or beneficiaries newly enrolled in Medicare in 2000 with claims and imputed survey data, were excluded from the cohort because their utilization duplicated that of other beneficiaries included in the cohort.

Beneficiaries who died during the year but met all other criteria were included in the final cohort. It is assumed that both Medigap and Managed Care Organizations price their insurance based on the assumption that some beneficiaries will die during the year and have higher utilization than average. Therefore, the beneficiaries who died during the year were included in the calculation of OOPCs.

Beneficiaries who newly enrolled in Medicare during the year were not included in the final cohort. These beneficiaries may have generated Medicare claims during the year, but they were

not part of the survey process during the year. Therefore, their survey data had to be imputed using data for beneficiaries who were enrolled during the entire year. The data for these new enrollees, therefore, does not represent their actual utilization but the utilization of other beneficiaries. As a result, these beneficiaries were not included in the calculation of the OOPCs.

Beneficiaries who had Hospice utilization were also excluded from the final cohort. Since hospice care covers all services related to the disease, and managed care only gets the excess savings for these beneficiaries, their OOPCs were derived differently than the rest of the cohort. As a result, these newly enrolled beneficiaries were also excluded in the calculation of OOPCs.

2.2 SCREENING RESULTS

The number of beneficiaries excluded due to each of the screening criteria are provided in the following tables.

TABLE 2.1 - SCREENING RESULTS 1999 MCBS

Screening Criteria	Number of Beneficiaries that Met Screening Criteria
Beneficiaries who did not complete at least one community interview	1,122
Beneficiaries interviewed in a facility	697
Beneficiaries with a health status other than E, VG, G, F, and P	26
Beneficiaries with less than 12 months of Part A/B enrollment	863
Beneficiaries with some M+C coverage	2,983
Beneficiaries with ESRD status	88
Beneficiaries with one or more hospice payments	134
Beneficiaries with an incomplete survey	952
Beneficiaries with VA insurance	419
Ghost beneficiaries	625
Total number of beneficiaries excluded	5,591*

** Please note that the criteria used to screen beneficiaries from the final MPPF cohort were NOT mutually exclusive.*

TABLE 2.2 - SCREENING RESULTS 2000 MCBS

Screening Criteria	Number of Beneficiaries that Met Screening Criteria
Beneficiaries who did not complete at least one community interview	1,122
Beneficiaries interviewed in a facility	785
Beneficiaries with a health status other than E, VG, G, F, and P	32
Beneficiaries with less than 12 months of Part A/B enrollment	929
Beneficiaries with some M+C coverage	2,993
Beneficiaries with ESRD status	97
Beneficiaries with one or more hospice payments	140
Beneficiaries with an incomplete survey	1,049
Beneficiaries with VA insurance	545
Ghost beneficiaries	699

TABLE 2.2 - SCREENING RESULTS 2000 MCBS	
Screening Criteria	**Number of Beneficiaries that Met Screening Criteria**
Total number of beneficiaries excluded	5,756*

** Please note that the criteria used to screen beneficiaries from the final MPPF cohort were NOT mutually exclusive.*

2.2.1 FINAL MPPF FFS COHORT

Of the 13,106 beneficiaries in the 1999 MCBS file, 7,515 beneficiaries were used to populate the 30 age group/health status cells in the OOPC database. Of the 13,015 beneficiaries in the 2000 MCBS file, 7,259 were retained in the final cohort that populates the 30 age group/health status cells in the MPPF OOPC database.

The following table shows the number of beneficiaries in the Medicare FFS cohort by age group/health status.

TABLE 2.3 – FFS BENEFICIARIES IN COHORT BY AGE GROUP/HEALTH STATUS						
	Excellent	**Very Good**	**Good**	**Fair**	**Poor**	**TOTAL**
0-64	129	256	616	810	483	2,294
65-69	266	523	665	322	150	1,926
70-74	520	956	1070	502	159	3,207
75-79	345	758	960	468	175	2,706
80-84	323	668	854	480	196	2,521
85+	281	534	717	422	166	2,120
TOTAL	**1,864**	**3,695**	**4,882**	**3,004**	**1,329**	**14,774**

Data for all 14,774 beneficiaries in the FFS cohort was used to develop the baseline MPPF utilization measures and OOPC estimates. According to CMS/ORDI, the final FFS cohort is sufficient to be nationally representative of the subset 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 initial and ongoing analysis of MCBS data, PBP data, Medigap policies and plans, and other CMS requirements for the design and development of the OOPC estimates for the MPPF. These assumptions provide a baseline for understanding the iterative out-of-pocket design and development process and will continue to be modified, as the process is refined.

3.1 GENERAL ASSUMPTIONS

1. Actual OOPC estimates are displayed in dollar ranges through the MPPF, based upon ranges established by CMS.
2. All OOPC estimates are displayed as "Monthly" rather than "Annual," and were calculated based on the number of months enrolled for each beneficiary in the cohort.
3. MCBS events and claims for the designated cohort were reviewed to develop the beneficiaries' utilization measures and estimate OOPCs.
4. MCBS sample weights were applied to each of the beneficiaries included in the final MPPF cohort as part of the development of the OOPCs for FFS Medicare, Medigap plans, and M+C plans.
5. Mean OOPCs for each plan were produced for each age group/health status cell. Also displayed are the ranges of costs experienced by the five percent of beneficiaries in each age group/health status cell with the highest OOPCs. Where OOPCs for persons with chronic or catastrophic illnesses are displayed, costs for all beneficiaries, not just those in a specific cell group, were produced.
6. The 1999 and 2000 costs for Physician/Supplier events were inflated to 2004 costs using Berenson Eggers Type of Service (BETOS) code inflation factors; all Health Care Procedure Codes (HCPCs) within a BETOS code are inflated by that same BETOS rate. These inflation factors were provided by OACT.
7. The 1999 and 2000 costs for Outpatient claims were converted to the 2004 Outpatient Perspective Payment System (PPS) by mapping HCPCs into APCs.
8. OACT provided 2004 APC payment information, a crosswalk of HCPCs to APCs, a price list for the APCs, and the methodology used to age the APCs. Fu Associates, Ltd. ran the calculations to actually age the 1999 and 2000 costs for Outpatient events.
9. Long-term care costs were not included in the development of the OOPC estimates.
10. SNF services were included in the development of the OOPC estimates.
11. There are multiple records 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.

12. The event-level data in the Medical Provider Event (MPE) file was not used because the previous data provided limited information for mapping an event to a PBP benefit.

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

1. Beneficiaries enrolled in FFS do not have any insurance other than Medicare.
2. Beneficiaries have enrolled in Medicare Part B at age 65.
3. Beneficiaries go to providers who accept Medicare assignment (i.e., there is no balance billing).
4. The MPPF will include OOPC estimates for some non-Medicare covered benefits (e.g., drugs and dental services).
5. The MPPF will use the MCBS total costs for utilization of non-Medicare covered services in selected event files (i.e., Drugs and Dental).
6. Total OOPCs are equal to the monthly Part B premium amounts for a year, plus the sum of Inpatient Hospital, SNF, Drugs, Dental, Outpatient, Home Health, Physician/Supplier, and Durable Medical Equipment (DME) services.

3.3 Assumptions Related to the Calculation of M+C Out-of-Pocket Cost Estimates

1. Where applicable, the MPPF 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 MCBS Total Amount.
3. The costs for Optional Supplemental benefits were not included in the calculation of OOPCs. (Please note that this affects the availability of this information on the Quick Results page if drugs, vision services, dental services, or physical exams are defined as Optional Supplemental benefits in a M+C plan.)
4. Information collected in the PBP Notes fields is not included in the calculation of OOPCs.
5. Utilization of Outpatient services, Physician/Supplier services, and DME benefits was mapped into a PBP service category based on the information provided on the bill. In most instances, services that occurred on the same day and appeared to be related were linked together into a single benefit.
6. The MPPF calculation applies the service category deductibles to annualized costs.
7. For benefits with a minimum and maximum cost share, the minimum cost share amount was used to calculate the OOPC estimate, except for selected high cost X-ray services. For these services (CT, MRI, EKG, PET, and EEG), the maximum cost share amount was used.
8. The calculation of the category cost equals the sum of the copay amount, plus the coinsurance amount, plus the category deductible.
9. If a plan indicates there is a service category specific deductible amount, then that deductible amount is used to reduce the total costs for calculating the cost shares, and then added back in to determine the total cost for the category.

10. If a plan indicates that there is a service category specific maximum enrollee out-of-pocket amount, then the calculated M+C cost for that category was compared to the service category specific maximum, and the lesser of the two was used as the OOPC. For example, if the beneficiary's calculated OOPC for lab services totals $600, but the plan limits the enrollee's OOP cost to $500, then the OOPC estimate uses the $500 rather than the $600.
11. If a plan indicates that there is a plan-level maximum enrollee out-of-pocket amount applicable for *all* PBP service categories, then the calculated M+C cost for the overall plan was compared to the plan-level maximum, and the lesser of the two was used as the OOPC. 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. If a plan indicates that there is a plan-level maximum enrollee out-of-pocket amount, applicable for *a designated subset* of PBP service categories, then the calculated M+C cost for the subset of PBP service categories was compared to the plan-level maximum, and the lesser of the two was used as the OOPC for the designated subset of PBP service categories. 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.
13. If a plan indicates there is a plan-level deductible amount, then this deductible amount is used to reduce the total amount for services that is subject to cost sharing, and the deductible (or portion used) is included in the out of pocket costs calculated for each beneficiary.
14. If a service/benefit is covered by Medicare ("allowed"), then it was included in the calculation. If a service/benefit is not covered by Medicare ("denied"), then it was excluded from the calculation.
15. If a plan indicates that it is using the adjusted excess savings to reduce the Medicare Part B premium, then 80% of the Part B premium reduction amount was subtracted from the monthly Medicare Part B premium, as part of the OOPC estimate[1].

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 Event (IPE) file is considered one hospital stay.

[1] *BIPA permits M+Cs to offer reduced Medicare Part B premiums to their enrollees as an additional benefit. The mechanism to fund this reduction is for an M+C organization to elect a reduction in its M+C payment of up to 125 percent of the annual Part B premium. CMS will apply 80 percent of this amount to reduce the Part B premium of plan enrollees; the remaining 20 percent will be savings to the M+C program.*

2. MCBS events with a source of "Survey only" are excluded from the analysis.
3. Inpatient Psychiatric Hospital stays were identified using the Provider Number on the claim.
4. Inpatient Psychiatric Hospital costs were calculated separately in the M+C OOPC estimates. However, under Medicare FFS, the rules used to calculate the OOPC estimate do not distinguish between Inpatient Hospital Acute and Inpatient Psychiatric Hospital.
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 FFS, but were priced as Additional Days or Non-Covered Days under M+C.
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 M+C 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 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 Additional or 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 Additional or Mandatory, the cost shares were calculated in the following manner:
   - The Copay per Stay, plus the Copay per Day was 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.
7. Out-of-pocket expenses are equal to the Total Non-Covered Costs (including deductible) plus the minimum of either:
   - The Total Cost calculated using the Per Stay Amount plus the Per Day Amount, or
   - The Maximum Enrollee OOPC.

Prescription Drugs

The calculation of the OOPC estimate for the Prescription Drug Service Category benefits is based on the following assumptions:

1. Each event in the MCBS PME (i.e., Drug) file was considered one drug prescription.
2. All drug events in this file were considered non-Medicare covered.
3. The MPPF calculation for Drugs assumes that all prescriptions were for generic and brand drugs.
   - A 2003 Multum Lexicon drug access database file from Cerner Multum, Inc. was used to identify the individual drugs in the MCBS Drug Utilization file (RICPME) as generic or brand. This file contains a list of approximately 10,000 drugs, a code number, and a flag for generic or brand drugs.
4. In general, Generic drugs are assigned lower copays than Brand drugs.
5. If the plan's drug benefit was an additional or mandatory benefit, the total out-of-pocket drug costs were developed using the cost shares for generic and/or brand drugs with the drug utilization.
6. If the plan's drug benefit was an optional benefit, or if the plan did not offer a drug benefit (i.e., it is missing in the PBP data), then the total charge was equal to the Total Expenditures.
7. The MPPF calculation for Drugs was based on determining the lowest cost share among the groups that contained generic drugs and brand drugs. This is in accordance with the general MPPF methodology of using the lowest cost share for developing beneficiary out-of-pocket costs.
   - The hierarchy for determining the cost share for Generic drugs (excluding 'Tiers') is: 1) Generic; 2) Formulary Generic; or 3) Non-Formulary Generic.

- The hierarchy for determining the Brand cost share (excluding 'Tiers') is: 1) Brand; 2) Formulary Brand; 3) Non-formulary Brand; 4) Preferred Brand; or 5) Formulary Preferred Brand.

