Springboard Capstone 1

Predicting Average Medicare Payments with a Spotlight on 3 Individual Diagnoses: Simple Pneumonia, Major Joint Replacement, and Heart Transplant

Topics:

- Who is the presentation for?
- What data are we looking at?
- What does the average Medicare Payment look like?
- How does that translate into a given diagnosis?
- What could that mean for my hospital?

Who is this presentation for?

Primarily, hospital systems looking to anticipate budgeting changes in upcoming years or looking to add new programs to their facilities

Secondarily, insurance companies looking to match Medicare payment standards

What data are we looking at?

For my analysis, I pulled the Center for Medicare Services (CMS) data from their website detailing the average Medicare reimbursement for every hospital in the country that treated and discharged more than 10 people with a given diagnosis (denoted by their DRG-diagnostic resource group-code) in fiscal years 2014-2017.

There is not data from every hospital or even every state, but by looking at a nationwide or even zip code specific view, we can get a better picture of the region as a whole
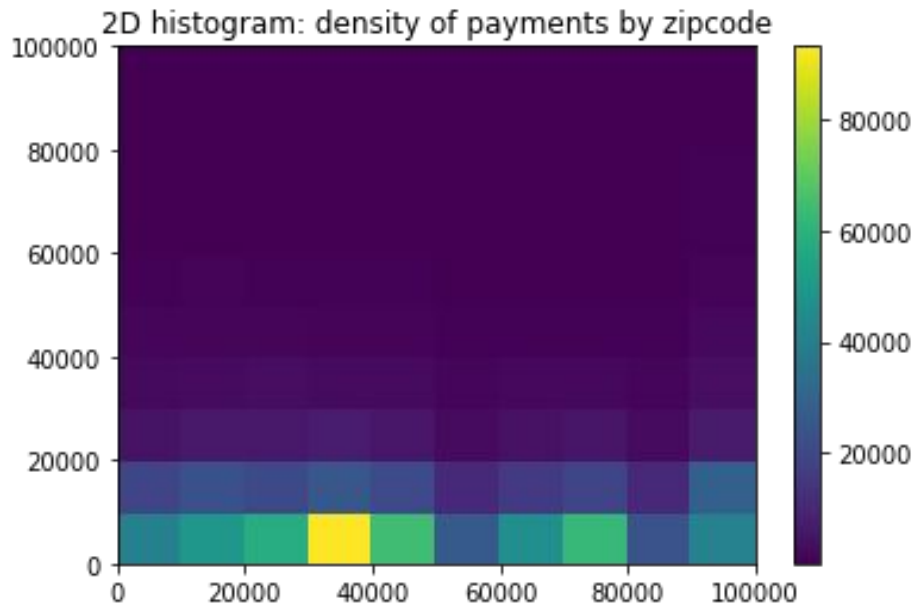
Who Has the Most Medicare Procedures?

The graph pictured here is like a heat map.

The yellow square shows that the highest density (highest volume or number) of Medicare Payments is in the 3xxxx zip code area.
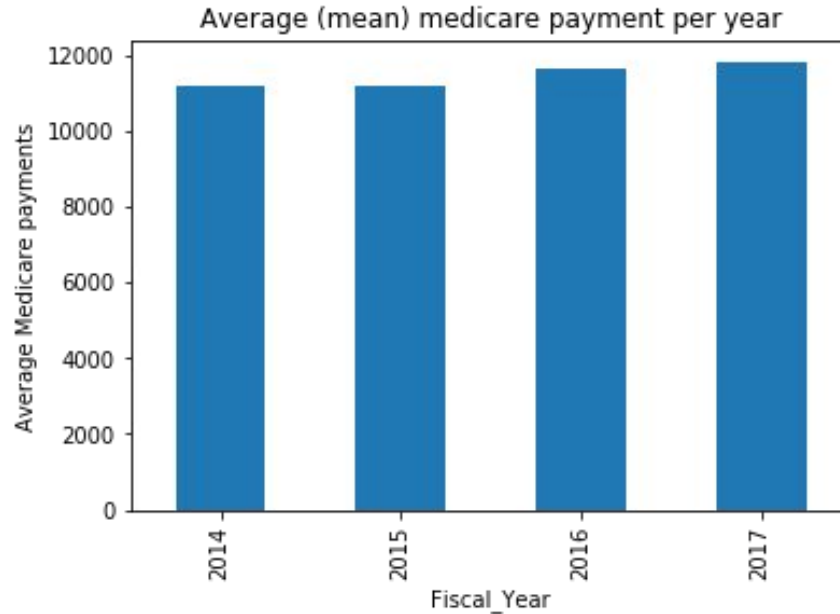
That includes TN, MS, AL, GA, and FL

