Medicare Hospice Utilization & Payment Public Use File: A Methodological Overview

June, 2018

Prepared by:
The Centers for Medicare and Medicaid Services,
Office of Enterprise Data and Analytics

Table of Contents

1. Background

The Hospice Utilization and Payment Public Use File (herein referred to as "Hospice PUF") presents information on services provided to Medicare beneficiaries by hospice providers. The Hospice PUF contains information on utilization, payment (allowed amount, Medicare payment and standardized payment), and submitted charges organized by 6-digit provider identification number and state. This PUF is based on information from CMS's Chronic Conditions Data Warehouse (CCW) data files. The data in the Hospice PUF contains 100% final-action (i.e., all claim adjustments have been resolved) hospice claims for the Medicare population including beneficiaries enrolled in a Medicare Advantage plan.

2. Key Data Sources

The primary data source for these data is CMS's Chronic Conditions Data Warehouse (CCW). The CCW contains Medicare enrollment and eligibility information for all beneficiaries (whether they are in the fee-for-service program or a Medicare Advantage (MA) plan, and whether or not they have a chronic condition), complete data for Part A and Part B claims, and complete data for Part D prescription drug events, among other data. The CCW Part A data files contain 100 percent of Medicare final action hospice claims for beneficiaries who are enrolled in the FFS program or an MA plan. The CCW Part A institutional claims and revenue center files, restricted to claims where the claim type code was "50" indicating that the claim was a hospice claim, were used to create the Hospice PUF.

Provider demographics are also incorporated in the Hospice PUF including name and complete address from the CMS Provider of Services (POS) file. This file is created annually and contains dozens of variables that describe the characteristics of institutional Medicare providers. Additional information regarding the POS file is available on the CMS website at: https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Provider-of-Services/index.html.

3. New for This Year

Several changes were made to the underlying CCW data files that were used to create this version of the Hospice PUF. The changes, which are explained below, have been applied to the 2014, 2015 and 2016 PUFs:

a) Timing of data release - Previous versions of the Hospice PUF relied on data files that were produced after 24 months of maturity; that is, after a full 12 months of runout after the end of each calendar year. The new version of the Hospice PUF is based on data files that are produced after 18 months of maturity (i.e., six months after the end of the calendar year).
b) Enrollment data source conversion - Historically, the Enrollment Database (EDB) has been the source for enrollment and demographic information in the Master Beneficiary Summary File (MBSF), which forms the basis for the hospice provider PUF enrollment data. However, as the Medicare benefit has become increasingly complex, the Medicare enrollment applications and

data systems have evolved. CMS has designated the Common Medicare Environment (CME) database as the single, enterprise-wide authoritative source for Medicare beneficiary enrollment and demographic data. We have transitioned the source for enrollment and demographic information in the MBSF from the EDB to the CME database.

More information on these changes can be found on the CCW website at:
https://www.ccwdata.org/web/guest/ccw-medicare-data-white-papers

4. Population

The Hospice PUF includes data for providers that had a valid identification number and submitted a Medicare Part A claim during the calendar year. The Hospice PUF provider table excludes providers with less than 11 hospice beneficiaries in calendar year.

To protect the privacy of Medicare beneficiaries, any cells containing values derived from 10 or fewer beneficiaries are suppressed in the Hospice PUF. Additionally, cells that may be used to determine the value of suppressed cells are also suppressed. Suppressed cells are indicated using an asterisk (*).

5. Aggregation

The spending and utilization data in the Hospice PUF is aggregated to the identification number for the hospice provider.

Part A claims require providers to include their 6-digit identification number. The first two characters indicate the state where the provider is located, using the Social Security Administration's state codes; the middle two characters represent the type of provider; and the last two digits are used as a counter for the providers within a given provider type.

Provider address was used to perform state level aggregation. If a hospice beneficiary had more than one hospice provider or had hospice care in more than one state during the year they are counted as a hospice beneficiary for each provider and/or state.

Claims with actual payments less than or equal to $0 and values that exceed the possible range of values were excluded.

Medicare pays hospice providers a daily rate regardless of the services provided. The daily rate differs by level of hospice care. There are four levels of hospice care: routine home care (RHC), continuous home care (CHC), inpatient respite care (IRC), and general inpatient care (GIP). Over 98% of hospice care days are RHC. The Hospice PUF includes the percent of all hospice care days that were RHC care. No further detail is provided on the other levels of hospice care days due to low counts.