8. If the drug group labels for 'Tier' were selected by the plan, then the drug types designated for each Tier were compared to determine which Tiers included Generic drugs and which Tiers included Brand drugs. Once the Tiers containing Generic drugs were determined, the cost shares for those groups were compared and the lowest cost was used for the MPPF calculation. After the Tiers containing Brand drugs were identified, the cost shares for those groups were compared, and the lowest cost was used for the MPPF calculation, as long as it had not already been used for Generic drugs.
    - This is done to ensure that the same cost is not used for both Generic and Brand drugs; it assumes there is more than one drug group offered by the plan. However, if the plan offers only one drug group and it includes both Generic and Brand drugs, then the MPPF calculation will use the same cost for both groups.
9. The MPPF calculation for Drugs used the cost share location of the Designated Retail Pharmacy (DRP), if available; otherwise the MPPF calculation used the HMO-owned pharmacy location. The MPPF calculation did not use the Mail Order or Other cost share locations.
10. The drug cost was calculated as the sum of the Deductible Amount and the Number of Generic and Brand Drugs multiplied by the appropriate Copay Amount for Generic and Brand, and the Number of Generic and Brand Drugs multiplied by the appropriate Coinsurance Amount for Generic and Brand.
11. If a plan covers only Generic drugs, then the cost of Brand drugs is equal to the total Brand drug expenditures. Additionally, if a plan covers only Brand drugs, then the cost of Generic drugs is equal to the total Generic drug expenditures.
12. The Maximum Plan Benefit Amount was based on the conversion of the Maximum Plan Benefit Amount to an annual amount for:
    - Overall limit
    - Combination limit;
    - Individual Generic limit, and individual Brand limit, if available.
13. If the Total Drug Amount is less than the Plan Maximum Limit, then the OOPC is equal to the Drug Cost Share (i.e., Deductible Amount plus the sum of the Copay/Coinsurance Amounts for the drugs covered under the limit).
14. If the Total Drug Amount is greater than the Plan Maximum Limit, then the OOPC is equal to the Drug Cost Share (i.e., Deductible Amount plus the Copay/Coinsurance Amounts for the drugs covered under the limit), plus the total cost of the drugs after the limit has been reached.

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 Dental events in this file were considered to be non-Medicare covered.

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

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

11. If Utilization Days equal zero, then the entire stay was considered non-covered and the non-covered cost equals the Total Cost.
12. Non-covered days equal Additional Days, minus the number of Plan Maximum Additional Days.

The M+C 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, then 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 was 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), which was 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, 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 was 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 to linking MCBS/MPE data to the services/benefits in the PBP was based on our understanding that the majority of M+C 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 Outpatient, DME, Home Health, and Physician/Supplier file to PBP services/benefits. Note that this approach does not apply to Dental or Prescription Drug event files where the linking was basically 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 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 (Physician/Supplier, Outpatient, Home Health, and DME) were subset to include only the records for the beneficiaries in the MPPF cohort.
2. The claims in the Outpatient file were subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All claims were assigned based on Bill Type code or Revenue Center code, depending upon prioritization (e.g., Bill Type code is equal to Ambulatory Surgical Center; Revenue Center code is equal to Emergency Room).
3. The line items in the DME file were subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All line items were assigned based on the BETOS code (e.g., BETOS code is equal to Hospital bed).
4. The line items in the Physician/Supplier file were subset based on the specifications provided below and assigned to each applicable PBP service/benefit.
   - All line items were assigned based on one or more BETOS codes, Physician Specialty Codes, Service Type, and/or Place of Service, depending upon prioritization (e.g., BETOS code is equal to Ambulance).
5. All other line items that occur on the same date were extracted.
6. The entire set of same day line items were reviewed to:
   - Identify and map line items to the specified Service Category (e.g., Ambulance);
   - Identify and map related line items that occurred on the same day and were bundled into the same service, but for which no separate M+C cost will be calculated (e.g., Physician Specialty is equal to Ambulance Service Suppliers and BETOS code is equal to Local or Undefined Codes);
   - Identify and map line items to another PBP Service Category (e.g., all line items that fall within the admission and discharge dates for an Inpatient Hospital stay and where

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

- Determine if any line items should be reclassified.

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

4.1 PBP SERVICE CATEGORIES TO DME LINE ITEM MAPPING

Eight PBP services/benefits were addressed as part of this analysis. These include Specialist, Outpatient Hospital, DME, Prosthetics/Orthotics, Renal Dialysis, Drugs, Eye Wear, and Medical Supplies. 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 below.

Specialist (7d)

All line items where the BETOS code is equal to "Specialist-Ophthalmology", "Minor Procedures", or "Office/Home visit" were mapped to the Specialist (7d) service category.

Outpatient Hospital (9a)

All line items where the BETOS code is equal to "Chemotherapy" were mapped to the Outpatient Hospital (9a) service category.

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 DME (11a) service category.

Prosthetics and Orthotics (11b)

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

Renal Dialysis (12)

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

Drugs (15)

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

Eye Wear (17b)

All line items where the BETOS code is equal to "Vision, Hearing, and Speech Services" were mapped to the Eye Wear (17b) service category. These line items represent primarily eyeglasses and lenses, the majority of which are Medicare covered, so the cost share for Medicare covered eye wear was used.

Medical/Surgical Supplies (11bs)

All line items where the BETOS code is equal to "Medical/surgical supplies" were mapped to the Medical/Surgical supplies (11bs) service category.

Other line items where the BETOS code is equal to local codes and undefined codes were excluded from this analysis as these items could not be comfortably mapped into a specific PBP category/benefit.

4.2 PBP Service Categories to Outpatient Claim Mapping

Twenty-three PBP services/benefits were addressed as part of this analysis. These include: Ambulance, Ambulatory Surgical Center (ASC), Cardiac Rehabilitation, Clinical/Diagnostic Lab, Comprehensive Outpatient Rehabilitation Facility (CORF), Emergency Room (ER), Hearing Exams, Immunizations, Medical/Surgical supplies, Mental Health, Occupational Therapy, Outpatient Hospital, Pap Smears, Physical Therapy/Speech, Primary Care Physician (PCP), Renal Dialysis, Screening Mammography, Radiation Therapy, Specialist, Substance Abuse, Urgent Care, X-rays, and Complicated X-ray procedures. The mapping methodology for these PBP services/benefits to claims in the Outpatient file is presented below, in the order in which they were prioritized by the mapping analysis.

PCP (7a)

All claims where the BILL TYPE code is equal to "Clinic-Rural," "Clinic-Independent," or "Clinic-Reserved" were mapped to the PCP (7a) service category.

Renal Dialysis (12)

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

CORF (3)

All claims where the BILL TYPE code is equal to "Clinic - CORF" were mapped to the CORF (3) service category.

ASC (9b)

All claims where the BILL TYPE code is equal to "Special Facility," "ASC Surgery-Ambulatory Surgical Center," "Special Facility," or "ASC Surgery-Rural Primary Care Hospital" were mapped to the ASC (9b) service category.

Emergency Room (ER) (4a)

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

Ambulance (10a)

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

Renal Dialysis (12)

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

Screening Mammography (14h)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Imaging Services-Screening Mammography" were mapped to the Screening Mammography (14h) service category.

Outpatient Hospital (9a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Operating Room Services" were mapped to the Outpatient Hospital (9a) service category.

Urgent Care (4b)

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

Pap Smear (14d)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Diagnostic Services-Pap Smear" were mapped to the Pap Smear (14d) service category.

Mental Health (7e)

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

Physical Therapy/Speech (7i)

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

Occupational Therapy (7c)

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

Immunizations (14b) - Flu Shot

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Vaccine Administration" OR the only REVENUE CENTER code on the claim is equal to "Injection" were mapped to the Immunizations (14b) - Flu Shot service category. These items are assumed to be for influenza vaccinations; however, there is no cost allowed for the influenza vaccine.

Cardiac Rehab (9d)

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 (9d) service category.

Therapeutic Radiation (8a)

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

Specialist (7d)

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

X-ray (8b) [selected services]

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "CT scan," "MRI," EKG/ECG," "EEG," "PET," or "Nuclear Medicine" were mapped to the X-ray (8b) [selected services] service category. The maximum cost share was applied to these services.

Outpatient Hospital (9a)

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

Clinical/Diagnostic Lab (8a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Cardiology-General" or "Cardiology-Stress Test" were mapped to the Clinical/Diagnostic Lab (8a) service category.

X-ray (8b)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Radiology-Diagnostic," "Other Imaging Services - General," "Other Imaging Services - Diagnostic Mammography," "Other Imaging Services - Ultrasound," or "Other Imaging Services - Other" were mapped to the X-ray (8b) service category.

Clinical/Diagnostic Lab (8a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Diagnostic Services" or "Laboratory" were mapped to the Clinical/Diagnostic Lab (8a) 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.

PCP (7a)

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

Clinical/Diagnostic Lab (8a)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other Therapeutic Services," "Respiratory Services," or "Pulmonary Function" were mapped to the Clinical/Diagnostic Lab (8a) service category.

Substance Abuse (9c)

All previously unmapped outpatient claims where at least one REVENUE CENTER code on the claim is equal to "Other therapeutic services - alcohol rehabilitation" or "- drug rehabilitation" were mapped to the Substance Abuse (9c) service category.

Medical/surgical supplies (11bs)

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

The remaining claims in the file, comprising 0.5% of the total outpatient claims for the cohort, were excluded from the analysis.

4.3 PBP SERVICE CATEGORIES TO PHYSICIAN/SUPPLIER LINE ITEM MAPPING

Thirty-one PBP services/benefits were addressed as part of this analysis. These include: Ambulance, ASC, Chiropractic, Clinical/Diagnostic Lab, Dental, Drugs, ER, Eye Exams, Eye Wear, Hearing Exams, Immunizations, Inpatient Hospital (Acute), Inpatient Psychiatric Hospital, Medical Supplies, Mental Health, Occupational Therapy (OT), Other Healthcare Professionals, Outpatient Hospital, Pap Smear, Physical Therapy (PT), Podiatry, PCP, Psychiatry, Renal Dialysis, Screening Mammography, SNF, Specialist, Therapeutic Radiation, Urgent Care, X-rays, and Complicated X-ray Procedures. All other PBP services/benefits not listed were not addressed as part of this analysis.

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

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

4.3.1 PHYSICIAN/SUPPLIER LINE ITEMS THAT ARE MAPPED TO PBP SERVICE CATEGORIES

For the remaining line items that do not link to Inpatient Hospital, SNF, or Outpatient claims, the mapping methodology for these PBP services/benefits to line items in the Physician Supplier file are presented below, in priority order.

Immunizations (14b)

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 Immunization" were mapped to the Immunizations (14b) 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 (14b) service category.

Ambulance (10a)

1. All line items that occurred on the same day as an Outpatient ambulance service, where the BETOS code is equal to "Ambulance," or 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.
2. All previously unmapped line items where the BETOS code is equal to "Ambulance," or 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.

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 and the PLACE OF SERVICE code is equal to "Inpatient Hospital," "Inpatient Psychiatric Facility," " ER-hospital," or "Inpatient Comprehensive Rehab Facility" were bundled under the Inpatient stay.

SNF (2)

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

Emergency Room (4a)

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

Urgent Care (4b)

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

PCP (7a)

1. All line items that occurred on the same day as an Outpatient Clinic (independent or rural health) visit were bundled under the PCP category.
2. All line items that occurred on the same day as an Outpatient Clinic (pediatric, treatment, preventative, or professional) visit, where the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" were bundled under the PCP category.
3. 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," "Internist," or "Public Health or Welfare Agencies" were mapped as a PCP office visit.
4. All other line items that occurred on the same day (i.e., related items) for a PCP were bundled under the PCP office visit.
5. All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "PCP" (specified above), were mapped as a PCP office visit.
6. All other line items that occurred on the same day (i.e., related items) for a PCP office visit were bundled under the PCP visit.
7. All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Eye Procedures," "Endoscopy," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "PCP" (specified above), were mapped as a PCP office visit.
8. All other line items that occurred on the same day (i.e., related items) for a PCP were bundled under the PCP office visit.
9. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "PCP" (specified above), were mapped as a PCP office visit.
10. All line items where the BETOS code is equal to "Anesthesia," and the PHYSICIAN SPECIALTY code is equal to "PCP" (specified above), were bundled under the PCP office visit.

Physician Specialist (7d)

1. All line items that occurred on the same day as an Outpatient Specialist visit, and the PLACE OF SERVICE is equal to "Inpatient Hospital," "Outpatient Hospital," "ER," "ASC," "Birthing Center," "Military Treatment Facility," or "Other Unlisted Facility," were bundled under the Outpatient Specialist visit.
2. All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Specialist," "Critical Care (Intensivists)," "Addiction Medicine," or "Rheumatology," were mapped as a Specialist office visit.
3. All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Specialist office visit.
4. All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" (specified above), were mapped as a Specialist office visit.
5. All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Specialist office visit.
6. All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" (specified above), were mapped as a Specialist office visit.
7. All other line items that occurred on the same day (i.e., related items) for a Specialist were bundled under the Specialist office visit.
8. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Specialist" (specified above), were mapped as a Specialist office visit.
9. All line items where the BETOS code is equal to "Anesthesia" and the PHYSICIAN SPECIALTY code is equal to "Specialist" (specified above) were bundled under Specialist.

Psychiatry (7h)

1. All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry" or "Neuropsychiatry," were mapped as a Psychiatry office visit.
2. All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
3. All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry" (specified above), were mapped as a Psychiatry office visit.
4. All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
5. 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 "Psychiatry" (specified above), were mapped as a Psychiatry office visit.

