HCBB

Helps people understand cost and quality of care. Tries to help patients understand what will happen to them if they go to a specific provider.
Kind of like a dating platform between beneficiaries and medicare providers.

HELPFUL TERMINOLOGY

Data

Physician and Other Supplier - Provider Utilization

Easily searchable by **provider**, **procedure**, and **location**.

- Covers fees paid by Medicare to *non-hospitals* for a given year.
    - doctors
    - nurses
    - dct offices
    - labs
    - radiology centers
- Every row is a Provider/HCPCS
- Answers the following questions:
    - What did this provider do?
    - How often did they do it?
    - How much were they paid?

Dimensions

- Some Identifiers (NPI)
    - Name
    - Creds
    - Gender
    - Individual or Org
    - Address
    - Provider Type
    - Entity type (O or I)
        - doctors and offices can be builded for the same procedure
- HCPCS Code (CPT/Procedure Code) and Description

        - 5-digit code to describe what happened
- Place of Service
    - Facility/Office
        - If office, there was a single bill ONLY
        - If it is facility, there could potentially be multiple bills for the same procedure

Measures

- Counts
    - Number of services
        - Total times a code is billed
    - number Medicare beneficiaries
        - how many patients was a code billed for
    - **Number distinct medicare beneficiary/per day services**
        - Why is this bolded? - recommended measure to use (What HCBB uses)
        - number days patients went and got this service
        - Group by beneficiary / day

Example

> Doctor sees Patient A on 3 different days, Patient B on 5 different days, and Patient C on 1 day (but billed the same code 3 times on that day)

- Total services : 11
- Number of Medicare Beneficiaries : 3 (A, B, C)
- Distinct Beneficiary/Per Day Services : (3+5+1)

Entity Type

VERY IMPORTANT

In some cases, payments to Organizations represent something different than payments to Individuals (such as Outpatient Surgery). Be careful when comparing the two! Compare apples to apples, don't combine the two.

Example

Screening Colonoscopy HCPCS=45378

- Payments to I = Fee for doctor’s work doing the service
- Payments to O = Fee for cost of running the facility where procedure was performed

- Patient will always get at least 2 bills – one from an individual, one from the facility/organization

Some Exceptions

- Entity Type = I AND Place of Service = O
    - Will sometimes cover both fees (doctor work + cost of facility)
    - May be worth excluding these form the analysis, and performing a separate analysis
- Most Organization bills cover all fees (doctor work + cost of facility).
- Some Physician bills cover all fees
    - Entity Type = I AND Place of Service = O
- Some physician bills only cover their work
    - Entity Type = I AND Place of Service = F
- MRI Knee W/O Contrast (HCPCS 73721)

Place of Service

VERY IMPORTANT

Where the procedure is done (and by who) impacts what Medicare pays.

- Place of Service O = Office.
    - Typically (but not always) means that the bill represents full payment
- Place of Service F = Facility
    - Typically means that this bill has been split between multiple providers, and this line only represents part of the overall bill

Special Note

Don't compare one to the other, only apples to apples

Only compare records where Entity Type and Place of Service match

An Exception: Imaging (anything where HCPCS starts with a “7”) Can compare **Entity Type** O ***AND*** **Place of Service** O with **Entity Type** I AND **Place of Service** O

Helpful formulas

Don’t take this as an opportunity to use excel!!

- Names
    - IF Entity_Type = O THEN Last_Name
    - IF Entity_Type = I THEN First_Name + “ “ + Middle Initial + “ “ + Last_Name + “, “ + Credentials

- Zip Code
    - If formatted here as 9-digit - Take left 5 digits for standard zip code

Some caveats

- Think about: Who is medicare for?
    - Primarily older population

How does this affect the data I see?

- If the procedure does not talk to less than 11 patients, it is excluded

Provider Utilization and Payment Data: Hospital Outpatient

Fees paid to hospitals for a selected subset of services.

* NOT ALL procedure in table

Easily searchable by Provider, Procedure

- Answers the following questions:
    - What did this provider do?
    - How often did they do it?
    - How much were they paid?

This dataset is not as specific as the other dataset. The procedures get rolled up into a single bill, more generic. This makes it really hard to compare this dataset to the other.

Dimensions

- Some Identifiers (Provider ID - **NOT NPI**)
    - Hospitals can have as many NPIs as they want, so provider ID is not the same
    - Provider Name
    - Address
    - Provider Hospital Referral Region
- APC (Procedure Group)
    - Description

Measures

- Counts
    - CAPC Services
        - Focus on this
        - How many times did they bill a code
        - Similar to the service day column (maybe count of APCs??)
    - Beneficiaries
        - number patients for a bill
- Payments
    - Avg total submitted charges
        - Hospital charge amount
    - AVERAGE MEDICARE ALLOWED AMOUNT
        - Same as previous dataset
        - Hospital charge amount
    - Average Medicare Payment amount
        - How much did the Provider receive (only from Medicare, ignoring anything from patient)

Other Datasets

APC (group of related procedures) to CPT Crosswalk

> APC = Group of Related Procedures

Not every HCPCS/CPT is assigned to an APC (_but the most important ones are_).

Link to explanation of other columns:
https://med.noridianmedicare.com/web/jea/provider-types/opps/addendum-a-b-instructions

Graphing geographically nearby data

https://www.huduser.gov/portal/datasets/usps_crosswalk.html

- Mapping from zip to area around a city

Example - Nashville CBSA

Contains Nashville, Franklin, Hendersonville, Lebanon, Murfreesboro

Good for comparing data in a geographic way

Info about gov: data.gov Info about gov: data.cms

Goals

Option 1

> How much are nearby Hospitals and Ambulatory Surgical Centers (surgery centers) paid for the same procedure / in the same area?

Physician/Other Supplier Data Filters - pulling ASCs

- entity type = 'O'
- Provider Type = Ambulatory Surgical Center
- CPT = 43249

Hospital Outpatient

- APC = 5302

Knowing what they get paid for an APC, we can tell what they get paid for a procedure.

Compare results within a CBSA (what is a)

Stretch Goals

- Extend to other HCPCS/APCs
    - Best place to start is to find an APC that is well-populated in the Hospital file
    - Next find a well-populated HCPCS from the APC in the Physician/Other Supplier File
    - How many patients do providers in zip A see compared to zip B?
- Compare Doctor Utilization for a procedure
    - Filters for Physician/Other Supplier
        - Entity Type = I
        - Place of Service = O
        - HCPCS = 99213 (or any office visit – 99211-99215 / 99201-99205)
    - How many different patients does each specialty typically see in a year? How does that vary by CBSA?

Option 2

> Measure how payments and counts change over time

Download 2015-2017 data (or earlier). Join columns for Physician/Other Supplier (just year by year)

    * NPI / HCPCS / Place of Service

Which procedures had the largest change in Average payment? Utilization?

Stretch Goals

Include Hospitals in analysis Join columns for Hospital

* Provider ID / APC

    * Remember APCs changed in 2016, so you'll need to convert old APCs from 2015 and before (using the crosswalk here) to the new APCs

Questions

Ask questions here. The instructors will then try to reach out to Mikil / Charles via email with the questions, then we can fill in this doc.