# Medicare Fee-For Service
# Provider Utilization & Payment Data
# Inpatient
# Public Use File:
# A Methodological Overview

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# 1. Background

The Centers for Medicare & Medicaid Services (CMS) has prepared a public data set, the Provider Utilization and Payment Data Inpatient Public Use File (herein referred to as "Inpatient PUF"), with information on services and procedures provided to Medicare beneficiaries by hospital facilities. The Inpatient PUF contains hospital-specific charges for the more than 3,000 U.S. hospitals that receive Medicare Inpatient Prospective Payment System (IPPS) payments paid under Medicare based on a rate per discharge using the Medicare Severity Diagnosis Related Group (MS-DRG). The Inpatient PUF is available for fiscal years 2011 through 2017 and reflect 100% final-action (i.e., all claim adjustments have been resolved) IPPS discharges for the Medicare fee-for-service (FFS) population.

Beginning with FY2014 data, all MS-DRG discharges are reported in the Inpatient PUF. Prior years of the Inpatient PUF (FY2011 through FY2013) are limited to the top 100 most frequently billed discharges.

# 2. Key data sources

The primary data source for these data is CMS's Medicare Provider Analysis and Review (MEDPAR) inpatient data based on fiscal year (October 1$^{st}$ through September 30$^{th}$). The NCH MEDPAR data contain 100 percent of Medicare final action discharges for beneficiaries who are enrolled in the FFS program. The types of discharges in the MEDPAR inpatient data include: IPPS short term, long term care, critical access hospital, religious non-medical, rehabilitation and psychiatric. Discharges, covered charges, total payments and MS-DRG information presented in the Inpatient PUF are restricted to IPPS short term hospitalizations for the FFS population.

Inpatient provider demographics are also incorporated in the Inpatient PUF and include name, complete address and hospital referral region (HRR). The inpatient provider name and address are derived from CMS's Provider of Service (POS) data, a resource that provides characteristics associated with institutional facilities. HRRs are geographic units of analysis based on facility location zip codes that were developed by the Dartmouth Atlas of Health Care to delineate regional health care markets in the United States. For additional information on the POS data, please visit http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/NonIdentifiableDataFiles/ProviderofServicesFile.html. For additional information on HRR, please visit https://atlasdata.dartmouth.edu/static/supp_research_data/.

# 3. Population

The Inpatient PUF includes data on FFS beneficiaries from inpatient providers that submitted Medicare Part A IPPS short term institutional claims during the fiscal year. To protect the privacy of Medicare beneficiaries, any aggregated records which are derived from 10 or fewer discharges are excluded from the Inpatient PUF.

# 4. Classification and Summarization

The spending and utilization data in the Inpatient PUF are aggregated to the following levels:

a) the provider identifier, and
b) Medicare Severity Diagnosis Related Group (MS-DRG)

The provider identifier is the numeric CMS Certification Number (CCN) assigned to a Medicare certified facility. MS-DRGs are a classification system that groups similar clinical conditions (diagnoses) and the procedures furnished by the hospital during the stay. Each hospital discharge is assigned to an MS-DRG. There can be multiple records for a given provider identifier based on the number of distinct MS-DRG codes that were billed.

# 5. Data Contents

## Detailed Data File

The following variables are included in the detailed Inpatient PUF data file:

**DRG Definition:** The code and description identifying the MS-DRG. MS-DRGs are a classification system that groups similar clinical conditions (diagnoses) and the procedures furnished by the hospital during the stay.

**Provider Id**: The CMS Certification Number (CCN) assigned to the Medicare-certified hospital facility.

**Provider Name**: The name of the provider.

**Provider Street Address**: The provider's street address.

**Provider City**: The city where the provider is located.

**Provider State**: The state where the provider is located.

**Provider Zip Code**: The provider's zip code.

**Provider HRR**: The Hospital Referral Region (HRR) where the provider is located.

**Total Discharges**: The number of discharges billed by the provider for inpatient hospital services.

**Average Covered Charges**: The provider's average charge for services covered by Medicare for all discharges in the MS-DRG. These will vary from hospital to hospital because of differences in hospital charge structures.

