



Medicare Fee-For-Service  
Provider Utilization & Payment Data  
Referring Durable Medical Equipment,  
Prosthetics, Orthotics and Supplies  
Public Use File:  
A Methodological Overview

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## 1. Background

The Provider Utilization and Payment Data Referring Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) Public Use File (herein referred to as “Referring Provider DMEPOS PUF”), presents information on DMEPOS products and services provided to Medicare beneficiaries ordered by physicians and other healthcare professionals. The Referring Provider DMEPOS PUF contains data on utilization, payment (allowed amount, Medicare payment and Medicare standardized payment), and submitted charges organized by National Provider Identifier (NPI), Healthcare Common Procedure Coding System (HCPCS) code and supplier rental indicator. This PUF is based on information from CMS administrative claims data for Medicare beneficiaries enrolled in the fee-for-service program available from the CMS Chronic Condition Data Warehouse ([www.ccwdata.org](http://www.ccwdata.org)). The data in the Referring Provider DMEPOS PUF covers calendar year 2013 through calendar year 2017 and contains final-action (i.e., all claim adjustments have been resolved) Part B non-institutional DMEPOS line items for the Medicare fee-for-service (FFS) population.

## 2. Key Data Sources

The data used in the Referring Provider DMEPOS PUF are based upon CMS administrative claims data for Medicare beneficiaries enrolled in the fee-for-service program. These data are available from the CMS Chronic Condition Data Warehouse (CCW), a database with 100% of Medicare enrollment and fee-for-service claims data. Claim counts, supplier counts, service counts, supplier charges, Medicare allowed amounts and payments and the supplier rental indicator are summarized from Part B non-institutional claims processed through DMEPOS Medicare Administrative Contractor (MAC) Jurisdictions (NCH Claim Type Codes '81', '82'). For additional information on the CCW, visit [www.ccwdata.org](http://www.ccwdata.org).

Referring Provider demographics are also incorporated in the Referring Provider DMEPOS PUF and include name, credentials, gender, complete address and entity type from the National Plan & Provider Enumeration System (NPPES), which CMS developed to assign unique identifiers, known as National Provider Identifiers (NPIs), to health care providers. The health care provider’s demographic information is collected at the time of enrollment and updated periodically. The demographic information provided in the Referring Provider DMEPOS PUF is based upon information extracted from NPPES as of the end of the subsequent calendar year (e.g., The 2017 Referring Provider DMEPOS PUF includes NPPES information as of the end of calendar year 2018). For additional information on NPPES, please visit <https://nppes.cms.hhs.gov/NPPES/Welcome.do>.

## 3. Population

The Referring Provider DMEPOS PUF includes aggregated data for referring providers ordering DMEPOS products and services that are rendered by suppliers during the calendar year. The data is restricted to referring providers with a valid NPI.

## 4. Aggregation

The spending and utilization data in the Referring Provider DMEPOS PUF are aggregated to the following:

- a) the NPI for the referring provider (numeric identifier registered in NPPES),
- b) the Healthcare Common Procedure Coding System (HCPCS) code of the product or service provided by the DMEPOS supplier, and
- c) the supplier rental indicator (value of either 'Y' or 'N') derived from DMEPOS supplier claims.

There can be multiple records for a given referring NPI based on the number of distinct HCPCS codes that are billed by the DMEPOS supplier. Furthermore, there can be multiple records for the same HCPCS code in cases where both rental and purchase of a product has been referred by the NPI. Data has been aggregated based on the supplier rental indicator because separate fee schedules apply for rental versus purchase of products. To protect the privacy of Medicare beneficiaries, any aggregated records which are derived from 10 or fewer claims are excluded from the Referring Provider DMEPOS PUF. Please see the section on Limitations for additional information about data redactions and suppression in the Referring Provider DMEPOS PUF.

## 5. Data Contents

### Detailed Data File

The following variables are included in the detailed Referring Provider DMEPOS PUF data file (see Appendix A for condensed version of variables included).

***referring\_npi*** – NPI for the referring provider on the DMEPOS claim.

***referring\_provider\_last\_org\_name*** – When the referring provider is registered in NPPES as an individual (entity type code='I'), this is the referring provider's last name. When the referring provider is registered as an organization (entity type code = 'O'), this is the organization name.

***referring\_provider\_first\_name*** – When the referring provider is registered in NPPES as an individual (entity type code='I'), this is the referring provider's first name. When the referring provider is registered as an organization (entity type code = 'O'), this will be blank.

***referring\_provider\_mi*** – When the referring provider is registered in NPPES as an individual (entity type code='I'), this is the referring provider's middle initial. When the referring provider is registered as an organization (entity type code = 'O'), this will be blank.

***referring\_credentials*** – When the referring provider is registered in NPPES as an individual (entity type code='I'), these are the referring provider's credentials. When the referring provider is registered as an organization (entity type code = 'O'), this will be blank.

**referring\_provider\_gender** – When the referring provider is registered in NPPES as an individual (entity type code='I'), this is the referring provider's gender. When the referring provider is registered as an organization (entity type code = 'O'), this will be blank.

**referring\_entity\_code** – Type of entity reported in NPPES. An entity code of 'I' identifies referring providers registered as individuals and an entity type code of 'O' identifies referring providers registered as organizations.

**referring\_provider\_street1** – The first line of the referring provider's street address, as reported in NPPES.

**referring\_provider\_street2** – The second line of the referring provider's street address, as reported in NPPES.

**referring\_provider\_city** – The city where the referring provider is located, as reported in NPPES.

**referring\_provider\_state** – The state where the referring provider is located, as reported in NPPES. The fifty U.S. states and the District of Columbia are reported by the state postal abbreviation. The following values are used for other areas:

'XX' = 'Unknown'  
'AA' = 'Armed Forces Central/South America'  
'AE' = 'Armed Forces Europe'  
'AP' = 'Armed Forces Pacific'  
'AS' = 'American Samoa'  
'GU' = 'Guam'  
'MP' = 'North Mariana Islands'  
'PR' = 'Puerto Rico'  
'VI' = 'Virgin Islands'  
'ZZ' = 'Foreign Country'

**referring\_provider\_zip** – The referring provider's zip code, as reported in NPPES.

**referring\_provider\_country** – The country where the referring provider is located, as reported in NPPES. The country code will be 'US' for any state or U.S. possession. For foreign countries (i.e., state values of 'ZZ'), the provider country values include the following:

AE=United Arab Emirates	IT=Italy
AG=Antigua	JP=Japan
AR=Argentina	KR=Korea
AU=Australia	KW=Kuwait
BO=Bolivia	KY=Cayman Islands
BR=Brazil	LB=Lebanon
CA=Canada	MX=Mexico
CH=Switzerland	NL=Netherlands
CN=China	NO=Norway

CO=Colombia	NZ=New Zealand
DE= Germany	PA=Panama
ES= Spain	PK=Pakistan
FR=France	RW=Rwanda
GB=Great Britain	SA=Saudi Arabia
HU= Hungary	SY=Syria
IL= Israel	TH=Thailand
IN=India	TR=Turkey
IS= Iceland	VE=Venezuela

**referring\_provider\_type** – Derived from the Medicare provider/supplier specialty code reported on all of the NPI's Part B non-institutional claims (DMEPOS and non-DMEPOS). For referring providers that have more than one Medicare specialty code reported on their claims, the Medicare specialty code associated with the largest number of services was used. Where a referring provider's NPI did not have associated Part B non-institutional claims, the taxonomy code associated with the NPI in NPPES was mapped to a Medicare specialty code using an external crosswalk published here:

<https://data.cms.gov/Medicare-Enrollment/CROSSWALK-MEDICARE-PROVIDER-SUPPLIER-to-HEALTHCARE/j75i-rw8y>. For any taxonomy codes that could not be mapped to a Medicare specialty code, the taxonomy classification description was used.