6. All other line items that occurred on the same day (i.e., related items) for a Psychiatrist were bundled under the Psychiatry office visit.
7. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Psychiatry" (specified above), were mapped as a Psychiatry office visit.

Chiropractic (7b)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Chiropractic" were mapped as a Chiropractic visit.

Podiatry (7f)

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

Eye Exams (17a)

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

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

Hearing (18a)

1. All line items that occurred on the same day as an Outpatient service for Hearing Exams, where the SERVICE TYPE code is equal to "Hearing items and services," is bundled under the Outpatient Hearing service.
2. All line items where the PHYSICIAN SPECIALTY code is equal to "Audiologist (billing independently)" were mapped as a Hearing Exam visit.

Mental Health (7e)

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

Occupational Therapy (7c)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Occupational Therapist" were mapped as an Occupational Therapy visit.

Physical Therapy (7i)

1. All line items where the PHYSICIAN SPECIALTY code is equal to "Physical Therapist" or "Physiotherapy" were mapped as a Physical Therapy visit.
2. All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and the PHYSICIAN SPECIALTY code is equal to "Independent Physiological Laboratory," were mapped as a Physical Therapy visit.
3. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee schedule," "Local codes," or "Undefined codes," and where the PHYSICIAN SPECIALTY code is equal to "Independent Physiological Laboratory," were mapped as a Physical Therapy visit.

Other Healthcare Professionals (7g)

1. All line items where the BETOS code is equal to "Office Visit" (e.g., new or established) or "Consultations," and where the PHYSICIAN SPECIALTY code is equal to "Certified Nurse Midwife," "Certified Registered Nurse Anesthetist (CRNA), Anesthesia Assistant," "Nurse Practitioner," "Certified Clinical Nurse Specialist," "Preventive Medicine," or "Physician Assistant," were mapped as an Other Healthcare Professionals office visit.

2. 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.
3. All previously unmapped line items where the BETOS code is equal to "Hospital Visit," "Nursing Home or Home Visit," or "ER Visit," and where the PHYSICIAN SPECIALTY code is equal to "Other Healthcare Professionals" (specified above), were mapped as an Other Healthcare Professionals office visit.
4. All other line items that occurred on the same day (i.e., related items) for Other Healthcare Professionals were bundled under the Other Healthcare Professionals office visit.
5. All previously unmapped line items where the BETOS code is equal to "Major Procedures," "Minor Procedures," "Ambulatory Procedures," "Endoscopy," "Eye Procedures," or "Specialist," and where the PHYSICIAN SPECIALTY code is equal to "Other Healthcare Professionals" (specified above), were mapped as an Other Healthcare Professionals office visit.
6. All other line items that occurred on the same day (i.e., related items) for Other Healthcare Professionals were bundled under the Other Healthcare Professionals office visit.
7. All previously unmapped line items where the BETOS code is equal to "Other - Medicare Fee Schedule," "Other - Non-Medicare Fee Schedule," "Local Codes," or "Undefined Codes," and where the PHYSICIAN SPECIALTY code is equal to "Physician Assistant" or "All Other Suppliers" were mapped as an Other Healthcare Professionals office visit.
8. All line items where the BETOS code is equal to "Anesthesia" and the PHYSICIAN SPECIALTY code is equal to "CRNA" were bundled under Other Healthcare Professionals office visit.

Dental (16b)

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

Ambulatory Surgical Center (ASC) (9b)

1. All line items that occurred on the same day as an Outpatient ASC visit, excluding those where the BETOS code is equal to "Office Visit" or "Consultation" with PLACE OF SERVICE equal to "Office," were bundled under the ASC visit.

2. All 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 "Ambulatory Surgical Center," were mapped as an ASC visit.
3. All other line items that occurred on the same day (i.e., related items) as the ASC visit were bundled under the ASC visit.

Screening Mammography (14h)

1. All line items that occurred on the same day as an Outpatient Mammography Screening, where the BETOS code is equal to "Standard Imaging - Breast," were bundled under Outpatient Screening Mammography.
2. All line items where the PHYSICIAN SPECIALTY code is equal to "Mammography Screening Center" were mapped as a Screening Mammography visit.

Pap Smear (14d)

1. All line items that occurred on the same day as an Outpatient Pap Smear were bundled under Outpatient Pap Smear.

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

Therapeutic Radiation (8ar)

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 Radiation Therapy visit.
2. All previously unmapped line items where the BETOS code is equal to "Oncology" were mapped as a Therapeutic Radiation visit.

Clinical/Diagnostic Lab (8a)

1. All line items that occurred on the same day as an Outpatient lab service, and the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" were bundled under the Outpatient lab service.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Clinical Lab (Billing Independently)" were mapped as a Lab service.
3. All previously unmapped line items where the BETOS code is equal to "Lab Tests" or "Other Tests" were mapped as a Lab service.

4. All previously unmapped line items where the BETOS code is equal to "Local codes" or "Specialist," and the SERVICE TYPE is equal to "Diag. Lab," were mapped as a lab service.

X-ray (8b)

1. All line items that occurred on the same day as an Outpatient X-ray visit, where the BETOS code is equal to "Imaging," and the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility" were bundled under the Outpatient X-ray visit.
2. All previously unmapped line items where the PHYSICIAN SPECIALTY code is equal to "Portable X-ray Supplier" were mapped as an X-ray visit.
3. All previously unmapped line items where the BETOS code is equal to "Standard imaging," "Echography," or "Imaging/Procedure" were mapped as an X-ray visit.

X-ray (8b) [selected services]

1. All line items that occurred on the same day as an Outpatient complicated X-ray visit, where the BETOS code is equal to "Imaging," and the PLACE OF SERVICE is equal to "Inpatient Hospital," Outpatient Hospital," ER," "ASC," "Birthing Center," "Military Treatment Facility," "Nursing Facility," or "Other Unlisted Facility," were bundled under the Outpatient complicated X-ray visit.
2. All previously unmapped line items where the BETOS code is equal to "Advanced Imaging" were mapped as a complicated X-ray visit. The maximum cost share will be applied to these services.

Outpatient Hospital (9a)

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

Drugs (15)

1. All previously unmapped line items where the BETOS code is equal to "Other drugs" were mapped as a Medicare-covered Drug benefit.

Eye Wear (17b)

1. All previously unmapped line items where the BETOS code is equal to "Other-Vision," "Hearing," and "Speech Services" were mapped as an Eye Wear benefit.

Medical Supplies (11b)

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

5. CALCULATION OF FFS OUT-OF-POCKET COST ESTIMATES

The OOPCs for FFS beneficiaries included in the cohort were calculated using the utilization reported in the MCBS 1999 and 2000 cost and use files. The calculations assume that beneficiaries have enrolled in Medicare Part B at age 65, and that beneficiaries enrolled in FFS do not have any insurance other than Medicare. The calculations, described in detail below, produce OOPCs equal to the monthly Part B premiums, plus the sum of Inpatient Hospital, SNF, Outpatient, Physician/Supplier, and DME services. In addition, the OOPCs include estimates for important non-Medicare covered benefits like drugs and dental services.

* Medicare 2004 rates are not yet available, so estimated 2004 premium rates are used. For deductibles and coinsurance, 2003 rates are used.

5.1 MEDICARE COVERED INPATIENT AND SNF SERVICES

The following information is necessary to calculate the Medicare Covered Inpatient and SNF OOPCs for individuals participating in CMS' original FFS program.

Inpatient Hospital Care Coinsurance

Medicare can cover 90 days of medically necessary hospitalization for each benefit period[2] and as many as 60 lifetime reserve days to a maximum of 150 days. The 60 reserve days can be used only once during the beneficiary's lifetime. Acute inpatient and psychiatric inpatient utilization are calculated the same way in the MPPF.

The beneficiary pays the Part A Inpatient Hospital coinsurance $210 (in 2003) per day for days 61-90 and $420 per day (in 2003) for days 91-150. Beneficiary pays 100% of the cost beyond day 150.

For Days 61-90:

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file, where the event Begin Dates or End Dates are not missing, were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days was multiplied by $210[3].

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[2] *A benefit period begins the day a beneficiary is admitted to a hospital or skilled nursing facility. The benefit period ends when the beneficiary has not received hospital or skilled nursing care for 60 days in a row. If the beneficiary is admitted to the hospital after one benefit period has ended, a new benefit period begins. The beneficiary must pay the inpatient hospital deductible for each benefit period. There is no limit to the number of benefit periods for a beneficiary.*

[3] *The Coinsurance Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital days 61 through 90 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare*

For Days 91-150:

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the number of Lifetime Reserve Days used for an event is greater than zero, then the number of Lifetime Reserve Days was multiplied by $420[4].

Medicare Part A Hospital Deductible

Medicare can cover 90 days of medically necessary hospitalization for each benefit period[5] and as many as 60 lifetime reserve days to a maximum of 150 days. The 60 reserve days can be used only once during the beneficiary's lifetime.

The beneficiary pays $840 deductible (in 2003) per benefit period.

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. The deductible ($840) was assigned to the first event for each Beneficiary.
5. For Beneficiaries with multiple events, it was determined if the Medicare stay event was part of the same benefit period by calculating the number of days between the first event's end date and the second event's begin date. If the difference was greater than 60 days, then a deductible ($840) was assigned to the second event. Otherwise, the second event deductible was equal to zero.

Summing Medicare Covered Inpatient Hospital Costs

The final OOPCs for the Medicare covered Inpatient Hospital events were generated by summing the cost of the Part A deductible, the total coinsurance costs for days 61-90, and the total coinsurance costs days 91-150 per benefit period.

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covered Inpatient Hospital days 61 through 62. Medicare covered Inpatient Hospital days 1 through 60 do not receive a coinsurance charge in the OOPC calculations.

[4] *The Lifetime Reserve Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital lifetime reserve days 91 through 150 used by the beneficiary. For example, a Lifetime Reserve Days field value of "2" translates to Medicare covered Inpatient Hospital lifetime reserve days 91 through 92.*

[5] *A benefit period begins the day a beneficiary is admitted to a hospital or skilled nursing facility. The benefit period ends when the beneficiary has not received hospital or skilled nursing care for 60 days in a row. If the beneficiary is admitted to the hospital after one benefit period has ended, a new benefit period begins. The beneficiary must pay the inpatient hospital deductible for each benefit period. There is no limit to the number of benefit periods for a beneficiary.*

SNF Coinsurance

A Medicare beneficiary is eligible for 100 days of care in a SNF during each benefit period[6]. The beneficiary does not pay SNF coinsurance for days 1-20. The beneficiary pays the Part A SNF coinsurance $105 (in 2003) for days 21-100. The beneficiary pays 100% for all days over 100 in a SNF.

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIUE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIUE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days was multiplied by $105[7].

5.2 NON-MEDICARE COVERED INPATIENT AND SNF SERVICES

The following information is necessary to calculate the Non-Medicare Covered Inpatient and SNF OOPCs for individuals participating in CMS' original FFS program.

Inpatient Hospital Care

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are less than or equal to zero (i.e., Utilization Days less than or equal to zero identify events that are non-Medicare covered stays only) were selected.
4. Total Expenditures was used to determine the Non-Medicare covered OOPC for the event.
5. The OOPCs based on the Total Expenditures are adjusted from 1999 and 2000 utilization dollars to 2004 utilization dollars using inflation factors provided by OACT (see Appendix B: Inflation Factors).

SNF Care

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).

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[6] *A benefit period begins the day a beneficiary is admitted to a hospital or skilled nursing facility. The benefit period ends when the beneficiary has not received hospital or skilled nursing care for 60 days in a row. If the beneficiary is admitted to the hospital after one benefit period has ended, a new benefit period begins. The beneficiary must pay the inpatient hospital deductible for each benefit period. There is no limit to the number of benefit periods for a beneficiary.*

[7] *The Coinsurance Days field in the RICIUE file represents a count of Medicare covered SNF days 21 through 100 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare covered SNF days 21 through 22. Medicare covered SNF days 1 through 20 do not receive a coinsurance charge in the OOPC calculations.*

2. All events from the RICIUE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIUE file where Utilization Days are less than or equal to zero (i.e., Utilization Days less than or equal to zero identify events that are non-Medicare covered stays only) were selected.
4. Total Expenditures was used to determine the Non-Medicare covered OOPC for the event.
5. The OOPCs based on the Total Expenditures are adjusted from 1999 and 2000 utilization dollars to 2004 utilization dollars using inflation factors provided by OACT (see Appendix B: Inflation Factors).

5.3 MEDICAL COSTS: PHYSICIAN AND OUTPATIENT SERVICES

The following information is necessary to calculate the OOPCs for individuals participating in CMS' original FFS program.

Medicare Part B Premium

It was assumed that all members of the out-of-pocket cohort participate in Medicare Part B and pay the monthly $65.90 premium ($790.8 annually). This premium is the estimated Part B premium reported in Version 1 of the 2004 ACR.