**Average Total Payments**: The average total payments to all providers for the MS-DRG including the MS-DRG amount, teaching, disproportionate share, capital, and outlier payments for all cases. Also included in average total payments are co-payment and deductible amounts that the patient is responsible for and any additional payments by third parties for coordination of benefits.

**Average Medicare Payments:** The average amount that Medicare pays to the provider for Medicare's share of the MS-DRG. Average Medicare payment amounts include the MS-DRG amount, teaching, disproportionate share, capital, and outlier payments for all cases. Medicare payments DO NOT include beneficiary co-payments and deductible amounts nor any additional payments from third parties for coordination of benefits. Note: In general, Medicare FFS claims with dates-of-service or dates-of-discharge on or after April 1, 2013, incurred a 2 percent reduction in Medicare payment. This is in response to mandatory across-the-board reductions in Federal spending, also known as sequestration. For additional information, visit http://www.cms.gov/Outreach-and-Education/Outreach/FFSProvPartProg/Downloads/2013-03-08-standalone.pdf

## Summary Tables

Summary tables have been created to supplement the information reported in the Inpatient PUF. "National and State Summaries of Inpatient Charge Data" contains information on discharges, payments (total amount and Medicare payment), and submitted charges organized by MS-DRG in the national table and organized by MS-DRG and provider state in the state table. The aggregated reports are not restricted to the redacted data reported in the Inpatient PUF but are aggregated based on all Medicare IPPS discharges.

More detailed information on the "National and State Summaries of Inpatient Charge Data" are provided in the Methodology and Documentation tabs of the workbook.

## 6. Data Limitations:

Although the Inpatient PUF has a wealth of payment and utilization information about many Medicare Part A services, the dataset also has some limitations that are worth noting.

The data in the Inpatient PUF may not be representative of a hospital's entire population served. The data in the file only has information for Medicare beneficiaries with Part A fee-for-service coverage, but hospitals typically treat many other patients who do not have that form of coverage. The Inpatient 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 Inpatient PUF does not include information for patients who are enrolled in any form of Medicare Advantage plan. Importantly, the data for FY 2011 through FY 2013 are limited to only the top 100 MS-DRGs and thus do not necessarily include all Medicare discharges from a given hospital.

The Inpatient PUF only contains cost and utilization information, and for the reasons described in the preceding paragraph, the volume of procedures presented may not be fully inclusive of all procedures performed by the hospital.

The state of Maryland has a unique waiver that exempts providers from Medicare's prospective payment systems for inpatient care. Maryland instead uses an all-payer rate setting commission to

determine its payment rates.  Medicare claims for hospitals in other states break out additional payments for indirect medical education (IME) costs and disproportionate share hospital (DSH) adjustments.

# 7.  Updates:

**June 2016 Updates:**

We have updated the Inpatient PUF and the supplemental summary tables ("National and State Summaries of Inpatient Charge Data") for FY2014 to include all MS-DRG discharges from IPPS hospitals, which in prior years (FY2011 through FY2013) are limited to only the top 100 MS-DRG discharges.

Previous year's data (FY2011 through FY2013) have not been re-published to include all MS-DRG discharges.

# Appendix A: Inpatient Public Use File Technical Specifications

This programming specifications appendix provides users with additional information about how the Inpatient 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 Inpatient PUF.

**Source Data:**

1. ***CMS MedPAR Fiscal Year Discharge Data*** see: https://www.resdac.org/cms-data/files/medpar/data-documentation.

2. ***CMS Medicare Severity Diagnosis-Related Group (MS-DRG) Descriptions*** available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Acute-Inpatient-Files-for-Download.html?DLSort=1&DLEntries=10&DLPage=2&DLSortDir=ascending. The MS-DRG crosswalk is in Table 5 of the "Files for FY **** Final Rule and Correction Notice" (where **** = year of the MedPAR discharge data).

3. ***CMS Provider of Service (POS) Data*** available at: http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/NonIdentifiableDataFiles/ProviderofServicesFile.html. The year of POS data should be the year following the year of the MedPAR discharge data (i.e., if the discharge data is from 2012, the POS file should be from 2013).