**referring\_provider\_type\_flag** – A flag variable that indicates the source of the Referring Provider Type:

"S" = Medicare Specialty Code description

"T" = Taxonomy Code Classification description

**hcpcs\_code** – HCPCS code for the specific product or service furnished by the DMEPOS supplier. Beginning with calendar year 2015 data, oral cancer drugs billed by providers using the national drug code (NDC) and previously identified with HCPCS codes beginning with 'WW' have been re-classified to the appropriate corresponding HCPCS code beginning with 'J'. For additional information on HCPCS codes, please visit <http://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/Alpha-Numeric-HCPCS.html>

**hcpcs\_description** – Description of the HCPCS code for the specific product or service furnished by the DMEPOS supplier.

**betos\_classification** - Berenson-Eggers Type of Service (BETOS) classification code assigned to the HCPCS code. The BETOS coding system consists of readily understood clinical categories that permit objective assignment of HCPCS codes.

**betos\_classification\_group** - High level grouping of the BETOS classifications into three groups including Durable Medical Equipment (BETOS codes: D1A, D1B, D1C, D1D, D1E, D1G), Prosthetic and Orthotic Devices (D1F), and Drugs and Nutritional Products (O1C, O1D, O1E, O1G and all other unclassified codes).

**supplier\_rental\_indicator** - Identifies whether the DMEPOS product/service submitted on the supplier's claim is rental or non-rental. A value of 'Y' indicates rental. A value of 'N' indicates non-rental. The

indicator is derived from either the first or second HCPCS modifier on the supplier's claim line item having a value of 'RR'.

***number\_of\_suppliers*** – Number of suppliers rendering DMEPOS products/services ordered by the referring provider.

***number\_of\_supplier\_beneficiaries*** – Number of beneficiaries associated with the supplier DMEPOS products/services ordered by the referring provider. Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries.

***number\_of\_supplier\_claims*** – Number of DMEPOS claims submitted by the supplier, reflecting products/services ordered by the referring provider. Aggregated records based on *number\_of\_supplier\_claims* fewer than 11 are not included in the data file.

***number\_of\_supplier\_services*** – Number of DMEPOS products/services rendered by the supplier; note that the metrics used to count the number provided can vary from service to service.

***avg\_supplier\_submitted\_charge*** – Average of the charges that suppliers submit for DMEPOS products/services. Total submitted charges can be calculated by multiplying the *avg\_supplier\_submitted\_charge* by the *number\_of\_supplier\_services*.

***avg\_supplier\_medicare\_allow\_amt*** – Average Medicare allowed amounts for the DMEPOS product/service rendered by suppliers. Medicare allowed amounts includes the amount Medicare pays, the deductible and coinsurance amounts that the beneficiary is responsible for paying, and any amounts that a third party is responsible for paying. Total Medicare allowed amounts can be calculated by multiplying the *avg\_supplier\_medicare\_allow\_amt* by the *number\_of\_supplier\_services*.

***avg\_supplier\_medicare\_pmt\_amt*** – Average amount that Medicare paid suppliers after deductible and coinsurance amounts have been deducted for the line item DMEPOS product/service. Total Medicare payment amounts can be calculated by multiplying the *avg\_supplier\_medicare\_pmt\_amt* by the *number\_of\_supplier\_services*.

***avg\_supplier\_medicare\_std\_amt*** – Average amount that Medicare paid after beneficiary deductible and coinsurance amounts have been deducted for the line item DMEPOS product/service and after standardization of the Medicare payment has been applied. Standardization removes geographic differences in payment rates for individual product/services and makes Medicare payments across geographic areas comparable. Please refer to the "Additional Information" section of this document for more details on the standardization of Medicare payments. **Note:** This variable is available starting with the calendar year 2014 data.

## Summary Tables

Two summary type tables have been created to supplement the information reported in the Referring Provider DMEPOS PUF: 1) aggregated information by referring provider (NPI) and 2) aggregated information by State/National and HCPCS code. The aggregated reports are not restricted to the redacted data reported in the Referring Provider DMEPOS PUF but are aggregated based on all Medicare Part B non-institutional DMEPOS claims.

### Medicare Referring Provider Aggregate Table

The “Medicare Referring Provider DMEPOS NPI Aggregate table” contains information on utilization, payment (allowed amount, Medicare payment, and Medicare standardized payment), and submitted charges organized by Referring Provider NPI. Separate sub totals for durable medical equipment services, prosthetic and orthotic services and drug and nutritional services are included in addition to overall utilization, payment and charges. In addition, beneficiary demographic and health characteristics are provided which include age, sex, race, Medicare and Medicaid entitlement, chronic conditions and risk scores.

The following variables correspond to the same variables reported in the detailed Referring Provider DMEPOS PUF. See “Section 5. Data Contents” above for descriptions:

#### ***Referring NPI***

***Referring Provider Last Name / Organization Name***

***Referring Provider First Name***

***Referring Provider Middle Initial***

***Referring Provider Credentials***

***Referring Provider Gender***

***Referring Provider Entity Code***

***Referring Provider Street 1***

***Referring Provider Street 2***

***Referring Provider City***

***Referring Provider State***

***Referring Provider Zip***

***Referring Provider Country***

***Referring Provider Type***

***Referring Provider Type Flag***

The following variables are specific to the “Medicare Referring Provider DMEPOS NPI Aggregate table” (see Appendix A for condensed version of variables included).

***Referring Provider RUCA*** - The referring provider’s Rural-Urban Commuting Area Codes (RUCAs) based on zip code. RUCAs are a Census tract-based classification scheme that utilizes the standard Bureau of Census Urbanized Area and Urban Cluster definitions in combination with work commuting information

to characterize all of the nation's Census tracts regarding their rural and urban status and relationships. The Department of Agriculture (USDA) 2010 Rural-Urban Commuting Area Codes available at: <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx>. The urban classification was defined using RUCA codes: 1-3 and rural classification was defined using 4-10. **Note:** This variable is available starting with the calendar year 2017 data.

**Number of Suppliers** - Number of suppliers rendering products/services billed through DMEPOS MACs.

**Number of Supplier HCPCS** - Total number of unique DMEPOS product/service HCPCS codes billed by suppliers and ordered by the referring provider.

**Number of Supplier Beneficiaries** - Total number of unique beneficiaries associated with DMEPOS claims submitted by suppliers and ordered by the referring provider. Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries.

**Number of Supplier Claims** - Total number of DMEPOS claims submitted by suppliers, reflecting products/services ordered by the referring provider. Aggregated records based on *Number of Supplier Claims* fewer than 11 are not included in the data file.

**Number of Supplier Services** - Total DMEPOS products/services rendered by suppliers and ordered by the referring provider.

**Supplier Submitted Charges** - The total charges that suppliers submitted for all DMEPOS products/services ordered by the referring provider.