1. This amount was applied to every Beneficiary.

Medicare Part B Deductible

1. It was assumed that every Beneficiary with a positive Part B covered Allowed Charge from the Physician/Supplier, DME, and Outpatient files pays a $100 deductible (assuming they have medical or outpatient services of at least $100).
2. It was assumed that the Part B Deductible is subsumed under the total OOPCs calculated for Physician/Supplier and DME claims. It was also assumed that if the total OOPCs by Beneficiary are less than $100, then the deductible is equal to OOPCs.
3. If the Beneficiary has no Physician/Supplier Allowed Charge amount, it was assumed that the deductible is paid under outpatient charges.

Medical Costs

FFS costs for participants in CMS' original FFS program were calculated by using the claims files from the 1999 and 2000 MCBS cost and use data sets. For Physician/Supplier (P/S) and DME utilization, the reported coinsurance amount for each claim provides the basic OOPC estimate. The 1999 and 2000 coinsurance amounts were adjusted to reflect 2004 costs by applying the inflation rates according to individual BETOS codes for each claim.

For outpatient utilization, the estimation of OOPCs requires the use of several sources of data and several assumptions. For most claims, the 1999 and 2000 outpatient claims files are applied, by line item, against the HCPC-based APC values for 2003. The APC values represent the coinsurance amounts that would have applied in 2004 for each HCPC reported in 1999 and 2000

claims utilization. For several HCPCs reported in the 1998 and 1999 outpatient claims, these APCs do not exist. A cross-reference file reporting the reasons that no APCs exist, provided by CMS, was used. In most of these cases, a line item was bundled with another line item on a claim and did not warrant a separate coinsurance payment on the part of the beneficiary. For some line items, where no APC coinsurance amount is provided, the median coinsurance amount for a common HCPC was used as a substitute for the outpatient coinsurance amount. Finally, for revenue line items not having an APC or a HCPC matched to the physician-supplier or DME data, the coinsurance amount from the 1999 or 2000 outpatient claim level data was used. This data was inflated to 2004 using outpatient inflation information provided by OACT (see Appendix B: Inflation Factors).

Beneficiaries pay the Part B coinsurance (generally 20% of the Medicare-approved payment amount) or a copayment amount, which may vary according to the service. Coverage follows payment of the $100 deductible.

1. Using the Outpatient file, which includes all claims for outpatient utilization by Bill Type and Revenue Center Code, observations where pbp_cat = "excluded" or pbp_cat = "flu shot" were excluded.
2. The Outpatient claims file was merged with the file that matches HCPCs to APC National Adjusted Coinsurance amounts, which are the OOPCs for most outpatient claim line items. This file is available on the http://www.cms.hhs.gov/regulations/hopps/2004p/changecy2004.asp web page. For line items where the HCPCs have an APC Coinsurance amount, these are the OOPCs[8]. For every line item with an HCPC but no match to an APC Coinsurance amount, examine another file that lists reasons that HCPCs do not have APC values. For reasons C, E, N, we assume that services are billed elsewhere, bundled under other APC rates, or not paid under outpatient services. In this case, the coinsurances were set to zero. The coinsurance amounts were also set to zero for other revenue line items with nonsensical HCPCs, or identified as HCPCs specific to local areas[9].
3. For Reason A, which are HCPCs not paid under OPPS, or Reason D, which includes HCPCs deleted since 1998, the P/S file was used to determine the median estimated OOPC amount across all HCPCs for each line item. The P/S file includes line item level data for all physician-supplier and DME utilization. The median estimated OOPC amounts were created from the median, by HCPC category, of the BETOS adjusted difference between the Allowed Charge and Medicare Payment Amount for each line item. This provides an outpatient coinsurance amount for these line items.
4. The outpatient coinsurance amounts above were summarized by both Beneficiary and claim to produce a beneficiary level outpatient coinsurance amount.
5. For those revenue items in the Outpatient claims file that do not have an HCPC or local HCPC codes, the major Revenue Center categories are: Pharmacy, Supplies, Anesthesia, Free Standing Clinic: Rural Health, and Recovery Room. For revenue center items associated with a claim that has other revenue centers with coinsurances calculated above, it

[8] *An APC coinsurance amount is either equal to the National Unadjusted Copayment, or if missing, the National Minimum Unadjusted Copyment.*

[9] *HCPC "1440" was separately reported "packaged" or an "N" category, by CMS.*

is assumed that the revenue centers with missing HCPCs are packaged into other charges for the purposes of OOPCs. For claims having revenue centers with all missing HCPCs, there is no other readily available information on coinsurances or copayments. As a substitute, the Claim Level Coinsurance amount from the Outpatient file is used. This coinsurance estimate is adjusted for inflation from 1999/2000 to 2004 using an overall outpatient inflation factor obtained from OACT (see Appendix B: Inflation Factors). For line items whose HCPCs can not be mapped to a median coinsurance amount in the P/S file, the coinsurance amount was set to zero.

6. For the physician supplier and DME component of Medical Costs, the P/S and the DME files were used to calculate the difference between the Allowed Charge and the Medicare Payment Amount for each line item. From the P/S and DME files, observations were included where PROCESS="A," PROCESS="R," or PROCESS="S," and where the Allowed Charges are greater than zero. Also, observations where pbp_cat= "excluded from analysis" or pbp_cat="flu shot – cat 14 no cost share" were excluded. The differences were adjusted for 1999/2000 to 2004 inflation by the BETOS inflation rates provided by OACT (see Appendix B: Inflation Factors). These differences were then summed across Beneficiary ID. The result is the medical/DME component of OOPCs (including the Part B deductible) for each beneficiary.
7. The medical/DME OOPCs and the outpatient coinsurance calculation were summed to the Beneficiary ID level to produce a total Part B OOPC by Beneficiary ID.

5.4 NON-MEDICARE COVERED OUTPATIENT SERVICES

The following information is the necessary to calculate the OOPCs for individuals participating in CMS' original FFS program.

Prescription Drugs

The Beneficiary pays for 100% of all non-covered prescription drugs under FFS Medicare.

1. In the RICPME file, the Total Expenditures were summed by Beneficiary. They were also adjusted upward by a uniform 1.2121 to take into account underreporting of drug utilization in the 1999 and 2000 MCBS RICMPE files. This sum equals the out-of-pocket expenditures for prescription drugs.
2. This out-of-pocket estimate was adjusted for inflation from 1999/2000 to 2004 by using a drug price inflation factor obtained from OACT (see Appendix B: Inflation Factors).

Dental

The beneficiary pays for 100% of all dental charges.

1. In the RICDUE file, the Total Expenditures were summed by Beneficiary. This sum equals the out-of-pocket expenditures for dental expenditures.
2. This out-of-pocket estimate is adjusted for inflation from 1999/2000 to 2004 using a dental price inflation factor obtained from OACT (see Appendix B: Inflation Factors).

6. CALCULATION OF MEDIGAP OUT-OF-POCKET COST ESTIMATES

The OOPCs for beneficiaries selecting a Medigap plan are calculated in parallel with the FFS OOPC calculations. For a given Medigap plan, Medigap premiums are summed with the FFS OOPCs, described above, less the benefits provided by the Medigap plan. Depending on which plan is chosen, the Medigap benefit will cover inpatient, SNF, or Part B coinsurance amounts, Part A or Part B deductibles, or partial drug costs.

6.1 MEDIGAP PLAN CHOICES - MEDIGAP PLANS A THROUGH J

The Medigap calculations for the OOPC estimates were defined based on "Choosing a Medigap Policy: 2003 Guide to Health Insurance for People with Medicare" which was developed jointly by CMS and the National Association of Insurance Commissioners.

Most Medigap policies are sold in ten standardized plans. This chart provides a quick description of all the Medigap plans and their benefits. This chart does not apply if you live in Massachusetts, Minnesota, or Wisconsin.

A	B	C	D	E	F*	G	H	I	J*
Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit
		SNF Coinsur.	SNF Coinsur.	SNF Coinsur.	SNF Coinsur.	SNF Coinsur.	SNF Coinsur.	SNF Coinsur.	SNF Coinsur.
	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.	Part A Deduct.
		Part B Deduct.			Part B Deduct.				Part B Deduct.
					Part B Excess (100%)	Part B Excess (100%)		Part B Excess (100%)	Part B Excess (100%)
		Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.	Foreign Travel Emerg.
			At-Home Recovery			At-Home Recovery		At-Home Recovery	At-Home Recovery
							Basic Drug Benefit ($1250 Limit)	Basic Drug Benefit ($1250 Limit)	Basic Drug Benefit ($3000 Limit)
				Preventive Care					Preventive Care

**Plans F and J also have a high deductible option. See specifications below.*

The following is the information necessary to calculate the out-of-pocket savings for individuals purchasing a Medigap policy.

6.1.1 BASIC BENEFITS

Inpatient Hospital Care

This benefit covers the Part A coinsurance of $210 (in 2003) per day for days 61-90 and $420 (in 2003) per day for days 91-150. It also covers 100% of the cost for 365 extra days of hospital care during your lifetime, after Medicare coverage ends.

Out-of-Pocket Calculation	*Plans*
For Days 61-90:	All (A through J)

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days was multiplied by $210[10].
5. The Medigap Covered Amount was then deducted from the FFS cost for each event.

For Days 91-150:

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the number of Lifetime Reserve Days used for an event is greater than zero, then the number of Lifetime Reserve Days was multiplied by $420[11].
5. The Medigap Covered Amount was then deducted from the FFS cost for each event.

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[10] *The Coinsurance Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital days 61 through 90 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare covered Inpatient Hospital days 61 through 62. Medicare covered Inpatient Hospital days 1 through 60 do not receive a coinsurance charge in the OOPC calculations.*

Medical Costs

This benefit covers the Part B coinsurance (generally 20% of the Medicare-approved payment amount) or copayment amount, which may vary according to the service. The coverage follows payment of a $100 deductible.

The benefits provided for Medical Costs under the basic Medigap plan provisions are equivalent to the fee-for-service coinsurance amounts for physician-supplier, DME, and outpatient claims. The calculations for these costs are summarized in Section 5.3.

Out-of-Pocket Calculation	***Plans***
1. Using the Outpatient file, which includes all claims for outpatient utilization by Bill Type and Revenue Center Code, observations where pbp_cat = "excluded" or pbp_cat = "flu shot" were excluded. 2. The Outpatient claims file was merged with the file that matches HCPCs to APC National Adjusted Coinsurance amounts, which are the OOPCs for most outpatient claim line items. This file is available on the www.cms.hhs.gov/regulations/hopps/changecy2004.asp webpage. For line items where the HCPCs have an APC Coinsurance amount, these are the OOPCs. For every line item with an HCPC but no match to an APC Coinsurance amount, examine another file that lists reasons that HCPCs do not have APC values[12]. For reasons C, E, and N, we assume that services are either billed elsewhere, bundled under other APC rates, or not paid under outpatient services. In this case, the coinsurances were set to zero. The coinsurance amounts were also set to zero for other revenue line items with nonsensical HCPCs or items identified as HCPCs specific to local areas. 3. For Reason A, which are HCPCs not paid under OPPS, or Reason D, which includes HCPCs deleted since 1998, the P/S file was used to determine the median estimated OOPC amount across all HCPCs for each line item. The P/S file includes line item level data for all physician-supplier and DME utilization. The median estimated OOPC amounts were created from the median, by HCPC category, of the BETOS adjusted difference between the Allowed Charge and Medicare Payment Amount for each line item. This provides an outpatient coinsurance amount for these line items. 4. The above outpatient coinsurance amounts were summarized by both Beneficiary and claim to produce a beneficiary level outpatient coinsurance amount.	All (A through J)

[11] The Life Reserve Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital lifetime reserve days 91 through 150 used by the beneficiary. For example, a Life Reserve Days field value of "2" translates to Medicare covered Inpatient Hospital lifetime reserve days 91 through 92.

[12] An APC coinsurance amount is either equal to the National Unadjusted Copayment, or if missing, the National Minimum Unadjusted Copayment.

5. For those revenue items in the Outpatient claims file that do not have an HCPC or have local HCPCs codes, the major Revenue Center categories are: Pharmacy, Supplies, Anesthesia, Free Standing Clinic: Rural Health, and Recovery Room. For revenue center items associated with a claim that has other revenue centers with coinsurances calculated above, it is assumed that the revenue centers with missing HCPCs are packaged into other charges for the OOPCs. For claims having revenue centers with all missing HCPCs, there is no other readily available information on coinsurances or copayments. As a substitute, the Claim Level Coinsurance amount from the Outpatient file is used. This coinsurance estimate was adjusted for inflation from 1999/2000 to 2004 using an overall outpatient inflation factor obtained from OACT (see Appendix B: Inflation Factors). For line items whose HCPCs can not be mapped to a median coinsurance amount in the P/S file, the coinsurance amount was set to zero.
6. For the Physician/Supplier and DME component of Medical Costs, the P/S and the DME files were used to calculate the difference between the Allowed Charge and the Medicare Payment Amount for each line item. From the P/S and DME files, observations were included where PROCESS="A," PROCESS="R," or PROCESS="S," and where the Allowed Charges are greater than zero. Also, observations where pbp_cat= "excluded from analysis" or pbp_cat="flu shot – cat 14 no cost share" were excluded. The differences were adjusted for 1999/2000 to 2004 inflation by the BETOS inflation rates provided by OACT (see Appendix B: Inflation Factors). These differences were then summed across Beneficiary ID. The result is the medical/DME component of OOPCs (including the Part B deductible) for each beneficiary.
7. The medical/DME OOPCs and the outpatient coinsurance calculation were summed to the Beneficiary ID level to produce a total Part B OOPC by Beneficiary ID.
8. For these Medigap plans, the maximum of zero and the OOPCs calculated above were selected, less 100.
9. The Medigap Medical Cost benefits were then deducted from the FFS Medical Costs.