2D histogram: density of payments by zipcode

What do Medicare Payments look like?

Overall, the average payment is increasing very slightly at an average rate of about $223/year.

Change by year in dollars (rounded):

- 2014-2015: -$4.50
- 2015-2016: +$440.00
- 2016-2017: +$160.00

Average (mean) medicare payment per year

Even the biggest change of $440 may not mean much as a system, if your system is not treating those diagnoses that are actually increasing their rates.

It is all well and good to talk about the average payment as a whole, but that doesn't mean much for the average system or hospital.

So, how does that average payment translate into a given diagnosis?

The Top 10 most common DRG codes

I looked at the top 10 most commonly billed DRG codes (below) and broke that down into year.

- Pneumonia with complication/comorbidity and with major complication/comorbidity (193, 194)
- Major joint replacement of the lower extremity (470)
- Heart failure with complication/comorbidity and with major complication/comorbidity (291, 292)
- Esophagitis and misc GI disorders (392)
- Kidney and urinary tract infections (690)
- COPD (190)
- Cellulitis(603)
- Miscellaneous disorders of nutrition, metabolism, and electrolytes. (641)

Medicare payments for top 10 DRG codes by year
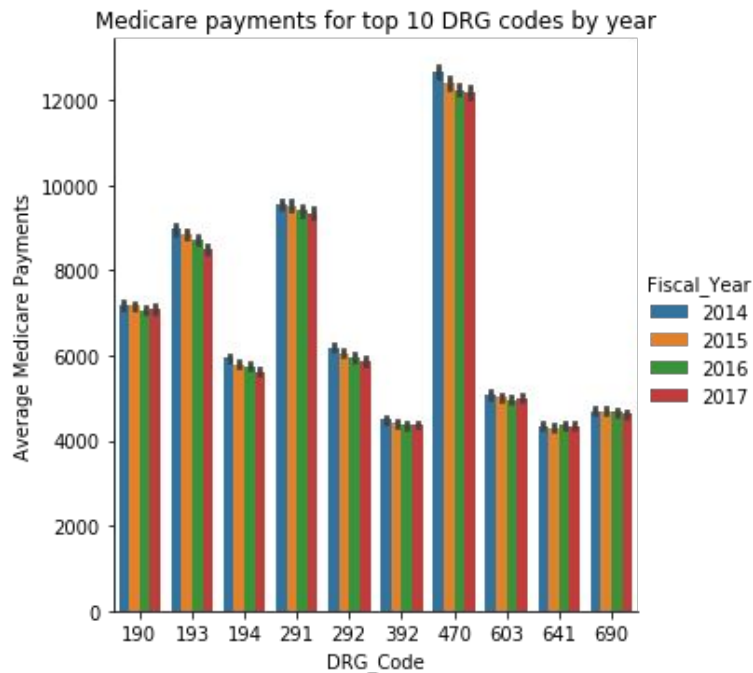
Most of the Top 10 were Trending Downward...

You may have noticed on the previous slide that a vast majority of the top 10 diagnoses were trending downward in payment, even though the overall average is increasing.

