CMS 2010 Basic Stand Alone (BSA)

Home Health Agency (HHA) Beneficiary Public Use File (PUF)

General Documentation

1.   Overview of the PUF

This release contains the Basic Stand Alone (BSA) Home Health Agency (HHA) Beneficiary Public Use File (PUF) named "*CMS 2010 BSA HHA Beneficiary PUF*" with information from 2010 Medicare HHA claims.[1] The *CMS 2010 BSA HHA Beneficiary PUF* is a beneficiary-level file in which the beneficiaries with identical information (i.e., same values for all variables of the PUF) are presented together in one record. The PUF is created from a random 5% sample of Medicare beneficiaries who had at least one HHA claim in 2010. Certain demographic and claim-related variables are provided in this PUF as detailed below.

Most variables could not be included in the *CMS 2010 BSA HHA Beneficiary PUF* because the inclusion of more information would increase the risk of identification of beneficiaries. In selecting the variables for inclusion in this PUF, priority was given to the measures most commonly reported/studied in health services research.

2.   Source Data for the PUF

The *CMS 2010 BSA HHA Beneficiary PUF* originates from a 5% simple random sample of beneficiaries drawn (without replacement) from the 100% Beneficiary Summary File for reference year 2010. The sample used for the *CMS 2010 BSA HHA Beneficiary PUF* is disjoint from the existing 5% CMS research sample[2] in the sense that there is no overlap in beneficiaries between the *CMS 2010 BSA HHA Beneficiary PUF* and the 5% CMS research sample. It is also disjoint from other *CMS 2010 BSA PUFs*. This property prevents users from linking data across multiple files for identification purposes.

The 100% Beneficiary Summary File is created annually and contains demographic, entitlement and enrollment data for beneficiaries:

   a.   who were documented as being alive for some part of the reference year of the Beneficiary Summary File, and

   b.   who were entitled to Medicare benefits during the reference year, and

---

[1] Claims with HHA services ending in 2010, defined by the "claim through date."
[2] http://www.resdac.org/tools/TBs/TN-011_How5percentMedicarefilescreated_508.pdf

c. who were enrolled in the Medicare Part A and/or Part B for at least one month in the reference year.

The 5% sample of HHA claims is created by collecting claims for the beneficiaries in the 5% random sample of beneficiaries, which contains approximately 2.5 million beneficiaries. As part of the PUF preparation steps, some beneficiaries are excluded/suppressed from the *CMS 2010 BSA HHA Beneficiary PUF*. The initial 5% sample of beneficiaries contains 2,503,543 beneficiaries. Out of those, 171,979 beneficiaries have at least one HHA claim; and the remaining 2,331,564 beneficiaries do not have any HHA claims in 2010. 897 beneficiaries are excluded because the services provided were denied by Medicare. Also, 661 beneficiaries are excluded because of data anomalies (i.e., number of HHA visits equal zero). Similarly, to increase the utility of the file, 32,084 beneficiaries who were enrolled in Fee-for-Service (FFS) Medicare Part A and B for less than twelve (12) months in 2010 are excluded. After these exclusions, 138,337 beneficiaries are included in the initial 5% sample. In addition, to protect the privacy of Medicare beneficiaries, 2068 beneficiaries are suppressed from the PUF. Table 1 below provides the total Medicare payments and the number of beneficiaries in the initial 5% sample, the suppressed file, and the *CMS 2010 BSA HHA Beneficiary PUF*.

Table 1: Suppression in CMS 2010 BSA HHA Beneficiary PUF

Category	Formula	Medicare Payments[2]	Number of Beneficiaries
Initial 5% Sample[1]	(a)	819,643,125	138,337
Suppressed	(b)	26,775,852	2,068
CMS 2010 BSA HHA Beneficiary PUF	(c) =(a)-(b)	792,867,273	136,269

(1) 897 beneficiaries are suppressed initially because of denied claims along with 661 beneficiaries excluded because of data anomalies, and 32,084 beneficiaries because of enrollment in FFS Medicare Part A and Part B for less than 12 months.
(2) The Medicare payments provided in this table are computed using actual payment amounts from the HHA claims file.

3. Content of the PUF

The most important aspects of the *CMS 2010 BSA HHA Beneficiary PUF* are as follows:

i. It contains HHA claim information for a simple random sample of 5% of the 2010 beneficiary population. Out of approximately 2.5 million beneficiaries in the 5% sample, 171,979 had HHA claims.
ii. It contains seven (7) analytic variables (in addition to a beneficiary count): Gender, age, total number of admissions, count of therapy visits, count of skilled nursing care visits, count of home health aide visits, and total Medicare payments for all HHA admissions.