**Supplier Medicare Allowed Amount** - The Medicare allowed amount for all DMEPOS products/services ordered by the referring provider. This figure is the sum of the amount Medicare pays, the deductible and coinsurance amounts that the beneficiary is responsible for paying, and any amounts that a third party is responsible for paying.

**Supplier Medicare Payment Amount** - Amount that Medicare paid after deductible and coinsurance amounts have been deducted for all supplier's DMEPOS line item products/services ordered by the referring provider.

**Supplier Medicare Standard Payment Amount** - Amount that Medicare paid after beneficiary deductible and coinsurance amounts have been deducted for the line item DMEPOS products/services and after standardization of the Medicare payment has been applied. Standardization removes geographic differences in payment rates for individual product/services and makes Medicare payments across geographic areas comparable. Please refer to the "Additional Information" section of this document for more details on the standardization of Medicare payments. **Note:** This variable is available starting with the calendar year 2014 data.

**Durable Medical Equipment Suppression Indicator** - A flag indicating the reason the utilization, charge and payment subtotal information for Durable Medical Equipment is suppressed.

“\*” = Primary suppressed due to *Number of Durable Medical Equipment Claims* between 1 and 10.

“#” = Counter suppressed because the claim count from at least one of the corresponding claim count categories (*Number of Prosthetic and Orthotic Claims* or *Number of Drug and Nutritional Products Claims*) is between 1 and 10. Counter suppression prevents the disclosure of a primary suppressed value when all categories sum to the total value.

**Number of Durable Medical Equipment Suppliers** - Number of suppliers rendering durable medical equipment products/services. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Number of Durable Medical Equipment HCPCS** – Total number of unique durable medical equipment HCPCS codes billed by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Number of Durable Medical Equipment Beneficiaries** - Total number of unique beneficiaries associated with durable medical equipment claims submitted by suppliers and ordered by the referring provider. Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Number of Durable Medical Equipment Claims** - Total number of durable medical equipment claims submitted by suppliers, reflecting services ordered by the referring provider. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Number of Durable Medical Equipment Services** – Total durable medical equipment products/services rendered by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Durable Medical Equipment Submitted Charges** – The total charges that suppliers submitted for all durable medical equipment products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Durable Medical Equipment Medicare Allowed Amount** – The Medicare allowed amount for all durable medical equipment products/services ordered by the referring provider. This figure is the sum of the amount Medicare pays, the deductible and coinsurance amounts that the beneficiary is responsible for paying, and any amounts that a third party is responsible for paying. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Durable Medical Equipment Medicare Payment Amount** – Amount that Medicare paid after deductible and coinsurance amounts have been deducted for all supplier's durable medical equipment line item products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data.

**Durable Medical Equipment Medicare Standard Payment Amount** – Amount that Medicare paid after beneficiary deductible and coinsurance amounts have been deducted for all supplier's durable medical equipment line item products/services and after standardization of the Medicare payment has been applied. Standardization removes geographic differences in payment rates for individual product/services and makes Medicare payments across geographic areas comparable. A blank indicates the value is suppressed. See *Durable Medical Equipment Suppression Indicator* regarding suppression of data. Please refer to the "Additional Information" section of this document for more details on the standardization of Medicare payments. **Note:** This variable is available starting with the calendar year 2014 data.

**Prosthetic and Orthotic Suppression Indicator** – A flag indicating the reason the utilization, charge and payment subtotal information for Prosthetics and Orthotics is suppressed.

“\*” = Primary suppressed due to *Number of Prosthetic and Orthotic Claims* between 1 and 10.

“#” = Counter suppressed because the claim count from at least one of the corresponding claim count categories (*Number of Durable Medical Equipment Claims* or *Number of Drug and Nutritional Products Claims*) is between 1 and 10. Counter suppression prevents the disclosure of a primary suppressed value when all categories sum to the total value.

**Number of Prosthetic and Orthotic Suppliers** – Number of suppliers rendering prosthetic and orthotic products/services. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Number of Prosthetic and Orthotic HCPCS** - Total number of unique prosthetic and orthotic HCPCS codes billed by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Number of Prosthetic and Orthotic Beneficiaries** - Total number of unique beneficiaries associated with prosthetic and orthotic claims submitted by suppliers and ordered by the referring provider. Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Number of Prosthetic and Orthotic Claims** – Total number of prosthetic and orthotic claims submitted by suppliers, reflecting products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Number of Prosthetic and Orthotic Services** – Total prosthetic and orthotic products/services rendered by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Prosthetic and Orthotic Submitted Charges** – The total charges that suppliers submitted for all prosthetic and orthotic products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Prosthetic and Orthotic Medicare Allowed Amount** – The Medicare allowed amount for all prosthetic and orthotic products/services ordered by the referring provider. This figure is the sum of the amount Medicare pays, the deductible and coinsurance amounts that the beneficiary is responsible for paying, and any amounts that a third party is responsible for paying. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Prosthetic and Orthotic Medicare Payment Amount** – Amount that Medicare paid after deductible and coinsurance amounts have been deducted for all supplier prosthetic and orthotic line item products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data.

**Prosthetic and Orthotic Medicare Standard Payment Amount** – Amount that Medicare paid after beneficiary deductible and coinsurance amounts have been deducted for all supplier's prosthetic and orthotic line item products/services and after standardization of the Medicare payment has been applied. Standardization removes geographic differences in payment rates for individual product/services and makes Medicare payments across geographic areas comparable. A blank indicates the value is suppressed. See *Prosthetic and Orthotic Suppression Indicator* regarding suppression of data. Please refer to the "Additional Information" section of this document for more details on the standardization of Medicare payments. **Note:** This variable is available starting with the calendar year 2014 data.

**Drug and Nutritional Suppression Indicator** - A flag indicating the reason the utilization, charge and payment subtotal information for Drug and Nutritional products is suppressed.

“\*” = Primary suppressed due to *Number of Drug and Nutritional Products Claims* between 1 and 10.

“#” = Counter suppressed because the claim count from at least one of the corresponding claim count categories (*Number of Durable Medical Equipment Claims* or *Number of Orthotic and Prosthetic Claims*) is between 1 and 10. Counter suppression prevents the disclosure of a primary suppressed value when all categories sum to the total value.

**Number of Drug and Nutritional Products Suppliers** – Number of suppliers rendering drug and nutritional products/services. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Number of Drug and Nutritional Products HCPCS** – Total number of unique drug and nutritional product HCPCS codes billed by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Number of Drug and Nutritional Products Beneficiaries** – Total number of unique beneficiaries associated with drug and nutritional product claims submitted by suppliers and ordered by the referring provider. Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Number of Drug and Nutritional Products Claims** – Total number of drug and nutritional product claims submitted by suppliers, reflecting services ordered by the referring provider. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Number of Drug and Nutritional Products Services** – Total drug and nutritional products/services rendered by suppliers and ordered by the referring provider. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Drug and Nutritional Products Submitted Charges** – The total charges that suppliers submitted for drug and nutritional products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Drug and Nutritional Products Medicare Allowed Amount** - The Medicare allowed amount for drug and nutritional products/services ordered by the referring provider. This figure is the sum of the amount Medicare pays, the deductible and coinsurance amounts that the beneficiary is responsible for paying, and any amounts that a third party is responsible for paying. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Drug and Nutritional Products Medicare Payment Amount** – Amount that Medicare paid suppliers after deductible and coinsurance amounts have been deducted for drug and nutritional line item products/services ordered by the referring provider. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data.