4. ***Hospital Referral Regions (HRR) Data*** from Dartmouth Atlas of Health Care zip code crosswalk available at: https://atlasdata.dartmouth.edu/static/supp_research_data#crosswalks.

**Methodology:**

***Step 1:*** Limit CMS MedPAR discharge data to fee-for-service short-stay hospital discharges associated with 'IPPS' hospitals using the following criteria:

- MEDPAR NCH claim type code (CLM_TYPE) ='60'
- MEDPAR short-stay/long-stay/snf indicator (SSLSSNF) = 'S' *(Identifies Short Stay)*
- MEDPAR GHO Paid Code (GHOPDCD) **NOT** = '1' *(To exclude Managed Care)*
- MEDPAR provider number special unit code (SPCLUNIT) = ' ' *(To exclude units within a hospital)*
- MEDPAR Indirect Medical Education Amount (IME_AMT) **NOT** equal MEDPAR DRG Price Amount (DRGPRICE)
- MEDPAR Length of Stay Day Count (LOSCNT) > 0
- MEDPAR Total Charge Amount (TOTCHRG) > 0
- Third position of the MEDPAR provider number (PRVDRNUM) = '0' *(Identifies IPPS hospitals)*
- Fifth position of the MEDPAR provider number (PRVDRNUM) **NOT** = 'V' *(To exclude Veterans' Administration demonstration claim)*

- Sixth position of the MEDPAR provider number (PRVDRNUM) **NOT** = 'E' *(To exclude Medicare non-participating, non-federal emergency hospital)*
- Sixth position of the MEDPAR provider number (PRVDRNUM) **NOT** = 'F' *(To exclude Medicare non-participating, federal emergency hospital)*
- The MEDPAR provider number is **NOT** any of the following *(To exclude Cancer hospitals):*
  - '050146'
  - '050660'
  - '220162'
  - '330154'
  - '330354'
  - '360242'
  - '390196'
  - '450076'
  - '100079'
  - '100271'
  - '500138'

**Step 2**: Extract the following variables from the output from step 1:

- **Provider Id** = MEDPAR Provider Number (PRVDRNUM)
- **DRG Code** = MEDPAR DRG Code (DRG_CD)
- **Covered Charges** = MEDPAR Total Covered Charge Amount (CVRCHRG)
- Derive **Total Payments** = MEDPAR DRG Price Amount (DRGPRICE) + MEDPAR DRG Outlier Approved Payment Amount (OUTLRAMT) + MEDPAR Total Pass Through Amount (PASSTHRU)
- **Medicare Payments** = MEDPAR Medicare Payment Amount (PMT_AMT)
- Derive **Total Discharges** = 1

**Step 3**: Merge output from step 2 data with MS-DRG Description data by **DRG Code** and attach the following:

- Derive **DRG Definition** by concatenating the DRG_Code and MS-DRG Title

**Step 4**: Merge output from step 3 with CMS POS data by **Provider Id** and attach the following:

- **Provider Name** = FAC_NAME
- **Provider Street Address** = ST_ADR
- **Provider City** = CITY_NAME
- **Provider State**    = STATE_CD
- **Provider Zip Code** = ZIP_CD

**Step 5**: Merge output from step 4 with HRR data by **Provider Zip Code** and attach the following:

- Derive **Provider HRR** by concatenating HRRNUM, HRRCITY and HRRSTATE

***Step 6***: Summarize **Total Discharges**, **Total Charge Amount**, **Total Payments** and **Medicare Payment Amount** from the output from step 5 to the following:

- **DRG Definition**
- **Provider Number**
- **Provider Name**
- **Provider Street Address**
- **Provider City**
- **Provider State**
- **Provider Zip Code**
- **Provider HRR**

***Step 7***: Limit the output from step 6 based on the following:

- **Provider State** within the 50 United States and District of Columbia
- **Provider HRR NOT** = blank

***Step 8***: Calculate averages from the output from step 7:

- Derive **Average Covered Charges** = Total Covered Charge Amount / Total Discharges
- Derive **Average Total Payments** = Total Payments / Total Discharges
- Derive **Average Medicare Payments** = Medicare Payment Amount / Total Discharges