Some of the variables have been aggregated or coarsened in order to protect individuals from identification while retaining the analytic value of the data.

iii. A beneficiary is only included in the PUF if the combination of all seven (7) variables is shared by at least eleven (11) beneficiaries in the population. For some combinations of values of the seven (7) variables there are fewer than eleven (11) beneficiaries in the PUF.

4. Analytic Variables of the PUF

The CMS 2010 HHA Beneficiary PUF contains eight (8) variables: A beneficiary count and seven (7) analytic variables, listed below.

i. Gender (BENE_SEX_IDENT_CD): The beneficiary's gender, (1) male or (2) female.

ii. Age (BENE_AGE_CAT_CD): The beneficiary's age, reported in six (6) categories: (1) under 65, (2) 65 - 69, (3) 70 - 74, (4) 75-79, (5) 80-84, (6) 85 and older.

iii. Total number of admissions (HHA_ADM_CD): This variable has two (2) values: (1) for beneficiaries who had one HHA admission in 2010, (2) for beneficiaries who had two or more HHA admissions in 2010.

iv. Count of therapy visits (HHA_THER_VST_CD): This variable has four (4) values: (0) for beneficiaries who had no therapy visits, (1) for beneficiaries who had 1 to 13 therapy visits, (2) for beneficiaries who had 14 to 19 therapy visits, and (3) for beneficiaries who had 20 or more therapy visits. This variable consists of physical, occupational, and speech therapy visits combined together. Refer to Table 2 for revenue center codes included in this variable.

v. Count of skilled nursing care visits (HHA_SNC_VST_CD): This variable has four values: (0) for beneficiaries who had no skilled nursing care visits, (1) for beneficiaries who had 1 to 13 visits, (2) for beneficiaries who had 14 to 19 visits, and (3) for beneficiaries who had 20 or more visits.

vi. Count of home health aide visits (HHA_HHA_VST_CD): This variable has four values: (0) for beneficiaries who had no home health aide visits, (1) for beneficiaries who had 1 to 13 visits, (2) for beneficiaries who had between 14 to 19 visits, and (3) for beneficiaries who had 20 or more visits.

Note that the HHA claims file includes other types of services covered by Medicare that are not included in the CMS 2010 BSA HHA Beneficiary PUF. Table 2 provides the categories and the revenue center codes that are included in each category.

vii. Total Medicare payment (HHA_PMT_AMT): This value is the total payments made by Medicare for the HHA claims of the beneficiary for all home health admissions including the types of services that are not included in the CMS 2010 BSA HHA Beneficiary PUF. For example, medical social services visits are not included in the CMS 2010 BSA HHA Beneficiary PUF, but the payments for such visits are included in the HHA_PMT_AMT. The values are rounded according to the rules in Table 3. Note that a payment amount between $0 and $49.99 is rounded to $0 according to the rounding rules.

The detailed definitions and frequency distributions of these variables are provided in the Data Dictionary & Codebook together with this document.

5. Analytic Utility of the PUF

The *CMS 2010 BSA HHA Beneficiary PUF* has been designed to give researchers an initial look at the CMS HHA claims. In order to preserve confidentiality, several variables have been suppressed or coarsened. The tables presented in this section are intended to increase the analytic utility by providing additional information that is not available in the PUF.

Medicare pays for beneficiaries to get certain health care services in their homes if they meet certain eligibility criteria and if the services are considered reasonable and necessary for the treatment of an illness or injury.

Table 4 through Table 9 provide comparisons of the distribution for each variable included in the PUF. For each table three different distributions are provided. The column "Population" refers to the population analogous to the column "Initial 5% sample" of Medicare beneficiaries receiving HHA care in 2010. The initial 5% sample consists of 138,337 beneficiaries after preliminary cleaning steps (see Table 1 above). The last column "PUF" refers to the 136,269 beneficiaries that remain in the PUF.

Table 10 through Table 13 provide total number of beneficiaries served, total number of visits, and Medicare payments by gender, age categories, number of admissions, and number of visits. Utilization rates such as visits per person served and Medicare payment per person served are also included.

Table 14 through Table 16 provide mean and median number of visits by gender, age categories, and categories of number of admissions. Each table gives mean and median visits for three types of care: therapy, skilled nursing and home health aide services.