**Drug and Nutritional Products Medicare Standard Payment Amount** - Amount that Medicare paid after beneficiary deductible and coinsurance amounts have been deducted for all supplier's drug and nutritional line item products/services and after standardization of the Medicare payment has been applied. Standardization removes geographic differences in payment rates for individual product/services and makes Medicare payments across geographic areas comparable. A blank indicates the value is suppressed. See *Drug and Nutritional Suppression Indicator* regarding suppression of data. Please refer to the "Additional Information" section of this document for more details on the standardization of Medicare payments. **Note:** This variable is available starting with the calendar year 2014 data.

**Average Age of Beneficiaries** – Average age of beneficiaries. Beneficiary age is calculated at the end of the calendar year or at the time of death. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries Age Less 65** – Number of beneficiaries under the age of 65. Beneficiary age is calculated at the end of the calendar year or at the time of death. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries Age 65 to 74** – Number of beneficiaries between the ages of 65 and 74. Beneficiary age is calculated at the end of the calendar year or at the time of death. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries Age 75 to 84** – Number of beneficiaries between the ages of 75 and 84. Beneficiary age is calculated at the end of the calendar year or at the time of death. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries Age Greater 84** – Number of beneficiaries over the age of 84. Beneficiary age is calculated at the end of the calendar year or at the time of death. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Female Beneficiaries** – Number of female beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Male Beneficiaries** – Number of male beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Non-Hispanic White Beneficiaries<sup>1</sup>** – Number of non-Hispanic white beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Black or African American Beneficiaries<sup>1</sup>** – Number of non-Hispanic black or African American beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Asian Pacific Islander Beneficiaries<sup>1</sup>** – Number of Asian Pacific Islander beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

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<sup>1</sup> Race/ethnicity information is based on the variable RTI\_RACE\_CD from the CMS CCW enrollment database. The RTI\_RACE\_CD variable is based upon a validated algorithm that uses Census surname lists and geography to improve the accuracy of race/ethnicity classification, particularly for those who are Hispanic or Asian/Pacific Islanders.

**Number of Hispanic Beneficiaries<sup>1</sup>** – Number of Hispanic beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of American Indian/Alaska Native Beneficiaries<sup>1</sup>** – Number of American Indian or Alaska Native beneficiaries. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries With Race Not Elsewhere Classified<sup>1</sup>** – Number of beneficiaries with race not elsewhere classified. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries With Medicare Only Entitlement** – Number of Medicare beneficiaries qualified to receive Medicare only benefits. Beneficiaries are classified as Medicare only entitlement if they received zero months of any Medicaid benefits (full or partial) in the given calendar year. **Note:** This variable is available starting with the calendar year 2015 data.

**Number of Beneficiaries With Medicare & Medicaid Entitlement** – Number of Medicare beneficiaries qualified to receive Medicare and Medicaid benefits. Beneficiaries are classified as Medicare and Medicaid entitlement if in any month in the given calendar year they were receiving full or partial Medicaid benefits. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Atrial Fibrillation<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithm for atrial fibrillation. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Alzheimer's Disease or Dementia<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithm for Alzheimer's, related disorders, or dementia. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Asthma<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithm for Asthma. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Cancer<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithms for cancer. Includes breast cancer, colorectal cancer, lung cancer and prostate cancer. **Note:** This variable is available starting with the calendar year 2015 data.

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<sup>2</sup> To protect the privacy of Medicare beneficiaries, the number of beneficiaries fewer than 11 have been suppressed and the percent of beneficiaries between 75% and 100% have been top-coded at 75%. Information on source data is available from the CMS Chronic Conditions Warehouse (CCW), [www.ccwdata.org](http://www.ccwdata.org).

***Percent (%) of Beneficiaries Identified With Heart Failure<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for heart failure. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Chronic Kidney Disease<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for chronic kidney disease. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Chronic Obstructive Pulmonary Disease<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for chronic obstructive pulmonary disease. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Depression<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for depression. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Diabetes<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for diabetes. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Hyperlipidemia<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for hyperlipidemia. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Hypertension<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for hypertension. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Ischemic Heart Disease<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for ischemic heart disease. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Osteoporosis<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for osteoporosis. **Note:** This variable is available starting with the calendar year 2015 data.

***Percent (%) of Beneficiaries Identified With Rheumatoid Arthritis / Osteoarthritis<sup>2</sup>*** – Percent of beneficiaries meeting the CCW chronic condition algorithm for rheumatoid arthritis/osteoarthritis. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Schizophrenia / Other Psychotic Disorders<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithm for schizophrenia and other psychotic disorders. **Note:** This variable is available starting with the calendar year 2015 data.

**Percent (%) of Beneficiaries Identified With Stroke<sup>2</sup>** – Percent of beneficiaries meeting the CCW chronic condition algorithm for stroke. **Note:** This variable is available starting with the calendar year 2015 data.

**Average HCC Risk Score of Beneficiaries** – Average Hierarchical Condition Category (HCC) risk score of beneficiaries. Please refer to the “Additional Information” section of this document for more details on HCC risk scores. **Note:** This variable is available starting with the calendar year 2015 data.

### Medicare National/State HCPCS Aggregate Tables

The “Medicare National/State DMEPOS HCPCS Aggregate tables” contain information on utilization, payment (allowed amount, Medicare payment, and Medicare standardized payment), and submitted charges organized by HCPCS and supplier rental indicator in the national table and organized by referring provider state, HCPCS and supplier rental indicator in the state table.

More detailed information on the Medicare State/National Aggregate Tables are provided in the “Methodology” and “Documentation” tabs of each data file.

## 6. Data Limitations:

Although the Referring Provider DMEPOS PUF has a wealth of payment and utilization information about many Medicare Part B DMEPOS products and services, the dataset also has a number of limitations that are worth noting.

First, the data in the Referring Provider DMEPOS PUF may not be representative of the provider’s referring DMEPOS habits for the entire practice. The data in the file only has information for Medicare beneficiaries with Part B FFS coverage, but providers typically refer many other patients who do not have that form of coverage. The Referring Provider DMEPOS PUF does not have any information on patients who are not covered by Medicare, such as those with coverage from other federal programs (like the Federal Employees Health Benefits Program or Tricare), those with private health insurance (such as an individual policy or employer-sponsored coverage), or those who are uninsured. Even within Medicare, the Referring Provider DMEPOS PUF does not include information for patients who are enrolled in any form of Medicare Advantage plan.

The information presented in this file also does not indicate the quality of care provided by individual providers. The file only contains cost and utilization information, and for the reasons described in the preceding paragraph, the volume of products and services presented may not be fully inclusive of all products and services referred by the provider.

Medicare allowed amounts and Medicare payments for a given HCPCS code can vary based on a number of factors, including modifiers, geography, and other services performed during the same day/visit. For example, in some cases modifiers impact allowed amounts and payments. While we have accounted for the rental versus purchase of DMEPOS products by aggregating these separately in the Referring Provider DMEPOS PUF, other modifiers (which signal a change in how the HCPCS code for the product or service should be applied) may impact allowed amounts and payments and have not been accounted for. In addition, allowed amounts and payments vary geographically because Medicare makes adjustments for most services based on an area's cost of living. For standard payment and allowed amount rates by CPT/HCPCS code, please go to <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSFeeSched/index.html>.