Blood

This benefit covers the first three pints of packed blood each calendar year.

Out-of-Pocket Calculation	*Plans*
1. Blood Utilization data under Medicare is not readily available from the Cost and Use dataset. Therefore, this category was excluded from the Medigap OOPC calculations.	All (A through J)

6.1.2 OPTIONAL BENEFITS

Medicare Part A Hospital Deductible

This benefit covers $840 (in 2003) per benefit period. This amount can change every year.

Out-of-Pocket Calculation	*Plans*
1. Exclude all events from the RICIPE file where source = "1" (Survey Only). 2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date. 3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected. 4. The deductible ($840) was assigned to first event for each Beneficiary. 5. For Beneficiaries with multiple events, determine if the Medicare stay event is part of the same benefit period by calculating the number of days between the first event's end date and the second event's begin date. If the difference is greater than 60 days, then a deductible ($840) was assigned to the second event. Otherwise, the second event deductible is equal to zero. 6. The Medigap Covered Amount was then deducted from the FFS cost for each event.	B, C, D, E, F, G, H, I, and J

SNF Coinsurance

Out-of-Pocket Calculation	*Plans*
1. Exclude all events from the RICIPE file where source = "1" (Survey Only). 2. All events from the RICIUE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date. 3. All events from the RICIUE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.	C, D, E, F, G, H, I, and J

Out-of-Pocket Calculation	*Plans*
4. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days is multiplied by $105[13]. 5. The Medigap Covered Amount was then deducted from the FFS cost for each event.	

Medicare Part B Deductible

This benefit covers up to $100 per year.

Out-of-Pocket Calculation	*Plans*
1. It is assumed that every Beneficiary with a positive Part B covered Allowed Charge from the P/S, DME, and Outpatient files pays a $100 deductible. (This assumes that the beneficiary has medical or outpatient services of at least $100.) 2. It is assumed that the Part B Deductible is subsumed under the total OOPCs calculated for P/S and DME claims. It is further assumed that if the total OOPCs by Beneficiary are less than $100, the deductible is equal to the OOPCs. 3. The benefit under these Medigap plans is equal to the calculated Part B deductible.	C, F, and J

Foreign Travel Emergency
(Emergency Care Outside the United States)

This benefit covers 80% of the cost of emergency care during the first 60 days of each trip (after the $250 deductible is paid) and a $50,000 lifetime benefit limit.

Out-of-Pocket Calculation	*Plans*
No data are available in the MCBS dataset to identify Foreign Travel costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	B, C, D, E, F, G, H, I, and J

At-Home Recovery

This benefit covers the cost of at-home help with daily activities, like bathing and dressing, if beneficiary is already receiving Medicare covered home health visits. It will pay up to $40 each visit and $1,600 each year.

[13] *The Coinsurance Days field in the RICIUE file represents a count of Medicare covered SNF days 21 through 100 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare covered SNF days 21 through 22. Medicare covered SNF days 1 through 20 do not receive a coinsurance charge in the OOPC calculations.*

Out-of-Pocket Calculation	*Plans*
No data are available in the Cost and Use dataset to identify At-Home Recovery costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	D, G, I, and J

Medicare Part B Excess Charge

This benefit covers the difference between the physician's actual charge and Medicare's approved amount. Plans F, I, and J pay all of the excess charges. Plan G pays 80% of the excess charges.

Out-of-Pocket Calculation	*Plans*
There is a general assumption that a high percentage of physicians accept Medicare assignment. As a result, there is no excess Part B charge in the MPPF computations (FFS or Medigap) to offset this coverage benefit. In addition, no data are available in the MCBS dataset to identify Medicare Part B excess charge costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	F, G, I, and J

Preventive Care

This benefit includes routine yearly check-ups, serum cholesterol screening, hearing tests, diabetes screening, and thyroid function test. It covers up to $120 each year.

Out-of-Pocket Calculation	*Plans*
No data are available in the MCBS dataset to identify Preventive Care costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	E and J

Prescription Drugs

This benefit covers 50% of the drug costs that Medicare does not cover (after a $250 per year deductible is paid). It also covers up to $1,250 each year under Plans H and I and up to $3,000 each year under Plan J.

Out-of-Pocket Calculation	*Plans*
1. In the RICPME file, the Total Expenditures were summed by Beneficiary. These were also adjusted upward by a uniform 1.2121 to take into account underreporting of drug utilization in the 1999 and 2000 MCBS RICMPE files. This sum equals the out-of-pocket expenditures for prescription drugs. 2. This out-of-pocket estimate was adjusted for inflation from 1999/2000 to 2004 using a drug price inflation factor obtained from OACT (see Appendix B: Inflation Factors).	H, I, and J

Out-of-Pocket Calculation	*Plans*
3. If the sum of the Total Expenditures for a unique identification number is greater than "250," then $250 was deducted from the Total Expenditures and the result was multiplied by .5 to get the Medigap Covered Amount. 4. The Medigap Covered Amount was then deducted from the FFS drug cost for the event. • For plans H and I, if the Medigap Covered Amount exceeds $1,250, then $1,250 was deducted from the FFS drug cost for the event. • For plan J, if the Medigap Covered Amount exceeds $3,000, then $3,000 was deducted from the FFS drug cost for each event.	

6.1.3 HIGH DEDUCTIBLE OPTION PLANS F AND J[14]

Plan F has a $1,650 deductible with a $250 deductible on foreign travel before other policy benefits are paid. Plan J has a $1,650 deductible with $250 deductible on foreign travel and prescription drugs before other policy benefits are paid.

Out-of-Pocket Calculation	*Plans*
1. For Plan F, the Beneficiary's FFS OOPCs for Inpatient, SNF, and Physician/Outpatient services are summed first. The Medigap Plan benefits from Inpatient, SNF, and Physician/Outpatient services are then summed. 2. If this sum exceeds $1,650, then the OOPC for the High Deductible Plan F equals the maximum of the difference between the OOPC and the sum of all plan benefits, plus $1,650 and the Beneficiary's OOPCs for Drug and Dental charges. Otherwise, the OOPC for the High Deductible Plan F equals the sum of the FFS OOPC plus the Beneficiary's OOPCs for Drug and Dental charges. 3. For Plan J, the FFS OOPC for Inpatient, SNF, and Physician/Outpatient services are summed first. The Medigap Plan benefits from Inpatient, SNF, and Physician/Outpatient services are then summed. 4. If this sum exceeds $1,650, then the first component of the out-of pocket cost for the High Deductible Plan J equals the maximum of the difference between the OOPC and the sum of all the plan benefits, plus $1,650 and the Beneficiary's OOPC for Dental charges. Otherwise, the first component of the OOPCs equals the sum of FFS OOPC plus the Beneficiary's OOPC for Dental charges.	High Deductible F and High Deductible J

[14] *Although the high deductible Medigap plan OOPC costs are included in this methodology, the OOPC cost estimates for the high deductible Medigap plans are not displayed in this version of the MPPF. There are currently no high deductible Medigap premiums available to calculate the "final" OOPC cost estimates for the high deductible Medigap plans.*

5. If the Beneficiary's out-of-pocket FFS drug costs exceeds $250, then the second component of the OOPCs for the High Deductible Plan J equals the maximum of the difference between out-of-pocket drug costs and the Beneficiary's calculated drug benefit under Plan J plus $250. Otherwise, the second component of the OOPCs for the High Deductible Plan J equals the FFS out-of-pocket drug costs.
6. For Plan J, the Beneficiary's OOPCs equal the sum of the first and second components described above.

6.2 MEDIGAP PLAN CHOICES - MEDIGAP EXEMPTED STATE PLANS (MASSACHUSETTS, MINNESOTA, OR WISCONSIN)

This chart provides a quick description of all of the Medigap exempted state plans and their benefits. The three exempted states have several benefits and options that are either too complicated for calculation or too difficult to quantify. The benefits for the six basic and extended policies are described below.

Massachusetts Core	Massachusetts Supplement 1	Massachusetts Supplement 2	Minnesota Basic	Minnesota Extended Basic *	Wisconsin Basic
Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit	Basic Benefit
	Skilled Nursing Coinsurance	Skilled Nursing Coinsurance	Skilled Nursing Coinsurance	Skilled Nursing Coinsurance	Skilled Nursing Coinsurance/ Non-Medicare Covered Stays
	Part A Deductible	Part A Deductible		Part A Deductible	
	Part B Deductible	Part B Deductible		Part B Deductible	
	Foreign Travel Emergency	Foreign Travel Emergency	Foreign Travel Emergency	Foreign Travel Emergency	
				At Home Recovery	At Home Recovery
		Basic Drug Benefit		Basic Drug Benefit	Basic Drug Benefit
Preventative Care	Preventative Care	Preventative Care	Preventative Care	Preventative Care	
Inpatient Days: Mental Hospitals	Inpatient Days: Mental Hospitals	Inpatient Days: Mental Hospitals			Inpatient Days: Mental Hospitals
			Outpatient Mental Health	Outpatient Mental Health	
				Usual and Customary Fees	

**The Minnesota Extended Basic Plan provides benefits according to a $1,000 ceiling on covered OOPCs. See the explanation below.*

The following is the information necessary to calculate the out-of-pocket savings for individuals purchasing a Medigap policy for the three exempt states.

6.2.1 BASIC BENEFITS

Inpatient Hospital Care Coinsurance

This benefit covers the Part A coinsurance of $210 (in 2003) per day for days 61-90 and $420 (in 2003) per day for days 91-150. It also covers 100% of the cost for 365 extra days of hospital care during your lifetime after Medicare coverage ends.

Out-of-Pocket Calculation

For Days 61-90:

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were then selected.
4. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days was multiplied by $210[15].
5. The Medigap Covered Amount was then deducted from the FFS cost for each event.

For Days 91-150:

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. If the number of Lifetime Reserve Days used for an event is greater than zero, then the number of Lifetime Reserve Days was multiplied by $420[16].
5. The Medigap Covered Amount was then deducted from the FFS cost for each event.

Plans

All (Exempted States)

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[15] *The Coinsurance Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital days 61 through 90 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare covered Inpatient Hospital days 61 through 62. Medicare covered Inpatient Hospital days 1 through 60 do not receive a coinsurance charge in the OOPC calculations.*

[16] *The Life Reserve Days field in the RICIPE file represents a count of Medicare covered Inpatient Hospital lifetime reserve days 91 through 150 used by the beneficiary. For example, a Life Reserve Days field value of "2" translates to Medicare covered Inpatient Hospital lifetime reserve days 91 through 92.*

Medical Costs

This benefit covers the Part B coinsurance (generally 20% of the Medicare-approved payment amount) or copayment amount, which may vary according to the service. The coverage follows payment of the $100 deductible.

The benefits provided for Medical Costs, under the basic benefit for these Medigap plan provisions, are equivalent to the fee-for-service coinsurance amounts for Physician/Supplier, DME, and Outpatient claims. The calculations for these costs are summarized in Section 5.3.