Table 17 gives the distribution of beneficiaries by age and gender regardless of having an HHA claim or not. This table is provided for users interested in calculating utilization rates by age and gender. Note that, the initial 5% simple random sample of Medicare beneficiaries is comprised of 2,503,543 individuals. However, 1,009,877 beneficiaries were excluded due to enrollment in FFS Medicare Part A and Part B for less than 12 months in 2010. This subtraction is intended to eliminate the bias in utilization rates due to over- or under- representation of beneficiaries in the denominator.

Table 2: Types of Service in Home Health Agency Claims

Type of Service	Included in the PUF	Revenue Center Codes[1]
Physical Therapy Visits	Yes	0420, 0421, 0422, 0423, 0424, 0429
Occupational Therapy Visits	Yes	0430, 0431, 0432, 0433, 0434, 0439
Speech Language Therapy Visits	Yes	0440, 0441, 0442, 0443, 0444, 0449
Skilled Nursing Visits	Yes	0550,0551,0552,0559
Medical Social Services Visits	No	0560, 0561, 0562, 0569
Home Health Aide Visits	Yes	0570, 0571, 0572, 0579
Other Visits	No	0580, 0581, 0582, 0589

(1) Refer to the ResDAC website for more information:
http://www.resdac.org/ddvh/NewFilesCodeRefLimiations/REV_CNTR_TB.htm

Table 3: Rounding Rule for Total Medicare Payments

Value of Total Medicare Payment Amount ($)	Rounding Rule
0 - 1,000	Round to the nearest multiple of 100
1,000 - 5,000	Round to the nearest multiple of 500
5,000 - 20,000	Round to the nearest multiple of 1,000
Greater than 20,000	Round to the nearest multiple of 5,000

Table 4: Distribution of Beneficiaries by Gender

Gender	Population (%)	Initial 5% Sample (%)	PUF (%)
Male	35.057	35.189	34.935
Female	64.943	64.811	65.065

Note: Percentages may not add up to 100% due to rounding.

Table 5: Distribution of Beneficiaries by Age Categories

Age	Population (%)	Initial 5% Sample (%)	PUF (%)
Under 65	12.792	13.029	12.930
65-69	10.342	10.501	10.396
70-74	13.533	13.593	13.539
75-79	15.856	16.051	16.057
80-84	18.701	18.704	18.753
85 and older	28.777	28.121	28.326

Note: Percentages may not add up to 100% due to rounding.

Table 6: Distribution of Beneficiaries by Total Admissions

Total Admissions	Population (%)	Initial 5% Sample (%)	PUF (%)
1 admission	77.489	76.692	77.087
2 or more admissions	22.511	23.308	22.913

Note: Percentages may not add up to 100% due to rounding.

Table 7: Distribution of Beneficiaries by Count of Therapy Visits

Therapy Visits	Population (%)	Initial 5% Sample (%)	PUF (%)
0 visit	26.408	26.299	26.328
1 - 13 visits	42.893	42.228	42.495
14 - 19 visits	11.439	11.700	11.561
20 or more visits	19.259	19.773	19.616

Note: Percentages may not add up to 100% due to rounding.

Table 8: Distribution of Beneficiaries by Count of Skilled Nursing Care Visits

Skilled Nursing Care Visits	Population (%)	Initial 5% Sample (%)	PUF (%)
0 visit	8.656	8.682	8.615
1 - 13 visits	55.424	54.685	55.127
14 - 19 visits	9.349	9.829	9.572
20 or more visits	26.571	26.805	26.686

Note: Percentages may not add up to 100% due to rounding.

Table 9: Distribution of Beneficiaries by Count of Home Health Aide Visits

Home Health Agency Visits	Population (%)	Initial 5% Sample (%)	PUF (%)
0 visit	80.222	78.722	79.576
1 - 13 visits	11.025	11.360	11.165
14 - 19 visits	1.761	2.278	1.925
20 or more visits	6.992	7.640	7.334

Note: Percentages may not add up to 100% due to rounding.

Table 10: Person Served, Visits, and Medicare Payments by Gender

Gender	Person Served	Total Number of Visits	Visits per Person Served	Medicare Payments ($)	Medicare Payment per Person Served ($)
	(a)	(b)	(c) = (b)/(a)	(d)	(e) = (d)/(a)
Male	47,605	1,624,532	34	262,876,829	5,522
Female	88,664	3,336,880	38	529,990,444	5,978
Total	136,269	4,961,412	36	792,867,273	5,818