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 referring providers. However, we have provided average beneficiary risk scores in the "Medicare Referring Provider DMEPOS NPI Aggregate Table" (i.e., one record per NPI) to provide information on the health status of the beneficiaries the providers serve. Also, since the data presented are summarized from actual DMEPOS claims received from suppliers and no attempts were made to modify any data (i.e., no statistical outliers were removed or truncated), in rare instances the average submitted charge amount may reflect errors included on claims submitted by suppliers.

As noted earlier, the file does not include data for products or services that were performed on 10 or fewer claims, so users should be aware that summing the data in the file may underestimate the true Part B FFS DMEPOS totals that are ordered by the referring provider.

Finally, if users try to link provider data (note: it is not possible to link by beneficiary) from this file to other public datasets, please be aware of the particular Medicare populations included and timeframes used in each file that will be merged. For example, efforts to link the Referring Provider DMEPOS PUF data to the Physician and Other Supplier PUF data would need to account for the fact that some providers (e.g. nurse practitioners/physician assistants) may refer DMEPOS products and services but may not necessarily render services as the performing NPI in the Physician and Other Supplier PUF. Also, efforts to link the Referring Provider DMEPOS PUF data to Part D prescription drug data would need to account for the fact that some beneficiaries who have FFS Part B coverage (and are thus included in the Referring Provider DMEPOS PUF) do not have Part D drug coverage (and thus not represented in Part D data files). At the same time, some beneficiaries that have Part D coverage (and are thus included in the Part D data) do not have FFS Part B coverage (and thus not included in the Referring Provider DMEPOS PUF). Another example would be linking to data constructed from different or non-aligning time periods, such as publically available data on physician referral patterns, which is based on an 18-month period.

### **Redaction and Suppression**

As previously stated, the Referring Provider DMEPOS PUF detail file does not include products/services with fewer than 11 DMEPOS claims, so users should be aware that summing data in the detail file will

underestimate the true total for all DMEPOS products and services. In addition, in the detail file as well as the summary tables, beneficiary counts, claim counts, charges and payments are suppressed if the value is between 1 and 10 and also may be removed for counter-suppression purposes. Since total claim counts are available on the files and some subgroups (e.g., durable medical equipment, prosthetics and orthotics, and drug and nutritional products) sum to the total claim count, if one of the sub-group categories is suppressed because it has a claim count between 1 and 10 (primary suppression), then the next lowest claim count sub-group category must be counter-suppressed to prevent disclosure of this primary suppressed value. Since only one sub-group category is suppressed, you can mathematically determine it using the values from the other claim count categories and the total claim count information. To help users understand the reasons for suppression, suppression flag variables are included.

Suppressed values represent values 1 to 10 and are indicated by a “blank” in the data files. When analyzing the data, users should note that excluding the suppressed values will result in estimates that are different from the true values. If users choose to retain the suppressed values in their analysis, please note that most statistical software packages will treat the “blanks” as “zeroes”, resulting in underestimates of the true values. Alternatively, users may assign an imputed value of their choosing, e.g. five (5), for a primary-suppressed value.

## 7. Additional Information

**Other Data Sources:** CMS also releases the “Medicare Fee-For-Service Public Provider Enrollment Data” that include provider name and address information from the Provider Enrollment and Chain Ownership System (PECOS). These data are updated on a quarterly basis and are available at [data.cms.gov](https://data.cms.gov).

**Medicare Standardized Spending:** Users can find more information on Medicare payment standardization by referring to the “Geographic Variation Public Use File: Technical Supplement on Standardization” available within the “Related Links” section of the following web page: [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV\\_PUF.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF.html).

**HCCs (hierarchical condition categories):** CMS developed a risk-adjustment model that uses HCCs (hierarchical condition categories) to assign risk scores. Those scores estimate how beneficiaries’ FFS spending will compare to the overall average for the entire Medicare population. The average risk scores of beneficiaries represented in each calendar year of the DMEPOS PUF data are provided in Appendix B. Beneficiaries with scores greater than the average risk score are expected to have above-average spending, and vice versa. Risk scores are based on a beneficiary’s age and sex; whether the beneficiary is eligible for Medicaid, first qualified for Medicare on the basis of disability, or lives in an institution (usually a nursing home); and the beneficiary’s diagnoses from the previous year.

The HCC model was designed for risk adjustment on larger populations, such as the enrollees in an MA plan, and generates more accurate results when used to compare groups of beneficiaries rather than

individuals. For more information on the HCC risk score, see: <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html>.

## **8. Updates:**

### **June 2019 Updates**

We have updated the Medicare Referring Provider DMEPOS NPI Aggregate table to include the referring provider's RUCA code. The RUCA code is determined using the referring provider's zip code. This update begins with calendar year 2017 data. Previous year's data have not been re-published to include this update.

### **April 2017 Updates**

We have updated the Medicare Referring Provider DMEPOS NPI Aggregate table (i.e. one record per NPI) demographic and health information associated with the provider's beneficiary panel. This provider-level summary now includes aggregated information on beneficiary age, sex, race, Medicare and Medicaid entitlement, sixteen (16) chronic conditions and risk scores. In addition, oral cancer drugs billed by providers using the national drug code (NDC) and previously identified with HCPCS codes beginning with 'WW' have been re-classified to the appropriate corresponding HCPCS code beginning with 'J' in the Referring Provider DMEPOS PUF and the National/State HCPCS Aggregate Summaries.

These updates begin with calendar year 2015 data. Previous year's data have not been re-published to include these updates.

### **November 2017 Updates**

We have updated the Referring Provider DMEPOS PUF and all the supplemental summary tables to include Medicare standardized payment amounts. Standardization removes geographic differences in payment rates for individual services and makes Medicare payments across geographic areas comparable.

These updates begin with calendar year 2014 data. Previous year's data have not been re-published to include standardized Medicare payments amounts

### **November 2015 Updates**

We have updated the Referring Provider DMEPOS PUF and the Medicare National/State DMEPOS HCPCS Aggregate tables to include the number of beneficiaries associated with supplier DMEPOS claims. In addition, the Medicare Referring Provider DMEPOS NPI Aggregate table now includes the overall number of beneficiaries associated with supplier DMEPOS claims as well as the number of beneficiaries within each of the sub-groups (durable medical equipment services, prosthetic and orthotic services and drug and nutritional services). Beneficiary counts fewer than 11 have been suppressed to protect the privacy of Medicare beneficiaries.

