



Medicare Durable Medical Equipment, Devices & Supplies Methodology

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1. Background

The Medicare Durable Medical Equipment, Devices & Supplies datasets present information on DMEPOS products and services provided to Medicare beneficiaries ordered by physicians and other healthcare professionals. The datasets contain 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. These datasets are 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](#). The data in the Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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').

Referring Provider demographics are also incorporated in the Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets is based upon information extracted from NPPES as of the end of the subsequent calendar year (e.g., The 2020 Medicare Durable Medical Equipment, Devices & Supplies datasets includes NPPES information as of the end of calendar year 2021).

3. Population

The Medicare Durable Medical Equipment, Devices & Supplies datasets 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. Data Contents

4.1 Detailed Data File

Medicare Durable Medical Equipment, Devices & Supplies - by Referring Provider and Service

The spending and utilization data in the Medicare Durable Medical Equipment, Devices & Supplies – by Referring Provider and Service dataset 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 Medicare Durable Medical Equipment, Devices & Supplies datasets. Please see the section on Limitations for additional information about data redactions and suppression in the Medicare Durable Medical Equipment, Devices & Supplies datasets.

4.2 Summary Tables

Two summary type tables have been created to supplement the information reported in the Medicare Durable Medical Equipment, Devices & Supplies datasets: 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 Medicare Durable Medical Equipment, Devices & Supplies - – by Referring Provider and Service dataset but are aggregated based on all Medicare Part B non-institutional DMEPOS claims.

Medicare Durable Medical Equipment, Devices & Supplies - by Referring Provider

The Medicare Durable Medical Equipment, Devices & Supplies - by Referring Provider dataset 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.

Please see the data dictionary for more detailed information on the specific variables included in this table.

Medicare Durable Medical Equipment, Devices & Supplies - by Geography and Service

The Medicare Durable Medical Equipment, Devices & Supplies - by Geography and Service dataset contains 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.

Please see the data dictionary for more detailed information on the specific variables included in this table.

5. Data Limitations:

Although the Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets, 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 visit the [Durable Medical Equipment, Prosthetics/Orthotics & Supplies Fee Schedule](#).

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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets 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 Medicare Durable Medical Equipment, Devices & Supplies datasets) 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 Medicare Durable Medical Equipment, Devices & Supplies datasets). Another example would be linking to data constructed from different or non-aligning time periods, such as publicly available data on physician referral patterns, which is based on an 18-month period.

Redaction and Suppression

As previously stated, the Medicare Durable Medical Equipment, Devices & Supplies datasets 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.

6. 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.

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.

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 Physician and Other Practitioners Dataset data are provided in Appendix A. 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, please see the [Risk Adjustment](#) page.