Out-of-Pocket Calculation — ***Plans***

1. Using the Outpatient file, which includes all claims for outpatient utilization by Bill Type and Revenue Center Code, observations where pbp_cat = "excluded" or pbp_cat = "flu shot" were excluded. — All Exempted State Plans
2. The Outpatient claims file was merged with the file that matches HCPCs to APC National Adjusted Coinsurance amounts, which are the OOPCs for most outpatient claim line items. This file is available on the www.cms.hhs.gov/regulations/hopps/changecy2003.asp webpage. For line items where the HCPCs have an APC Coinsurance amount, these are the OOPCs[17]. For every line item with an HCPC but no match to an APC Coinsurance amount, another file lists reasons that HCPCs do not have APC values. For Reasons C, E, and N, we assume that services are either billed elsewhere, bundled under other APC rates, or not paid under outpatient services. In this case, the coinsurances were set to zero. The coinsurance amounts were also set to zero for other revenue line items with nonsensical HCPCs, or identified as HCPCs specific to local areas.
3. For Reason A, which are HCPCs not paid under OPPS, or Reason D, which includes HCPCs that were deleted since 1998, the P/S file was used to determine the median estimated OOPC amount across all HCPCs for each line item. The P/S file includes line item level data for all physician-supplier and DME utilization. The median estimated OOPC amounts were created from the median, by HCPC category, of the BETOS adjusted difference between the Allowed Charge and Medicare Payment Amount for each line item. This provides an outpatient coinsurance amount for these line items.
4. The outpatient coinsurance amounts above were summarized by both Beneficiary and claim to produce a beneficiary level outpatient coinsurance amount.
5. For those revenue items in the Outpatient claims file that do not have an HCPC or local HCPCs codes, the major Revenue Center categories are: Pharmacy, Supplies, Anesthesia, Free Standing Clinic: Rural Health, and Recovery Room. For revenue center items that are

[17] *An APC coinsurance amount is either equal to the National Unadjusted Copayment, or if missing, the National Minimum Unadjusted Copayment.*

Out-of-Pocket Calculation	*Plans*
associated with a claim that has other revenue centers with coinsurances calculated above, it is assumed that the revenue centers with missing HCPCs are packaged into other charges for the OOPCs. For claims having revenue centers with all missing HCPCs, there is no other readily available information on coinsurances or copayments. As a substitute, the Claim Level Coinsurance amount from the Outpatient file was used. This coinsurance estimate was adjusted for inflation from 1999/2000 to 2004 using an overall outpatient inflation factor obtained from OACT (see Appendix B: Inflation Factors). For line items whose HCPCs can not be mapped to a median coinsurance amount in the P/S file, the coinsurance amount was set to zero. 6. For the Physician/Supplier and DME component of Medical Costs, the P/S and the DME files were used to calculate the difference between the Allowed Charge and the Medicare Payment Amount for each line item. From the P/S and DME files, observations were included where PROCESS="A," PROCESS="R," or PROCESS="S," and where the Allowed Charges are greater than zero. Observations where pbp_cat= "excluded from analysis" or pbp_cat="flu shot – cat 14 no cost share" were also excluded. The differences were adjusted for 1999/2000 to a 2004 inflation rate using the BETOS inflation rates provided by OACT (see Appendix B: Inflation Factors). These differences were then summed across Beneficiary ID. The result is the medical/DME component of OOPCs (including the Part B deductible) for each beneficiary. 7. The medical/DME OOPCs and the outpatient coinsurance calculation are summed to the Beneficiary ID level to produce a total Part B OOPC by Beneficiary ID. 8. For these Medigap plans, the maximum of zero and the OOPCs calculated above were selected, less 100. 9. The Medigap Medical Cost benefits were then deducted from FFS Medical Costs.	

Blood

This benefit covers the first three pints of packed blood each calendar year.

Out-of-Pocket Calculation	*Plans*
Blood utilization data under Medicare is not readily available from the Cost and Use dataset. Therefore, this category was excluded from the Medigap OOPC calculations.	All Exempted State Plans

6.2.2 OPTIONAL BENEFITS

Medicare Part A Hospital Deductible

This benefit covers $840 (in 2003) per benefit period. This amount can change every year.

Out-of-Pocket Calculation

1. Exclude all events from the RICIPE file where source = "1" (Survey Only).
2. All events from the RICIPE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
3. All events from the RICIPE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
4. The deductible of $840 is then assigned to the first event for each Beneficiary.
5. For Beneficiaries with multiple events, determine if the Medicare stay event is part of the same benefit period by calculating the number of days between the first event's end date and the second event's begin date. If the difference is greater than 60 days, then a deductible ($840) was assigned to the second event. Otherwise, the second event deductible is equal to zero.
6. The Medigap Covered Amount is then deducted from the FFS cost for each event.

Plans

Massachusetts Supplemental 1, Massachusetts Supplemental 2, and Minnesota Extended Basic

SNF Coinsurance

This covers up to $105 (in 2003) per day for days 21-100 in a SNF.

Out-of-Pocket Calculation

1. All events from the RICIUE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date.
2. All events from the RICIUE file where Utilization Days are greater than zero (i.e., Utilization Days greater than zero identify events that are Medicare covered stays only) were selected.
3. If the total number of Coinsurance Days for an event is greater than zero, then the number of Coinsurance Days was multiplied by $105[18].

Plans

Massachusetts Supplemental 1, Massachusetts Supplemental 2, Minnesota Basic, Minnesota Extended Basic, and Wisconsin Basic

[18] *The Coinsurance Days field in the RICIUE file represents a count of Medicare covered SNF days 21 through 100 used by the beneficiary. For example, a Coinsurance Days field value of "2" translates to Medicare covered SNF days 21 through 22. Medicare covered SNF days 1 through 20 do not receive a coinsurance charge in the OOPC calculations.*

Out-of-Pocket Calculation	*Plans*
4. The Medigap Covered Amount is then deducted from the FFS cost for each event.	

SNF Non-Medicare Covered Stays

This benefit covers the first 30 days of non-Medicare covered skilled nursing facility care. No prior hospitalization is required.

Out-of-Pocket Calculation	*Plans*
1. Exclude all events from the RICIPE file where source = "1" (Survey Only). 2. All events from the RICIUE file where the event Begin Dates or End Dates are not missing were selected and sorted by Beneficiary, Begin Date, and End Date. 3. All events from the RICIUE file where Utilization Days are less than or equal to zero (i.e., Utilization Days less than or equal to zero identify events that are non-Medicare covered stays) were selected. 4. The number of days between the event's end date and the second event's begin date were calculated. If the difference is less than or equal to 30 days, then a zero dollar amount was assigned for the event. 5. If the difference between the Begin Dates and End Dates is greater than 30 days, then the amount out-of-pocket for the event equals the MCBS Total Expenditures divided by the difference in the begin and end dates, multiplied by the difference in the begin and end dates, less 30 days. 6. The Medigap Covered Amount is then deducted from the FFS cost for each event.	Wisconsin Basic

Medicare Part B Deductible

This benefit covers up to $100 per year.

Out-of-Pocket Calculation	*Plans*
1. It is assumed that every Beneficiary with a positive Part B covered Allowed Charge from the P/S, DME, and Outpatient files pays a $100 deductible. This assumes that the beneficiary has medical or outpatient services of at least $100. 2. It is assumed that the Part B Deductible is subsumed under the total OOPCs calculated for Physician/Supplier and DME claims. It is further assumed that if the total OOPCs for each Beneficiary are less than $100, then the deductible is equal to the OOPCs. 3. The benefit under these Medigap plans is equal to the calculated Part B Deductible.	Massachusetts Core, Massachusetts Supplemental 1, and Minnesota Extended Basic

Foreign Travel Emergency
(Emergency Care Outside the United States)

This benefit covers 80% of the cost of emergency care during the first 60 days of each trip (after the $250 deductible is paid) and a $50,000 lifetime benefit limit.

Out-of-Pocket Calculation	*Plans*
No data are available in the MCBS dataset to identify Foreign Travel costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	Massachusetts Supplemental 1, Massachusetts Supplemental 2, Minnesota Basic, and Minnesota Extended Basic

At-Home Recovery

This benefit covers the cost of at-home help with daily activities, like bathing and dressing, if the beneficiary is already receiving Medicare covered home health visits. It will pay up to $40 each visit and $1,600 each year. For Wisconsin's basic plan, the benefit covers 40 visits in addition to those paid by Medicare.

Out-of-Pocket Calculation	*Plans*
No data are available in the Cost and Use dataset to identify At-Home Recovery costs to beneficiaries. Therefore, this category was excluded from the Medigap OOPC calculations.	Minnesota Extended Basic and Wisconsin Basic

Preventive Care:

For Massachusetts (all plans), state-mandated benefits include annual pap smear tests and mammograms. For Minnesota, the two plans cover 100% of the cost of immunization and routine screening procedures for cancer.

Out-of-Pocket Calculation	*Plans*
No data are available in the Cost and Use dataset for identifying Preventive Care costs to beneficiaries. Therefore, this category is excluded from the Medigap OOPC calculations.	Massachusetts Core, Massachusetts Supplemental 1, Massachusetts Supplemental 2, Minnesota Basic and Minnesota Extended Basic

Prescription Drugs (Basic Drug Benefit)

In Massachusetts, the Supplement 2 plan pays for 100% of generic drugs and 80% of brand name drugs after a $35 deductible is paid each quarter.

Out-of-Pocket Calculation	*Plans*
1. In the RICPME file, the Total Expenditures were summed by Beneficiary. These were also adjusted upward by a uniform 1.2121 to take into account underreporting of drug utilization in the 1999 and 2000 MCBS RICMPE files. This sum equals the out-of-pocket expenditures for prescription drugs. 2. This out-of-pocket estimate is adjusted for inflation from 1999/2000 to 2004 using a drug price inflation factor obtained from OACT (see Appendix B: Inflation Factors). 3. If the sum of the Total Expenditures for a Beneficiary is greater than "140," then $140 was deducted from the Total Expenditures to get the Medigap covered amount. ***Note:*** The out-of-pocket calculation for Massachusetts Supplemental 2 Plan assumes only the 100% generic drug coverage and annualizes the $35 deductible to $140. 4. The Medigap Covered Amount was then deducted from the FFS drug cost for each event.	Massachusetts Supplemental 2

The Minnesota Extended Basic plan pays for 80% of Medicare non-covered drugs.

Out-of-Pocket Calculation	*Plans*
1. The Total Expenditures from the RICPME file were summed by Beneficiary. 2. The Total Expenditures were multiplied by .8 to get the Medigap covered amount. 3. The Medigap Covered Amount was then deducted from the FFS drug cost for each event.	Minnesota Extended Basic

The Wisconsin Basic plan pays for 80% of non-Medicare covered drug costs that exceed $6,250.

Out-of-Pocket Calculation	*Plans*
1. The Total Expenditures from the RICPME file were summed by Beneficiary. 2. If the Total Expenditures is less than or equal to $6,250 then zero was assigned as the Medigap Covered Amount. 3. If the Total Expenditures is greater than $6,250 then the Total Expenditures, less $6,250, was multiplied by .8 to get the Medigap Covered Amount. 4. The Medigap Covered Amount is then deducted from the FFS drug cost for each event.	Wisconsin Basic

Inpatient Psychiatric Care

For Massachusetts, the core plan covers 60 days per calendar year. The Supplement 1 and Supplement 2 plans cover 120 days per benefit year. For the Wisconsin Basic plan, the benefit is 175 days per lifetime inpatient psychiatric care in addition to Medicare's 190 days per lifetime.

Out-of-Pocket Calculation	*Plans*
The Inpatient Psychiatric Care additional days benefits provided by the Massachusetts Core, Massachusetts Supplemental 1, Massachusetts Supplemental 2, and Wisconsin Basic plans are not deducted from the FFS inpatient hospital costs in this version of the Medigap OOPC calculations. Inpatient Psychiatric cost utilization is not readily available from the Cost and Use dataset. In addition, Medicare inpatient hospital payment rules do not distinguish pricing between Inpatient Acute and Inpatient Psychiatric days.	Massachusetts Core, Massachusetts Supplemental 1, Massachusetts Supplemental 2, and Wisconsin Basic

Outpatient Mental Health

For the Minnesota Basic and Extended Basic plans, coverage is 50% of the approved amount for most outpatient mental health services.

Out-of-Pocket Calculation	*Plans*
Outpatient Mental Health utilization data is not readily available from the MCBS dataset. Therefore, this category is excluded from the Medigap OOPC calculations.	Minnesota Basic and Minnesota Extended Basic

Usual and Customary Fees

The Minnesota Extended Basic plan covers 80% of the Usual and Customary fees not paid by Medicare, including foreign travel.

Out-of-Pocket Calculation	*Plans*
Specific Usual and Customary Fees utilization for non-Medicare covered services are not readily available from the Cost and Use dataset. Therefore, this category is excluded from the Medigap OOPC calculations.	Minnesota Extended Basic

Minnesota Extended Basic Out-of-Pocket Limit

The Minnesota Extended Basic plan has a $1,000 annual limit on OOPCs for covered medical expenses. Once a beneficiary has reached this limit, the policy will pay for 100% of covered expenses.

1. The sum of the OOPCs for Inpatient, SNF, Drug and Medical services charges determined above were calculated by Beneficiary for the Minnesota Extended Basic plan.

2. If the sum of these costs exceeded $1,000, then OOPCs under the Minnesota Extended Basic plan equaled $1,000 plus the Beneficiary's OOPCs for dental charges.
3. If the sum of these costs did not exceed $1,000, then OOPCs under the Minnesota Extended Basic plan equaled the above OOPC sum, plus the Beneficiary's OOPCs for dental charges.

6.3 MEDIGAP PREMIUMS

A Medigap premium is applied to the Medigap OOPC calculations for each state, type of Medigap plan, and age group. We are using industry representative premiums for 2003. Many private insurers offer Medigap policies, but there is significant variation across plans in terms of premiums (e.g., underwriting, premium amounts, rating methods, etc.). The rates we are using for the Medigap OOPC calculations are (1) community rated; and (2) available nationwide. This ensures that the rates used in the OOPC calculations are real rates for plans that are actually available to beneficiaries.

The availability of Medigap policies for beneficiaries under age 65 and the associated premiums for those policies vary significantly across states; therefore, OOPCs for beneficiaries under age 65 will not be calculated in this version of the MPPF. OOPCs were not calculated for Medigap High Deductible F and J plans in this version of the MPPF.

The following is the process used to incorporate the premium amount into the OOPCs for all Medigap plans, including the three exempt states:

1. The Excel file of 2003 premiums was used to create a SAS file.
2. Where states had regional premiums, the average rate across regions for each state was calculated.
3. Plan names were then re-coded to correspond to the plan types being displayed in the MPPF.
4. Finally, each state's premiums were added to calculate the final Medigap plan OOPC estimates.