## APPENDIX A – File Attributes

Table 1. NPI / HCPCS / Rental Indicator Detail File Layout

Variable	Format	Length	Label	Data Year Begin Date
referring_npi	Char	10	National Provider Identifier	2013
referring_provider_last_org_name	Char	70	Last Name/Organization Name of the Referring Provider	2013
referring_provider_first_name	Char	20	First Name of the Referring Provider	2013
referring_provider_mi	Char	1	Middle Initial of the Referring Provider	2013
referring_credentials	Char	20	Credentials of the Referring Provider	2013
referring_provider_gender	Char	1	Gender of the Referring Provider	2013
referring_entity_code	Char	1	Entity Type of the Referring Provider	2013
referring_provider_street1	Char	55	Street Address 1 of the Referring Provider	2013
referring_provider_street2	Char	55	Street Address 2 of the Referring Provider	2013
referring_provider_city	Char	40	City of the Referring Provider	2013
referring_provider_state	Char	2	State Code of the Referring Provider	2013
referring_provider_zip	Char	20	Zip Code of the Referring Provider	2013
referring_provider_country	Char	2	Country Code of the Referring Provider	2013
referring_provider_type	Char	91	Provider Type of the Referring Provider	2013
referring_provider_type_flag	Char	1	Flag Identifying the Source of the Provider Type	2013
hcpcs_code	Char	5	HCPCS Code	2013
hcpcs_description	Char	240	Description Associated With the HCPCS Code	2013
betos_classification	Char	36	BETOS Classification Associated With the HCPCS Code	2013
betos_classification_group	Char	31	High Level BETOS Classification Group	2013
supplier_rental_indicator	Char	1	Indicator Identifying Products as Rental or Non-rental	2013
number_of_suppliers	Num	8	Number of Suppliers Rendering DMEPOS Products/Services	2013
number_of_suppliers_beneficiaries	Num	8	Number of Beneficiaries Associated with Supplier DMEPOS Claims	2013
number_of_supplier_claims	Num	8	Number of Supplier DMEPOS Claims	2013
number_of_supplier_services	Num	8	Number of Supplier DMEPOS Services	2013
avg_supplier_submitted_charge	Num	8	Average Charges that Suppliers Submitted for DMEPOS	2013
avg_supplier_medicare_allow_amt	Num	8	Average Medicare Allowed Amounts for DMEPOS	2013
avg_supplier_medicare_pmt_amt	Num	8	Average Medicare Payments for DMEPOS	2013
avg_supplier_medicare_std_amt	Num	8	Average Medicare Standardized Payments for DMEPOS	2014

Table 2. NPI Summary File Layout

Variable	Format	Length	Label	Data Year Begin Date
Referring NPI	Char	10	National Provider Identifier	2013
Referring Provider Last Name / Organization Name	Char	70	Last Name/Organization Name of the Referring Provider	2013
Referring Provider First Name	Char	20	First Name of the Referring Provider	2013
Referring Provider Middle Initial	Char	1	Middle Initial of the Referring Provider	2013
Referring Provider Credentials	Char	20	Credentials of the Referring Provider	2013
Referring Provider Gender	Char	1	Gender of the Referring Provider	2013
Referring Provider Entity Code	Char	1	Entity Type of the Referring Provider	2013
Referring Provider Street 1	Char	55	Street Address 1 of the Referring Provider	2013
Referring Provider Street 2	Char	55	Street Address 2 of the Referring Provider	2013
Referring Provider City	Char	40	City of the Referring Provider	2013
Referring Provider State	Char	2	State Code of the Referring Provider	2013
Referring Provider Zip	Char	20	Zip Code of the Referring Provider	2013
Referring Provider RUCA	Char	4	Rural-Urban Commuting Area Codes	2017
Referring Provider Country	Char	2	Country Code of the Referring Provider	2013
Referring Provider Type	Char	91	Provider Type of the Referring Provider	2013
Referring Provider Type Flag	Char	1	Flag Identifying the Source of the Provider Type	2013
Number of Suppliers	Num	8	Number of Suppliers Rendering DMEPOS Products/Services	2013
Number of Supplier HCPCS	Num	8	Total Number of Unique DMEPOS HCPCS Codes Billed by Suppliers	2013
Number of Supplier Beneficiaries	Num	8	Number of Beneficiaries Associated with Supplier DMEPOS Claims	2013
Number of Supplier Claims	Num	8	Number of Supplier DMEPOS Claims	2013
Number of Supplier Services	Num	8	Number of Supplier DMEPOS Services	2013
Supplier Submitted Charges	Num	8	Total Charges that Suppliers Submitted for DMEPOS	2013
Supplier Medicare Allowed Amount	Num	8	Total Medicare Allowed Amounts for DMEPOS	2013
Supplier Medicare Payment Amount	Num	8	Total Medicare Payments for DMEPOS	2013
Supplier Medicare Standard Payment Amount	Num	8	Total Medicare Standardized Payments for DMEPOS	2014
Durable Medical Equipment Suppression Indicator	Char	1	Indicator of Suppression Level as Applied to DME	2013
Number of Durable Medical Equipment Suppliers	Num	8	Number of Suppliers Rendering DME Products/Services	2013
Number of Durable Medical Equipment HCPCS	Num	8	Total Number of Unique DME HCPCS Codes Billed by Suppliers	2013
Number of Durable Medical Equipment Beneficiaries	Num	8	Number of Beneficiaries Associated with Supplier DME Claims	2013
Number of Durable Medical Equipment Claims	Num	8	Number of Supplier DME Claims	2013
Number of Durable Medical Equipment Services	Num	8	Number of Supplier DME Services	2013
Durable Medical Equipment Submitted Charges	Num	8	Total Charges that Suppliers Submitted for DME	2013
Durable Medical Equipment Medicare Allowed Amount	Num	8	Total Medicare Allowed Amounts for DME	2013
Durable Medical Equipment Medicare Payment Amount	Num	8	Total Medicare Payments for DME	2013
Durable Medical Equipment Medicare Standard Payment Amount	Num	8	Total Medicare Standardized Payments for DME	2014

Table 2. NPI Summary File Layout (Cont.)

