**Project**:

Utilizes Inpatient Utilization and Payment Public Use Files (Inpatient PUF) which includes information on inpatient discharges for Medicare fee-for-service beneficiaries. The PUF is organized by hospital and Medicare Severity Diagnosis Related Group (MS-DRG) and covers Fiscal Year (FY) 2015 and 2016. MS-DRGs identify the number of hospital resources required to treat a patient.

**Goal**:

Produce report to display year-over-year inpatient discharges by provider

Team 4:

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**Datasets were extracted from cms.gov**

* Inpatient Prospective Payment System (IPPS) Provider Summary for All Diagnosis-Related Groups (DRG) - FY2015
* Inpatient Prospective Payment System (IPPS) Provider Summary for All Diagnosis-Related Groups (DRG) - FY2016

**Dataset Transformation**

* Tables were created in PostgreSQL
* Python script was written to import, clean, format and load the tables

|  |  |
| --- | --- |
| **Column Name** | **Note** |
| 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 city where the provider is located. |
| Hospital Referral Region (HRR) Description | 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 number of discharges billed by the provider for inpatient hospital services. |
| 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. |

**Relational Tables**

Inpatientutilization

Providerid

drg\_id

inpatientutilizationclean

CREATE TABLE inpatientutilization

(drg\_definition varchar(500),

provider\_id int,

provider\_name varchar(100),

provider\_state char(2),

hrr varchar(100),

discharges decimal(18,2),

covered\_charges decimal(18,2),

payments decimal(18,2),

medicare\_payments decimal(18,2),

year int)

CREATE TABLE providerid AS

select distinct provider\_id, provider\_name

from inpatientutilization

CREATE TABLE drg\_id AS

SELECT distinct

left(drg\_definition,3) as drg\_id, split\_part(drg\_definition, '-', 2) as drg\_description

FROM inpatientutilization

CREATE TABLE inpatientutilizationclean AS

SELECT left(drg\_definition,3) as drg\_id,

provider\_id,

provider\_name,

provider\_state,

hrr,

discharges,

covered\_charges,

payments,

medicare\_payments,

year

FROM inpatientutilization

**Query:**

select

t1.provider\_id,

provider\_name,

t1.provider\_state,

t1."2015 Provider Discharges",

t1."2016 Provider Discharges",

t1."YOY Percent Change"

from (select

provider\_id,

provider\_state,

sum(case when year=2016 then discharges else null end) as "2015 Provider Discharges",

sum(case when year=2015 then discharges else null end) as "2016 Provider Discharges",

cast(((sum(case when year=2016 then discharges else null end)-sum(case when year=2015 then discharges else null end))

/sum(case when year=2015 then discharges else null end))\*100 as decimal(18,2))as "YOY Percent Change"

from inpatientutilizationclean

group by

provider\_id,

provider\_state) as t1

inner join providerid as provider on t1.provider\_id=provider.provider\_id

**Results:**