7. CALCULATION OF CHRONIC/CATASTROPHIC OUT-OF-POCKET COST ESTIMATES

The MPPF OOPC calculation methodology also estimates OOPCs that may be imposed on Medicare beneficiaries by catastrophic events or chronic illnesses. It was determined that the Diagnostic Cost Group/Hierarchical Condition Category (DCG/HCC) model developed by Health Economics Research provided useful diagnostic definitions for several candidates' chronic or catastrophic categories. The DCG/HCC model was developed by CMS to establish a risk-adjusted methodology for reimbursing M+C plans. Note that the 118 HCC category version of the model was used to map diagnosis codes into categories. These definitions were reviewed by CMS.

The approach used to calculate OOPCs for beneficiaries with Chronic/Catastrophic conditions is outlined below.

1. Utilization data for the 14,774 beneficiaries from the 1999 and 2000 MCBS cohorts were run through the version of the DCG/HCC model that includes 118 HCC categories. Beneficiaries having one or more HCCs in 1999 or 2000 were identified. These conditions are identified when a claim has a diagnosis in the Inpatient, Outpatient, or Physician Supplier claims-level files (from the MCBS Cost and Use File) that corresponds to an HCC category in the DCG/HCC model.
2. Based on these results, CMS selected the three chronic or catastrophic health categories to be included in the first version of the MPPF. The two selected chronic categories were Diabetes (HCCs 13-15) and Congestive Heart Failure-CHF (HCC 48). The selected catastrophic category was Acute Heart Condition – AHC (HCCs 50-51).
3. The descriptions for the HCC codes included in each category are listed in Table 7.1. The table also lists the number of beneficiaries from the 14,774 cohort identified with each condition.
4. The OOPCs for the Fee-for-Service, as well as each Managed Care and Medigap plan were calculated. This was done by applying the BASEIDs identified with each of the three categories to the OOPC cost algorithms described in Sections 4, 5, and 6 above. Cost estimates were then aggregated and averaged for all beneficiaries in each chronic/catastrophic category, regardless of age or health status.

TABLE 7.1

HCC CATEGORY	HCC CODE	DESCRIPTION
Diabetes (N=)	13	Diabetes with Chronic Complications or Diabetes with Acute Complications/Nonproliferative
	14	Retinopath Diabetes with No or Unspecified Complications
	15	Complications
Congestive Heart Failure (N=)	48	Congestive Heart Failure
Acute Heart Condition (N=)	50	Acute Myocardial Infarction
	51	Other Acute Ischemic Heart Disease

8. DEVELOPMENT OF DISPLAY RANGES

For each beneficiary, the OOPCs were calculated based on the utilization and costs that would incur under each M+C plan, each Medigap plan, and Medicare FFS. First, the mean cost incurred for each plan and each cell group is calculated. The FFS cost is treated as another "plan". For each plan, the mean estimate OOPC for each of the 30 age group/health status cells is then assigned to one of the eleven dollar display ranges. The MPPF is enhanced by the inclusion of mean OOPC estimates for the three selected chronic or catastrophic health categories described in Section 7 (Calculation of Chronic/Catastrophic OOPC Estimates).

In the MPPF, a beneficiary enters their zip code, age, and self-reported health status. The tool then displays the dollar range OOPC for Medicare FFS, each M+C plan serving beneficiaries in the designated zip code, and each basic Medigap Plan available in the appropriate state. Dollar ranges are also presented to show the average cost for beneficiaries with Diabetes, Chronic Heart Failure, or an Acute Heart Condition (regardless of age or health status). The ranges are displayed in increments of $50.

The following steps describe the process used to create the dollar display ranges.

1. The OOPC estimates were assigned to one of the eleven dollar display ranges according to the following divisions. The ranges represent average monthly OOPCs. The ranges were defined based on analysis of the distribution of the OOPCs.

   $0 - $50
   $51 - $100
   $101 - $150
   $151 - $200
   $201 - $250
   $251 - $300
   $301 - $350
   $351 - $400
   $401 - $450
   $451 - $500
   $501 - $550
   $551 - $600
   $601 - $649
   $650 - $699
   $700+

2. Plans with OOPCs near the "borders" of the assigned dollar ranges were reviewed and analyzed. Plans having an OOPC of $5 or less over the lower limit of its dollar range were assigned to the next lower display grouping. For example, a plan that has an OOPC of $204 was assigned to "$151 - $200" instead of "$201 - $250"; a plan that has an OOPC of $354 was assigned to "$301 - $350" instead of "$351 - $400".

3. To develop the chronic/catastrophic estimates, beneficiaries with these conditions were identified and the mean OOPC for these beneficiaries was calculated for each plan, regardless of the age/health status of the beneficiary. These means were then associated with dollar ranges as described above.

The dollar display ranges above apply to the calculated mean OOPCs. These ranges are also used to show the extreme costs persons with unexpectedly high utilization may experience. In the MPPF, for each plan and age/health status, the 95th percentile, as well as the mean, was calculated. The 95th percentile was associated with the dollar ranges as described above. For example, if a beneficiary at the 95th percentile has monthly costs of $664, the display range (rounding down to $5 increments) for this cell would be:

"$660+"

APPENDIX A: 1999 AND 2000 MCBS DOCUMENTATION

The MCBS is a continuous, multipurpose survey of a representative national sample of the Medicare population, conducted by the Office of Strategic Planning (OSP) of CMS through a contract with Westat. The central goals of the MCBS are: to determine expenditures and sources of payment for all services used by Medicare beneficiaries, including co-payments, deductibles, and non-covered services; to ascertain all types of health insurance coverage and relate coverage to sources of payment; and to trace processes over time, such as changes in health status, spending down to Medicaid eligibility, and the impacts of program changes.

There are approximately 13,000 beneficiaries in the survey. There are 21 survey files, identified by a RIC code. There are also seven claims files (Version I) 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. There are seven files that contain "event" level health care utilization information; they are: 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.

A.1 COHORT SELECTION

These MCBS files provide the beneficiary information used to screen and select the cohort.

RIC "A" File

Number of records (1999): 13,106
Number of records (2000): 13,015

This is the Administrative Summary file. This file contains historical information from the CMS Medicare enrollment database necessary to establish beneficiary status. .

RIC "PS" File

Number of records (1999): 13,106
Number of records (2000): 13,015

This is the Person Summary file. This file summarizes the utilization and expenditures by type of service and the expenditures by payer, yielding one record per person.

RIC "X" File

Number of records (1999): 13,106 (One for each sample person.)
Number of records (2000): 13,015 (One for each sample person.)

This is the Survey Cross-Sectional Weights file. This file contains cross-sectional weights, including general-purpose weights and a series of replicate weights.

RIC "K" File

Number of records (1999): 13,106 (One for each person who completed an interview.)
Number of records (2000): 13,015 (One for each person who completed an interview.)

This is the Key Record file. The Unique Person Identification Number (BASEID) identifies the person interviewed. This file contains the type of interview conducted and other variables for classifying the beneficiary.

RIC "2" File

Number of records (1999): 11,984 (One for each person who completed a community interview.)
Number of records (2000): 11,893 (One for each person who completed a community interview.)

This is the Survey Health Status and Functioning file. This file contains standard measures of Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs) as well as information about the sample person's health, including:

- Self-reported height and weight;
- Self-assessment of vision and hearing;
- Use of preventive measures such as immunizations and mammograms;
- Avoidable risk factors such as smoking; and
- History of medical conditions.

RIC "4" File

Number of records (1999): 13,106 (One for each person who completed an interview.)
Number of records (2000): 13,015 (One for each person who completed an interview.)

This is the Survey Health Insurance file. This file summarizes the health insurance information provided by the sample people including both annual and monthly indicators of health insurance coverage by Medicare, Medicaid, Health Maintenance Organizations (HMOs), Premium Hospital Insurance (PHI), and other public plans.

RIC "8" File

Number of records (1999): 36,646 (One for each interview.)
Number of records (2000): 36,061 (One for each interview.)

This is the Survey Interview file. This file summarizes the characteristics of the interview, including type of questionnaire, duration, and whether or not the interview was conducted with a proxy respondent.

RIC "9" File

Number of records (1999): 13,106 (One for each sample person.)
Number of records (2000): 13,015 (One for each sample person.)

This is the Residence Time Line file. This file tracks the movement of individuals between community, facility, and skilled nursing facility settings. While the majority of respondents have only one setting throughout the year, the records allow for up to twenty occurrences of movement between a community and a facility setting.

A.2 CLAIMS FILES LINKED TO THE 1999 AND 2000 MCBS

Seven Version I claims files are linked to the MCBS survey respondents by a unique identification number. These bill records represent services provided during calendar years 1999 and 2000 and processed by CMS. Four of the seven files were used in the development of the MPPF OOPC calculations. These MCBS files provide the utilization information for the beneficiaries in the survey. Each of the four Version I claims files used to develop the MPPF OOPCs are described below.

Home Health Bill

Number of records (1999): 3,291
Number of records (2000): 3,058

This is the Home Health Bill file. This file contains the home health bills for the MCBS population. Home health agencies generally bill on a cycle (e.g., monthly).

Outpatient Bill

Number of records (1999): 38,110
Number of records (2000): 40,020

This is the Outpatient Bill file. This file contains the outpatient bills for the MCBS population. These bills are generally Part B services that are delivered through the outpatient department of a hospital (traditionally, a Part A provider).

Physician/Supplier Bill

Number of records (1999): 363,395
Number of records (2000): 401,419

This is the Physician/Supplier Bill file. This file contains the Medicare Part B (physician, other practitioners, and suppliers including DME) claims for the MCBS population. These records reflect services such as doctor visits, laboratory tests, X-rays and other types of radiological tests, surgeries, inoculations, other services and supplies, and the use or purchase of certain medical equipment.

DME Bill

Number of records (1999): 22,954
Number of records (2000): 29,521

This is the DME file. This file contains the Medicare Part B claims for the MCBS population that involve the use or purchase of certain medical equipment.

A.3 COST AND USE DATA LINKED TO THE 1999 AND 2000 MCBS

There are sixteen types of records in the Cost and Use portion of the MCBS. These records provide use and cost information about goods and services that the beneficiaries used in calendar year 1999 and 2000, the costs associated with those services, and the share of the costs borne by all payers. Four of the sixteen records were used in the development of the MPPF-OOPC calculations. Each of the four cost and use records that were used to develop the MPPF-OOPCs are described below.

RIC "DUE" File

Number of records (1999): 13,459
Number of records (2000): 13,285

This is the Dental Events file. This file contains individual dental events for the MCBS population.

RIC "IPE" File

Number of records (1999): 5,145
Number of records (2000): 5,045

This is the Inpatient Hospital Events file. This file contains individual inpatient hospital events for the MCBS population.

RIC "IUE" File

Number of records (1999): 885
Number of records (2000): 915

This is the Institutional Events file. This file contains the individual short-term facility (usually SNF) stays for the MCBS population that were reported during a community interview or created through Medicare claims data.

RIC "PME" File

Number of records (1999): 282,039
Number of records (2000): 301,780

This is the Prescribed Medicine Event file. This file contains individual outpatient prescribed medicine events for the MCBS population.

APPENDIX B: INFLATION FACTORS

To inflate the 1999 costs on the MCBS event files and the Medicare claims to 2004 dollars, CMS provided the following inflation factors.