Variable	Format	Length	Label	Data Year Begin Date
Prosthetic and Orthotic Suppression Indicator	Char	1	Indicator of Suppression Level as Applied to Prosthetics and Orthotics	2013
Number of Prosthetic and Orthotic Suppliers	Num	8	Number of Suppliers Rendering Prosthetic and Orthotic Products/Services	2013
Number of Prosthetic and Orthotic HCPCS	Num	8	Total Number of Unique Prosthetic/Orthotic HCPCS Codes Billed by Suppliers	2013
Number of Prosthetic and Orthotic Beneficiaries	Num	8	Number of Beneficiaries Associated with Supplier Prosthetic/Orthotic Claims	2013
Number of Prosthetic and Orthotic Claims	Num	8	Number of Supplier Prosthetic/Orthotic Claims	2013
Number of Prosthetic and Orthotic Services	Num	8	Number of Supplier Prosthetic/Orthotic Services	2013
Prosthetic and Orthotic Submitted Charges	Num	8	Total Charges that Suppliers Submitted for Prosthetics/Orthotics	2013
Prosthetic and Orthotic Medicare Allowed Amount	Num	8	Total Medicare Allowed Amounts for Prosthetics/Orthotics	2013
Prosthetic and Orthotic Medicare Payment Amount	Num	8	Total Medicare Payments for Prosthetics/Orthotics	2013
Prosthetic and Orthotic Medicare Standard Payment Amount	Num	8	Total Medicare Standardized Payments for Prosthetics/Orthotics	2014
Drug and Nutritional Suppression Indicator	Char	1	Indicator of Suppression Level as Applied to Drug and Nutritional	2013
Number of Drug and Nutritional Products Suppliers	Num	8	Number of Suppliers Rendering Drug and Nutritional Products/Services	2013
Number of Drug and Nutritional Products HCPCS	Num	8	Total Number of Unique Drug/Nutritional HCPCS Codes Billed by Suppliers	2013
Number of Drug and Nutritional Products Beneficiaries	Num	8	Number of Beneficiaries Associated with Supplier Drug/Nutritional Claims	2013
Number of Drug and Nutritional Products Claims	Num	8	Number of Supplier Drug/Nutritional Claims	2013
Number of Drug and Nutritional Products Services	Num	8	Number of Supplier Drug/Nutritional Services	2013
Drug and Nutritional Products Submitted Charges	Num	8	Total Charges that Suppliers Submitted for Drug/Nutritional	2013
Drug and Nutritional Products Medicare Allowed Amount	Num	8	Total Medicare Allowed Amounts for Drug/Nutritional	2013
Drug and Nutritional Products Medicare Payment Amount	Num	8	Total Medicare Payments for Drug/Nutritional	2013
Drug and Nutritional Products Medicare Standard Payment Amount	Num	8	Total Medicare Standardized Payments for Drug/Nutritional	2014
Average Age of Beneficiaries	Num	8	Average Age of Beneficiaries	2015
Number of Beneficiaries Age Less 65	Num	8	Number of Beneficiaries Age Less 65	2015
Number of Beneficiaries Age 65 to 74	Num	8	Number of Beneficiaries Age 65 to 74	2015
Number of Beneficiaries Age 75 to 84	Num	8	Number of Beneficiaries Age 75 to 84	2015
Number of Beneficiaries Age Greater 84	Num	8	Number of Beneficiaries Age Greater 84	2015
Number of Female Beneficiaries	Num	8	Number of Female Beneficiaries	2015
Number of Male Beneficiaries	Num	8	Number of Male Beneficiaries	2015
Number of Non-Hispanic White Beneficiaries	Num	8	Number of Non-Hispanic White Beneficiaries	2015
Number of Black or African American Beneficiaries	Num	8	Number of Black or African American Beneficiaries	2015
Number of Asian Pacific Islander Beneficiaries	Num	8	Number of Asian Pacific Islander Beneficiaries	2015
Number of Hispanic Beneficiaries	Num	8	Number of Hispanic Beneficiaries	2015
Number of American Indian/Alaska Native Beneficiaries	Num	8	Number of American Indian/Alaska Native Beneficiaries	2015
Number of Beneficiaries With Race Not Elsewhere Classified	Num	8	Number of Beneficiaries With Race Not Elsewhere Classified	2015
Number of Beneficiaries With Medicare Only Entitlement	Num	8	Number of Beneficiaries With Medicare Only Entitlement	2015

Table 2. NPI Summary File Layout (Cont.)

Variable	Format	Length	Label	Data Year Begin Date
Number of Beneficiaries With Medicare & Medicaid Entitlement	Num	8	Number of Beneficiaries With Medicare & Medicaid Entitlement	2015
Percent (%) of Beneficiaries Identified With Atrial Fibrillation	Num	8	Percent (%) of Beneficiaries Identified With Atrial Fibrillation	2015
Percent (%) of Beneficiaries Identified With Alzheimer's Disease or Dementia	Num	8	Percent (%) of Beneficiaries Identified With Alzheimer's Disease or Dementia	2015
Percent (%) of Beneficiaries Identified With Asthma	Num	8	Percent (%) of Beneficiaries Identified With Asthma	2015
Percent (%) of Beneficiaries Identified With Cancer	Num	8	Percent (%) of Beneficiaries Identified With Cancer	2015
Percent (%) of Beneficiaries Identified With Heart Failure	Num	8	Percent (%) of Beneficiaries Identified With Heart Failure	2015
Percent (%) of Beneficiaries Identified With Chronic Kidney Disease	Num	8	Percent (%) of Beneficiaries Identified With Chronic Kidney Disease	2015
Percent (%) of Beneficiaries Identified With Chronic Obstructive Pulmonary Disease	Num	8	Percent (%) of Beneficiaries Identified With Chronic Obstructive Pulmonary Disease	2015
Percent (%) of Beneficiaries Identified With Depression	Num	8	Percent (%) of Beneficiaries Identified With Depression	2015
Percent (%) of Beneficiaries Identified With Diabetes	Num	8	Percent (%) of Beneficiaries Identified With Diabetes	2015
Percent (%) of Beneficiaries Identified With Hyperlipidemia	Num	8	Percent (%) of Beneficiaries Identified With Hyperlipidemia	2015
Percent (%) of Beneficiaries Identified With Hypertension	Num	8	Percent (%) of Beneficiaries Identified With Hypertension	2015
Percent (%) of Beneficiaries Identified With Ischemic Heart Disease	Num	8	Percent (%) of Beneficiaries Identified With Ischemic Heart Disease	2015
Percent (%) of Beneficiaries Identified With Osteoporosis	Num	8	Percent (%) of Beneficiaries Identified With Osteoporosis	2015
Percent (%) of Beneficiaries Identified With Rheumatoid Arthritis / Osteoarthritis	Num	8	Percent (%) of Beneficiaries Identified With Rheumatoid Arthritis / Osteoarthritis	2015
Percent (%) of Beneficiaries Identified With Schizophrenia / Other Psychotic Disorders	Num	8	Percent (%) of Beneficiaries Identified With Schizophrenia / Other Psychotic Disorders	2015
Percent (%) of Beneficiaries Identified With Stroke	Num	8	Percent (%) of Beneficiaries Identified With Stroke	2015
Average HCC Risk Score of Beneficiaries	Num	8	Average HCC Risk Score of Beneficiaries	2015

## APPENDIX B – Distribution of HCC Risk Scores

Calendar Year	Number of Medicare Beneficiaries	Minimum Risk Score	Percentile 01	Percentile 05	Percentile 10	Percentile 25	Percentile 50	Percentile 75	Percentile 90	Percentile 95	Percentile 99	Maximum Risk Score	Average Risk Score
2013	9,774,760	0.110	0.262	0.326	0.438	0.661	1.120	1.946	3.285	4.503	8.903	47.700	1.621
2014	9,281,718	0.111	0.264	0.327	0.432	0.648	1.086	1.880	3.217	4.493	8.884	46.734	1.589
2015	9,217,076	0.114	0.271	0.336	0.446	0.679	1.157	2.011	3.407	4.695	9.247	48.606	1.678
2016	9,205,293	0.116	0.274	0.340	0.446	0.668	1.146	2.003	3.458	4.841	9.358	47.849	1.689
2017	8,946,952	0.146	0.284	0.358	0.452	0.663	1.138	1.998	3.471	4.878	9.592	48.126	1.696

## APPENDIX C – Referring Durable Medical Equipment, Prosthetics, Orthotics and Supplies Public Use File Technical Specifications

This programming specifications appendix provides users with additional information about how the Referring Provider Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) Public Use File (PUF) was developed. It describes the source data used in creating the file, including any supplemental information beyond the Medicare fee-for-service claims. This document also describes the step-by-step methodology CMS used to create the Referring Durable Medical Equipment, Prosthetics, Orthotics and Supplies PUF.