Diagnoses

In this PUF, hospice beneficiaries are organized into six diagnosis categories based on their most common primary diagnosis on hospice claims i.e. the diagnosis a hospice beneficiary had for the

majority of their hospice care days in the calendar year. The six categories were developed using the single-level Clinical Classifications Software (CCS) for ICD-9 diagnosis codes available from: https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp

The 285 CCS diagnosis categories were combined into 6 categories:

1. Cancer (CCS categories 11-47),
2. Circulatory/heart (CCS categories 96-108, 114-121),
3. Dementia (CCS category 653),
4. Respiratory (CCS categories 127-134),
5. Stroke (CCS categories 109-113) and
6. Other (all other CCS categories).

Sites of Service

In this PUF, hospice beneficiaries are assigned to the site of service in which they received the majority of their hospice care in the calendar year. HCPCS codes Q5001-Q5009 were used to determine sites of service. The PUF contains hospice beneficiary counts for 6 sites of service:

1. Home (Q5001),
2. Assisted living facilities (Q5002),
3. Nursing long term care facilities (LTC) and non-skilled nursing facilities (NF) (Q5003),
4. Skilled nursing facilities (SNF) (Q5004),
5. Inpatient hospitals (Q5005),
6. Inpatient hospice facilities (Q5006) and
7. Other facilities – includes long term care hospital (Q5007), inpatient psychiatric facilities (Q5008), unknown (Q5009), and hospice home care provided in a hospice facility (Q5010)

6. Data Tables

The Hospice PUF contains two tables for each calendar year: 1) aggregated information by provider, 2) aggregated information by state

Provider Aggregate Table

The "Provider Aggregate Table" contains information on utilization and payment (provider charges, allowed amount, Medicare payment, and standard payment), and hospice beneficiary demographics organized by hospice provider.

State Aggregate Table

The "State Aggregate Table" contains information on utilization, Medicare payment, submitted charges, and hospice beneficiary demographics organized by state.

7. Data Contents

The Provider Aggregate, and State Aggregate tables include the following variables, as appropriate:

Provider ID: The 6-digit identification number for the hospice provider on the claim.

Name: The hospice provider name, as reported in the POS file.

Street Address: The hospice provider address, as reported in the POS file.

City: The city where the hospice provider is located, as reported in the POS file.

State: The state where the hospice is located, as reported in the POS file. The fifty U.S. states, the District of Columbia and Puerto Rico are reported by the state postal abbreviation.

ZIP Code: The hospice provider ZIP code, as reported in the POS file.

HRR: The hospital referral region (HRR) of the hospice provider based on provider ZIP code.

Providers: Number of distinct hospice providers providing at least one day of hospice care to a Medicare beneficiary in the calendar year

Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Total Days: Total count of hospice care days provided in the calendar year. Includes first and last day of care.

Total Medicare Payment Amount: Total amount that Medicare paid for hospice care. Hospice services do not have any cost-sharing requirements and the Medicare payment amount will equal the allowed amount.

Total Medicare Standard Payment Amount: Total amount that Medicare paid for hospice care adjusted for geographic differences in payment rates.

Total Charge Amount: Total charges that hospice providers submitted for hospice care.

Percent RHC Days: Percent of total number of hospice days that were routine home care (RHC) days. RHC days identified using Revenue Code 0651.

Physician Services: Total number of hospice care physician services provided. Physician services identified using Revenue Code 0657.

Home Health Aide Visit Hours per Day: Average number of hours per day of home health aide hospice care provided. Home health visits identified using Revenue Codes 0570, 0571, 0572 and 0579.

Skilled Nursing Visit Hours per Day: Average number of hours per day of skilled nursing hospice care provided. Skilled nursing visits identified using Revenue Codes 0550, 0551, 0552 and 0559.

Social Service Visit Hours per Day: Average number of hours per day of social services hospice care provided. Social service visits identified using Revenue Codes 0560, 0561, 0562 and 0569.

Percent of Deaths in Hospice: The percent of Medicare beneficiaries who died while receiving hospice care. This variable is available in the State Table. The denominator is the total number of Medicare decedents in the calendar year in the state.

Total Live Discharges: Number of distinct Medicare beneficiaries with live discharges from hospice care. A hospice beneficiary was considered to have a live discharge if hospice beneficiary did not die in hospice care and was not receiving hospice care. Includes live discharges for any reason including revocation.

Hospice beneficiaries with 7 or fewer hospice care days: Number of distinct Medicare beneficiaries with 7 or fewer hospice care days. Excludes hospice beneficiaries whose hospice care continued from a previous calendar year or into the next calendar year.

Hospice beneficiaries with more than 60 hospice care days: Number of distinct Medicare beneficiaries with more than 60 hospice care days.

Hospice beneficiaries with more than 180 hospice care days: Number of distinct Medicare beneficiaries with more than 180 hospice care days.

Home Health Aide Visit Hours per Day During Week Prior to Death: Average number of hours per day of home health aide hospice care provided during the seven days prior to death. Home health aide visits identified using Revenue Codes 0570, 0571, 0572 and 0579.