FISCAL YEAR	RICIPE (INPATIENT HOSPITAL)	RICIUE (SNF)	RICDUE (DENTAL PRICES)
1999	2.4%	2.7%	4.7%
2000	2.9%	3.2%	4.6%
2001	3.4%	3.7%	4.1%
2002	2.8%	3.3%	4.6%
2003	3.0%	3.1%	3.0%
2004	3.4%	3.0%	3.2%

CALENDAR YEAR	RICPME (DRUGS)		
	PRICE	UTILIZATION & INTENSITY PER CAPITA	TOTAL
1999	5.7%	12.3%	18.7%
2000	4.4%	10.6%	15.5%
2001	5.4%	8.8%	14.8%
2002	5.4%	7.8%	13.5%
2003	4.7%	7.4%	12.5%
2004	4.6%	6.6%	11.6%

FISCAL YEAR	HHA
1999	2.6%
2000	3.1%
2001	3.7%
2002	2.6%
2003	2.1%
2004	3.3%

FISCAL YEAR	OUTPATIENT
1999	4.4%
2000	1.8%
2001	3.4%
2002	2.3%
2003	3.5%
2004	3.4%

PHYSICIAN/SUPPLIER AND DME BETOS Code	1999-2004 INCREASE	2000-2004 INCREASE
D1A:Medical/surgical supplies	1.0714	1.0714
D1B:Hospital beds	1.0714	1.0714
D1C:Oxygen and supplies	1.0365	1.0370
D1D: Wheelchairs	1.0714	1.0714

PHYSICIAN/SUPPLIER AND DME BETOS Code	1999-2004 INCREASE	2000-2004 INCREASE
D1E:Other DME	1.0714	1.0714
D1F:Orthotic devices	1.0714	1.0714
I1A:Standard imaging - chest	1.0446	1.0704
I1B:Standard imaging - musculoske	1.0446	1.0704
I1C:Standard imaging - breast	1.0446	1.0704
I1D:Standard imaging - contrast g	1.0446	1.0704
I1E:Standard imaging - nuclear me	1.0446	1.0704
I1F:Standard imaging - other	1.0446	1.0704
I2A:Advanced imaging - CAT: head	1.0446	1.0704
I2B:Advanced imaging - CAT: other	1.0446	1.0704
I2C:Advanced imaging - MRI: brain	1.0446	1.0704
I2D:Advanced imaging - MRI: other	1.0446	1.0704
I3A:Echography - eye	1.0446	1.0704
I3B:Echography - abdomen/pelvis	1.0446	1.0704
I3C:Echography - heart	1.0446	1.0704
I3D:Echography - carotid arteries	1.0446	1.0704
I3E:Echography - prostate, transr	1.0446	1.0704
I3F:Echography - other	1.0446	1.0704
I4A:Imaging/procedure	1.0446	1.0704
I4B:Imaging/procedure - other	1.0446	1.0704
M1A:Office visits - new	1.0446	1.0704
M1B:Office visits - established	1.0446	1.0704
M2A:Hospital visit - initial	1.0446	1.0704
M2B:Hospital visit - subsequent	1.0446	1.0704
M2C:Hospital visit - critical car	1.0446	1.0704
M3 :Emergency room visit	1.0446	1.0704
M4A:Home visit	1.0446	1.0704
M4B:Nursing home visit	1.0446	1.0704
M5A:Specialist - pathology	1.0446	1.0704
M5B:Specialist - psychiatry	1.0446	1.0704
M5C:Specialist - opthamology	1.0446	1.0704
M5D:Specialist - other	1.0446	1.0704
M6 :Consultations	1.0446	1.0704
O1A:Ambulance	1.1073	1.0931
O1B:Chiropractic	1.0446	1.0704
O1C: Enteral and Parental	1.0322	1.0322
O1D:Chemotherapy	1.2607	1.2607
O1E:Other drugs	1.2607	1.2607
O1F:Vision, hearing and speech se	1.0714	1.0714
O1G:Influenza immunization	1.5078	1.4118
P0 :Anesthesia	1.0446	1.0704
P1A:Major procedure - breast	1.0446	1.0110
P1B:Major procedure - colectomy	1.0446	1.0704
P1C:Major procedure - cholecystec	1.0446	1.0704
P1D:Major procedure - turp	1.0446	1.0704
P1E:Major procedure - hysterctomy	1.0446	1.0704

PHYSICIAN/SUPPLIER AND DME BETOS Code	1999-2004 INCREASE	2000-2004 INCREASE
P1F:Major procedure - explor/deco	1.0446	1.0704
P1G:Major procedure - Other	1.0446	1.0704
P2A:Major procedure, cardiovascul	1.0446	1.0704
P2B:Major procedure, cardiovascul	1.0446	1.0704
P2C:Major Procedure, cardiovascul	1.0446	1.0704
P2D:Major procedure, cardiovascua	1.0446	1.0704
P2E:Major procedure, cardiovascul	1.0446	1.0704
P2F:Major procedure, cardiovascul	1.0446	1.0704
P3A:Major procedure, orthopedic -	1.0446	1.0704
P3B:Major procedure, orthopedic -	1.0446	1.0704
P3C:Major procedure, orthopedic -	1.0446	1.0704
P3D:Major procedure, orthopedic -	1.0446	1.0704
P4A:Eye procedure - corneal trans	1.0446	1.0704
P4B:Eye procedure - cataract remo	1.0446	1.0704
P4C:Eye procedure - retinal detac	1.0446	1.0704
P4D:Eye procedure - treatment	1.0446	1.0704
P4E:Eye procedure - other	1.0446	1.0704
P5A:Ambulatory procedures - skin	1.0446	1.0704
P5B:Ambulatory procedures - muscu	1.0446	1.0704
P5C:Ambulatory procedures - ingui	1.0446	1.0704
P5D:Ambulatory procedures - litho	1.0446	1.0704
P5E:Ambulatory procedures - other	1.0446	1.0704
P6A:Minor procedures - skin	1.0446	1.0704
P6B:Minor procedures - musculoske	1.0446	1.0704
P6C:Minor procedures - other (Med	1.0446	1.0704
P6D:Minor procedures - other (non	1.0446	1.0704
P7A:Oncology - radiation therapy	1.0446	1.0704
P7B:Oncology - other	1.0446	1.0704
P8A:Endoscopy - arthroscopy	1.0446	1.0704
P8B:Endoscopy - upper gastrointes	1.0446	1.0704
P8C:Endoscopy - sigmoidoscopy	1.0446	1.0704
P8D:Endoscopy - colonoscopy	1.0446	1.0704
P8E:Endoscopy - cystoscopy	1.0446	1.0704
P8F:Endoscopy - bronchoscopy	1.0446	1.0704
P8G:Endoscopy - laparoscopic chol	1.0446	1.0704
P8H:Endoscopy - laryngoscopy	1.0446	1.0704
P8I:Endoscopy - other	1.0446	1.0704
P9A:Dialysis services	1.0446	1.0704
P9B:P9B	1.0446	1.0704
T1A:Lab tests - routine venipunct	1.0373	1.0373
T1B:Lab tests - automated general	1.0373	1.0373
T1C:Lab tests - urinalysis	1.0373	1.0373
T1D:Lab tests - blood counts	1.0373	1.0373
T1E:Lab tests - glucose	1.0373	1.0373
T1F:Lab tests - bacterial culture	1.0373	1.0373
T1G:Lab tests - other (Medicare f	1.0373	1.0373

PHYSICIAN/SUPPLIER AND DME BETOS Code	1999-2004 INCREASE	2000-2004 INCREASE
T1H:Lab tests - other (non-Medica	1.0373	1.0373
T2A:Other tests - electrocardiogr	1.0373	1.0373
T2B:Other tests - cardiovascular	1.0373	1.0373
T2C:Other tests - EKG monitoring	1.0373	1.0373
T2D:Other tests - other	1.0373	1.0373
Y1 :Other - Medicare fee schedule	1.0446	1.0704
Y2 :Other - non-Medicare fee sche	1.0446	1.0704
Z1 :Local codes	1.0446	1.0704
Z2 :Undefined codes	1.0446	1.0704

APPENDIX C: OOPC DATABASE

This appendix includes the record layout for the OOPC database and a description of the files generated.

RECORD LAYOUTS

For the managedcare_oop file, there will be 30 records (6 age group records x 5 health status records) for every plan that is available in MHPC. If a plan has no data and is displayed in MHPC, there will be 30 records with code 98 (n/a). If the data is only available for 20 of the 30 combinations, then there will be 10 records added with code 98 (n/a). H0001 will be included in this file.

For the managedcare_services file, there will be 5 records for every plan available in MHPC. There will be one record for every column (there are 5 columns). H0001 will be included in this file.

For the medigap_oop file, there will be 30 records (6 age group records x 5 health status records) for every state/simple plan type combination. For all states except MA, MN and WI, the simple plan types are the same. For MA, the simple plan types are MA1, MA2, and MA3. For MN, the simple plan types are MN1 and MN2. For WI, the simple plan type is WI1.

The detailed record layouts for the files used to generate the OOPCs are shown below.

Date Updated File

FIELD NAME	FORMAT	DESCRIPTION
DATE_UPDATED	Char (10)	Current date in mm/dd/yyyy format such as 07/05/2001. Note that the dates should contain leading zeroes whenever necessary.

Please name this file DATE_UPDATED.TXT

M+C OOPC File

FIELD NAME	FORMAT	DESCRIPTION
CONTRACT_ID	Char (5)	Contract ID (i.e., H9999)
PLAN_ID	Char (3)	Plan ID (i.e., 001)
AGE	Char (1)	Age Category: 1=Under age 65 2=65-69 3=70-74 4=75-79 5=80-84 6=85 or older

FIELD NAME	FORMAT	DESCRIPTION
HEALTH	Char (1)	Health Status: 1=Excellent 2=Very Good 3=Good 4=Fair 5=Poor
OOP	Char (2)	OOPC Category: 1=$0 - $50 2=$51 - $100 3=$101 - $150 4=$151 - $200 5=$201 - $250 6=$251 - $300 7=$301 - $350 8=$351 - $400 9=$401 - $450 10=$451 - $500 11=$501 - $550 12=$551 - $600 13=$601+ 98=N/A (no data) 99=Being updated (data suppressed)
CY	Char (4)	Default to 2002

Please name this file MANAGEDCARE_OOP.TXT.

M+C Services File

FIELD NAME	FORMAT	DESCRIPTION
CONTRACT_ID	Char (5)	Contract ID (i.e., H9999)
PLAN_ID	Char (3)	Plan ID (i.e., 001)
COLUMN	Char (1)	Column in Quick Results Table: 4=Doctor Choice 5=Outpatient Prescription Drugs 6=Routine Physical Exams 7=Vision Services 8=Dental Services
COLVAL	Char (2)	Value to Display in Column: 1=Usually must see a doctor or specialist who belongs to your plan. 2=CHECKMARK for an extra cost 3=CHECKMARK 4=BLANK (i.e., No) 5=In most cases you must see a doctor or specialist who belongs to your plan 98=N/A (no data) 99=Being updated (data suppressed)
CY	Char (4)	Default to 2002

Please name this file MANAGEDCARE_SERVICES.TXT.

SAS PUT Statements for generating both files:

```
FILE 'D:\TEMP\MANAGEDCARE_OOP.TXT';
PUT @1 CONTRACT_ID +(-1) '09'x PLAN_ID +(-1) '09'x AGE +(-1) '09'x HEALTH +(-1)
'09'x OOP +(-1) '09'x CY;
FILE 'D:\TEMP\MANAGEDCARE_SERVICES.TXT';
PUT @1 CONTRACT_ID +(-1) '09'x PLAN_ID +(-1) '09'x COLUMN +(-1) '09'x COLVAL +(-
1) '09'x CY;
```

Medigap Out-of-Pocket Cost File

FIELD NAME	FORMAT	DESCRIPTION
ABBREV	Char (2)	State Abbreviation
PLANTYP	Char (3)	Simple Plan Type: All states but MN, MA, and WI: A=Medigap Plan A B=Medigap Plan B C=Medigap Plan C D=Medigap Plan D E=Medigap Plan E F=Medigap Plan F FH=Medigap Plan F - High Deductible G=Medigap Plan G H=Medigap Plan H I=Medigap Plan I J=Medigap Plan J JH=Medigap Plan J – High Deductible *Massachusetts:* MA1=Core MA2=Supplement 1 MA3=Supplement 2 *Minnesota:* MN1=Basic MN2=Extended Basic *Wisconsin:* WI1=Basic Plan Simple Plan Type to Regular Plan Type/State Abbreviation Crosswalk is available in the medigap_plantype_xwalk table under the MPPF database.
AGE	Char (1)	Age Category: 1=Under age 65 2=65-69 3=70-74 4=75-79 5=80-84 6=85 or older

FIELD NAME	FORMAT	DESCRIPTION
HEALTH	Char (1)	Health Status: 1=Excellent 2=Very Good 3=Good 4=Fair 5=Poor
OOP	Char (2)	OOPC Category: 1=$0 - $50 2=$51 - $100 3=$101 - $150 4=$151 - $200 5=$201 - $250 6=$251 - $300 7=$301 - $350 8=$351 - $400 9=$401 - $450 10=$451 - $500 11=$501 - $550 12=$551 - $600 13=$601+ 98=N/A (no data) 99=Being updated (data suppressed)
CY	Char (4)	Default to 2002

Please name this file MEDIGAP_OOP.TXT.

SAS PUT Statement for generating file:

```
FILE 'D:\TEMP\MEDIGAP_OOP.TXT';
PUT @1 ABBREV +(-1) '09'x PLANTYP +(-1) '09'x AGE +(-1) '09'x HEALTH  +(-1) '09'x
OOP +(-1) '09'x CY;
```

Out-of-Pocket Cost Legend File

FIELD NAME	FORMAT	DESCRIPTION
AGE	Char (1)	Age Category: 1=Under age 65 2=65-69 3=70-74 4=75-79 5=80-84 6=85 or older
HEALTH	Char (1)	Health Status: 1=Excellent 2=Very Good 3=Good 4=Fair 5=Poor

FIELD NAME	FORMAT	DESCRIPTION
OOP	Char (2)	OOPC Category: 1=$0 - $50 2=$51 - $100 3=$101 - $150 4=$151 - $200 5=$201 - $250 6=$251 - $300 7=$301 - $350 8=$351 - $400 9=$401 - $450 10=$451 - $500 11=$501 - $550 12=$551 - $600 13=$601+ 98=N/A (no data) 99=Being updated (data suppressed)
OOPLEGND	Char (30)	OOPC Legend: for English, $xxx to $x,xxx or $x,xxx+ for Spanish, $xxx a $x,xxx or $x,xxx+ for example, $925 to $1,215 or $1,216+ Be sure to format numbers with commas. Notice word “to.”
CY	Char (4)	Default to 2002
LANGUAGE	Char (1)	1 for English, 2 for Spanish
GROUPID	Char (2)	Group ID uniquely identifying the age and health combination. Value should be 1 thru 30.

Please name this file OOP_LEGEND.TXT.