### **Source Data:**

1. ***CMS Durable Medical Equipment, Prosthetic, Orthotic and Other Supplies (DMEPOS) Calendar Year Data*** see: <https://www.resdac.org/cms-data/files/dme-ffs>
2. ***CMS National Plan and Provider Enumeration System (NPPES) Name and Address Data*** available at: [http://download.cms.gov/nppes/NPI\\_Files.html](http://download.cms.gov/nppes/NPI_Files.html). The most current NPPES name and address information for active NPIs is in the “NPPES Data Dissemination (month, DD, YYYY)” full NPI replacement file.
3. ***CMS Health Care Common Procedure Coding System (HCPCS) Level II Descriptions*** available at: <https://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/Alpha-Numeric-HCPCS.html>. The HCPCS Level II crosswalk is titled “\*\*\*\* Alpha-Numeric HCPCS File” (where \*\*\*\* = the year of the DMEPOS calendar year data).
4. ***CMS Carrier Calendar Year Data*** see: <https://www.resdac.org/cms-data/files/carrier-ffs>
5. ***CMS Provider Specialty Descriptions*** available at: <https://data.cms.gov/Medicare-Enrollment/CROSSWALK-MEDICARE-PROVIDER-SUPPLIER-to-HEALTHCARE/j75i-rw8y>. The provider specialty crosswalk is titled “Crosswalk Medicare Provider/Supplier to Healthcare Provider Taxonomy”.
6. ***National Uniform Claim Committee (NUCC) Taxonomy Code Set*** available at: [http://www.nucc.org/index.php?option=com\\_content&view=article&id=107&Itemid=132](http://www.nucc.org/index.php?option=com_content&view=article&id=107&Itemid=132).

## Methodology:

**Step 1:** Create the following variables from the CMS DMEPOS Calendar data:

- **Referring\_NPI** = DMEPOS Claim Referring NPI Number (RFR\_NPI)
- **Supplier\_NPI** = DMEPOS Line Supplier NPI Number (SUP\_NPI)
- **Hcpcs\_code** = Health Care Common Procedure Coding System (HCPCS\_CD)
- **betos\_classification** = Line NCH BETOS Code (BETOS)
- Derive **betos\_classification** = 'DME' when Line NCH BETOS Code (BETOS) contains one of the following values: 'D1A', 'D1B', 'D1C', 'D1D', 'D1E', 'D1G'; otherwise **betos\_classification** = 'POS' when Line NCH BETOS Code (BETOS) = 'D1F'; otherwise **betos\_classification** = 'OTH'
- Derive **supplier\_rental\_indicator** = 'Y' when Line HCPCS Initial Modifier Code (MDFR\_CD1) = 'RR' or Line HCPCS Second Modifier Code (MDFR\_CD2) = 'RR'; otherwise **supplier\_rental\_indicator** = 'N'
- **Provider\_specialty\_code** = Line HCFA Provider Specialty Code (HCFASPCL)
- **line\_srvc\_cnt** = Line Service Count (SRVC\_CNT)
- **submitted\_chrg\_amt** = Line Submitted Charge Amount (LSBMTCHG)
- **Medicare\_allowed\_amt** = Line Allowed Charge Amount (LALOWCHG)
- **Medicare\_payment\_amt** = Line Provider Payment Amount (LPRVPMT)
- **Bene\_id** = Encrypted CCW Beneficiary ID (BENE\_ID)
- **Claim\_id** = Claim Id (CLM\_ID)

**Step 2:** Summarize the following variables from Step 1 to the **Referring\_NPI, hcpcs\_code, supplier\_rental\_indicator**:

- **Number\_of\_suppliers** = distinct count of Supplier\_NPI
- **Number\_of\_suppliers\_beneficiaries** = distinct count of bene\_id
- **Number\_of\_supplier\_claims** = distinct count of clm\_id
- **Number\_of\_supplier\_services** = sum of line\_srvc\_cnt
- **Avg\_supplier\_submitted\_charge** = sum of submitted\_chrg\_amt / sum of line\_srvc\_cnt
- **Avg\_supplier\_Medicare\_allow\_amt** = sum of Medicare\_allowed\_amt / sum of line\_srvc\_cnt
- **Avg\_supplier\_Medicare\_pmt\_amt** = sum of Medicare\_payment\_amt / sum of line\_srvc\_cnt

**Step 3:** Merge output from Step 2 (retaining all data if match) using **referring\_NPI** with NPPES Name and Address data using **NPI** and attach the following:

- **referring\_provider\_last\_org\_name** = Provider Organization Name (Legal Business Name) when Entity Type Code = 'O'; else Provider Last Name (Legal Name) when Entity Type Code = 'I'
- **referring\_provider\_first\_name** = Provider First Name
- **referring\_provider\_mi** = Provider Middle Name
- **referring\_credentials** = Provider Credential Text
- **referring\_provider\_gender** = Provider Gender Code
- **referring\_entity\_code** = Entity Type Code
- **referring\_provider\_street1** = Provider First Line Business Practice Location Address
- **referring\_provider\_street2** = Provider Second Line Business Practice Location Address

- **referring\_provider\_city** = Provider Business Practice Location Address City Name
- **referring\_provider\_state** = Provider Business Practice Location Address State Name
- **referring\_provider\_zip** = Provider Business Practice Location Address Postal Code
- **referring\_provider\_country** = Provider Business Practice Location Address Postal Code
- Derive **referring\_provider\_taxonomy\_code** = Taxonomy Code when associated Primary Taxonomy = 'Y'

**Step 4:** Merge output from Step 3 (retaining all data) with CMS HCPCS Level II Description data using **hcpcs\_code** and attach the following:

- **hcpcs\_description** = LONG DESCRIPTION

**Step 5:** Derive a single **referring\_provider\_type** and **referring\_provider\_type\_flag** based on the hierarchy described below.

a. CMS Carrier Calendar data:

- Extract the following variables from the CMS Carrier data
  - **NPI** = Carrier Line Performing NPI Number (PRFNPI)
  - **Provider\_specialty\_code** = Line HCFA Provider Specialty Code (HCFASPL)
  - **line\_srvc\_cnt** = Line Service Count (SRVC\_CNT)
- Derive a single **provider\_specialty\_code** for each **NPI** record based on the **provider\_specialty\_code** associated with the maximum **line\_srvc\_cnt**
- Derive **referring\_provider\_type** = "Medicare Provider/Supplier Type Description" from CMS Provider Specialty Descriptions using **provider\_specialty\_code**

b. CMS DMEPOS Calendar data:

- Derive from Step 1 a single **provider\_specialty\_code** for each **supplier\_NPI** record based on the **provider\_specialty\_code** associated with the maximum **line\_srvc\_cnt**
- Derive **referring\_provider\_type** = "Medicare Provider/Supplier Type Description" from CMS Provider Specialty Descriptions using **provider\_specialty\_code**

c. Merge output from Step 5 a. using **NPI** with the output from Step 5 b. using **supplier\_NPI**.

- Derive a single **NPI** with **Referring\_provider\_type** = referring\_provider\_type from Step 5 a.; otherwise **Referring\_provider\_type** = referring\_provider\_type from Step 5 b.
- Set **referring\_provider\_type\_flag** = 'S'

**Step 6:** Merge the **referring\_NPI** from the output from Step 4 (retaining all records) with the **NPI** from the output from Step 5 c.:

- If **referring\_NPI** from the output from Step 4 = **NPI** from the output from Step 5 c. then attach **referring\_provider\_type** and **referring\_provider\_type\_flag**; otherwise
- When **referring\_provider\_taxonomy\_code** crosswalks to a single “Medicare Provider/Supplier Type Description” from CMS Provider Specialty Descriptions then derive **referring\_provider\_type** = “Medicare Provider/Supplier Type Description” and **referring\_provider\_type\_flag** = ‘S’; otherwise
- Derive **referring\_provider\_type** = “Classification” from the NUCC Taxonomy Set using **referring\_provider\_taxonomy\_code** and set **referring\_provider\_type\_flag** = ‘T’