Skilled Nursing Visit Hours per Day During Week Prior to Death: Average number of hours per day of skilled nursing hospice care provided during the seven days prior to death. Skilled nursing visits identified using Revenue Codes 0550, 0551, 0552 and 0559.

Social Service Visit Hours per Day During Week Prior to Death: Average number of hours per day of social services hospice care provided during the seven days prior to death. Social service visits identified using Revenue Codes 0560, 0561, 0562 and 0569.

Average Age: Average age of Medicare beneficiaries using hospice care.

Male Hospice Beneficiaries: Number of distinct male Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Female Hospice Beneficiaries: Number of distinct female Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

White Hospice Beneficiaries: Number of distinct non-Hispanic white Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Black Hospice Beneficiaries: Number of distinct black or African American Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Asian Hospice Beneficiaries: Number of distinct Asian/Pacific Islander Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Hispanic Hospice Beneficiaries: Number of distinct Hispanic Medicare beneficiaries receiving at least one day of hospice care in the calendar year.

Other/Unknown Race Hospice Beneficiaries: Number of distinct Medicare beneficiaries of other race receiving at least one day of hospice care in the calendar year. This category also includes the count of American Indian/Alaska Native beneficiaries.

Medicare Advantage Hospice Beneficiaries: Number of distinct Medicare beneficiaries enrolled in Medicare Advantage for at least one month and receiving at least one day of hospice care in the calendar year.

Medicaid Eligible Hospice Beneficiaries: Number of distinct Medicare beneficiaries eligible for Medicaid for at least one month and receiving at least one day of hospice care in the calendar year.

Hospice Beneficiaries with a Primary Diagnosis of Cancer: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis of cancer. Clinical Classifications Software single level diagnosis categories 11-17 were used to define cancer diagnoses. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Hospice Beneficiaries with a Primary Diagnosis of Dementia: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis of dementia. Clinical Classifications Software single level diagnosis category 653 were used to define dementia diagnoses. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Hospice Beneficiaries with a Primary Diagnosis of Circulatory/Heart: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis of circulatory/heart disease. Clinical Classifications Software single level diagnosis categories 96-108 and 114-121 were used to define circulatory/heart diagnoses. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Hospice Beneficiaries with a Primary Diagnosis of Stroke: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis of stroke. Clinical Classifications Software single level diagnosis categories 109-113 were used to define stroke diagnoses. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Hospice Beneficiaries with a Primary Diagnosis of Respiratory: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis of respiratory disease. Clinical Classifications Software single level diagnosis categories 127-134 were used to define respiratory diagnoses. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Hospice Beneficiaries with Other Primary Diagnoses: Number of distinct Medicare beneficiaries receiving hospice care for a primary diagnosis other than cancer, dementia, circulatory/heart, stroke, or respiratory. If a hospice beneficiary had more than one primary diagnosis the most frequent diagnosis in terms of hospice care days was used.

Site-of-service Home Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days at home. HCPCS code Q5001 indicates care provided in hospice beneficiary's private residence (home).

Site-of-service Assisted Living Facility Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in an assisted living facility. HCPCS code Q5002 indicates care provided in an assisted living facility.

Site-of-service Long-term-care or non-skilled Nursing Facility Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in a long term care or non-skilled nursing facility. HCPCS code Q5003 indicates care provided in a long term care or non-skilled nursing facility.

Site-of-service Skilled Nursing Facility Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in a skilled nursing facility. HCPCS code Q5004 indicates care provided in a skilled nursing facility.

Site-of-service Inpatient Hospital Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in an inpatient hospital. HCPCS code Q5005 indicates care provided in an inpatient hospital.

Site-of-service Inpatient Hospice Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in an inpatient hospice facility. HCPCS code Q5006 indicates care provided in an inpatient hospice facility.

Site-of-service Other Facility Hospice Beneficiaries: Number of distinct Medicare beneficiaries receiving the majority of their hospice care days in a long term care hospital, psychiatric facility, home care in a hospice facility or unknown facility. HCPCS codes Q5007-Q5010 indicate care provided in other facilities.

8. Data Limitations and Notations:

Although the Hospice PUF has a wealth of payment and utilization information, the data set also has a number of limitations that are worth noting.

The PUF does not include information for claims with total Medicare payment amounts less than or equal to $0 or values that exceed the possible range of values.

The information presented in this file also does not indicate the quality of care provided by individual hospice providers. The file only contains cost and utilization information. Additionally, the data are not risk adjusted and thus do not account for difference in the underlying severity of disease of patient populations treated by providers.

The tables do not include information on length of stay, but rather days of care provided and hospice beneficiary counts. Hospice beneficiaries with very long hospice stays may be in hospice care for several years making it difficult to attribute long stays to a single calendar year.