Table 11: Person Served, Visits, and Medicare Payments by Age

Age	Person Served	Total Number of Visits	Visits per Person Served	Medicare Payments ($)	Medicare Payment per Person Served ($)
	(a)	(b)	(c) = (b)/(a)	(d)	(e) = (d)/(a)
Under 65	17,619	666,010	38	104,664,551	5,940
65-69	14,166	443,173	31	73,274,848	5,173
70-74	18,449	606,636	33	98,910,989	5,361
75-79	21,881	768,256	35	123,223,010	5,632
80-84	25,554	955,898	37	151,023,440	5,910
85 and older	38,600	1,521,439	39	241,770,435	6,263
Total	136,269	4,961,412	36	792,867,273	5,818

Table 12: Person Served, Visits, and Medicare Payments by Number of Admissions

Number of Admissions	Person Served	Total Number of Visits	Visits per Person Served	Medicare Payments ($)	Medicare Payment per Person Served ($)
	(a)	(b)	(c) = (b)/(a)	(d)	(e) = (d)/(a)
1	105,046	3,066,082	29	485,735,951	4,624
2	24,189	1,352,600	56	218,409,444	9,029
3	5,708	422,618	74	69,154,597	12,115
4	1,108	98,243	89	16,033,858	14,471
5	180	18,006	100	2,877,048	15,984
6	35	3,484	100	586,984	16,771
7	2	291	146	38,383	19,192
8	1	88	88	31,007	31,007
Total	136,269	4,961,412	36	792,867,273	5,818

Table 13: Person Served, Visits, and Medicare Payments by Number of Visits

Number of Visits	Person Served	Total Number of Visits	Visits per Person Served	Medicare Payments ($)	Medicare Payment per Person Served ($)
	(a)	(b)	(c) = (b)/(a)	(d)	(e) = (d)/(a)
1-9	30,707	179,187	6	50,513,453	1,645
10-19	35,622	502,711	14	109,731,655	3,080
20-29	20,665	496,981	24	97,594,188	4,723
30-39	12,912	440,863	34	84,206,654	6,522
40-49	8,604	380,887	44	71,270,022	8,283
50-99	18,369	1,244,615	68	211,678,228	11,524
100 or more	9,390	1,716,168	183	167,873,074	17,878
Total	136,269	4,961,412	36	792,867,273	5,818

Table 14: Mean and Median Visits by Gender

Gender	Mean of Visits	Median of Visits	Mean of Therapy Visits	Median of Therapy Visits	Mean of Skilled Nursing Visits	Median of Skilled Nursing Visits	Mean of Home Health Aide Visits	Median of Home Health Aide Visits
Male	34.125	18	10.826	6	18.469	9	4.830	0
Female	37.635	21	12.524	8	19.001	9	6.110	0
Total	36.409	20	11.931	7	18.815	9	5.663	0

Table 15: Mean and Median Visits by Age

Age	Mean of Visits	Median of Visits	Mean of Therapy Visits	Median of Therapy Visits	Mean of Skilled Nursing Visits	Median of Skilled Nursing Visits	Mean of Home Health Aide Visits	Median of Home Health Aide Visits
Under 65	37.801	20	9.538	4	23.281	11	4.982	0
65-69	31.284	17	10.067	6	17.338	8	3.879	0
70-74	32.882	18	10.753	7	17.615	8	4.514	0
75-79	35.111	19	11.789	8	17.996	9	5.326	0
80-84	37.407	21	12.829	8	18.559	9	6.019	0
85 and older	39.416	23	13.756	9	18.527	9	7.132	0
Total	36.409	20	11.931	7	18.815	9	5.663	0

Table 16: Mean and Median Visits by Total Admission

Total Admissions	Mean of Visits	Median of Visits	Mean of Therapy Visits	Median of Therapy Visits	Mean of Skilled Nursing Visits	Median of Skilled Nursing Visits	Mean of Home Health Aide Visits	Median of Home Health Aide Visits
1 admission	29.188	16	9.200	6	15.225	7	4.763	0
2 or more admissions	60.703	45	21.120	16	30.894	22	8.689	0
Total	36.409	20	11.931	7	18.815	9	5.663	0

Table 17: Distribution of Medicare Beneficiaries in the 5% Beneficiary Summary File[1] by Age and Gender

	Under 65	65-69	70-74	75-79	80-84	85 and older	Total
Male	137,803	143,156	134,516	103,492	76,883	62,821	658,671
Female	124,963	161,987	161,969	134,288	116,687	135,101	834,995
Total	262,766	305,143	296,485	237,780	193,570	197,922	1,493,666

(1) 1,009,877 beneficiaries are excluded from the 5% sample of beneficiaries (2,503,543 beneficiaries) because of enrollment in FFS Medicare Part A and B for less than 12 months in 2010.