Let's look at two of those diagnoses a little more carefully, simple pneumonia and major joint replacement of the lower extremity.

Simple Pneumonia

The average payment for simple pneumonia is decreasing at a rate of approximately $157/year

For a typical winter flu and other respiratory disease season, if you had 5 patients per week in your entire system discharging after being diagnosed with pneumonia, you would be looking at nearly **$41,000 less**, on average, each year.

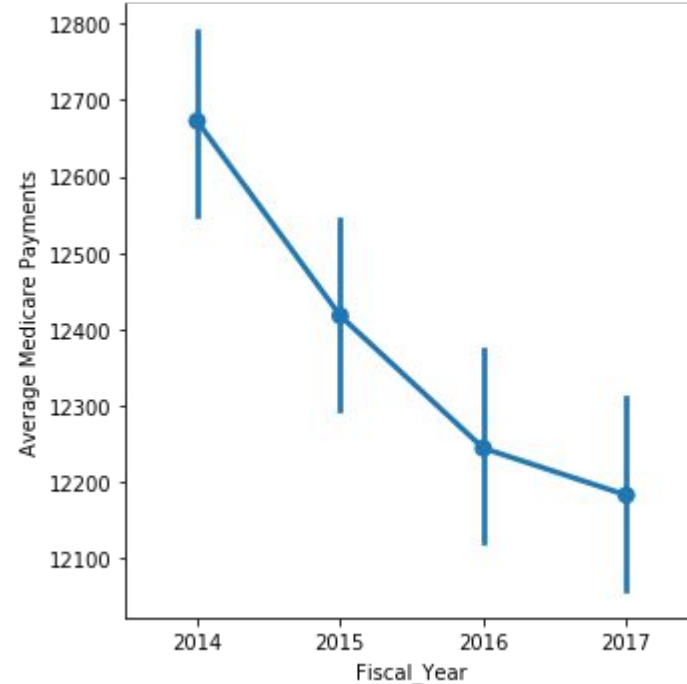Average medicare payments for DRG code 193: Simple Pneumonia
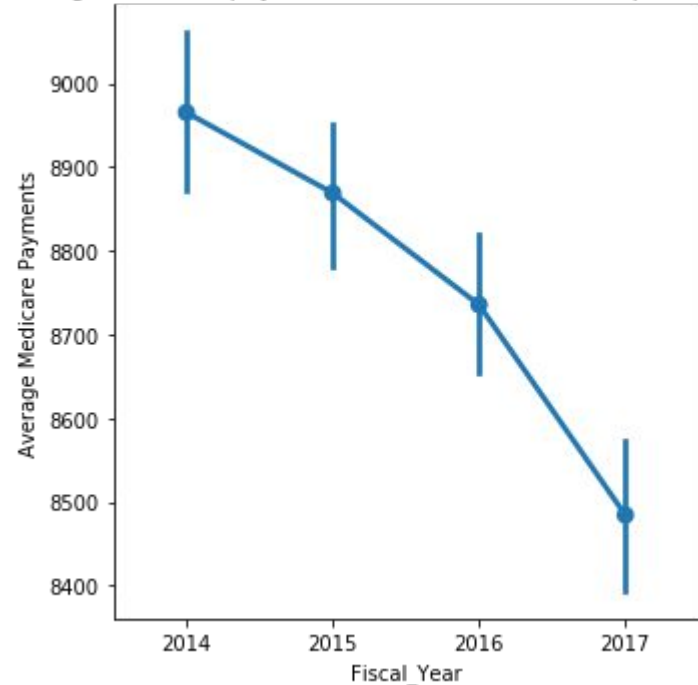
Major Joint Replacement

Now let's say your system sees even 10 patients per week discharging after a total hip or total knee replacement.

The payment rate for these is decreasing by an average of around $164/year.

For your 10 patients per week, that's over **$85,000 fewer** dollars per year.

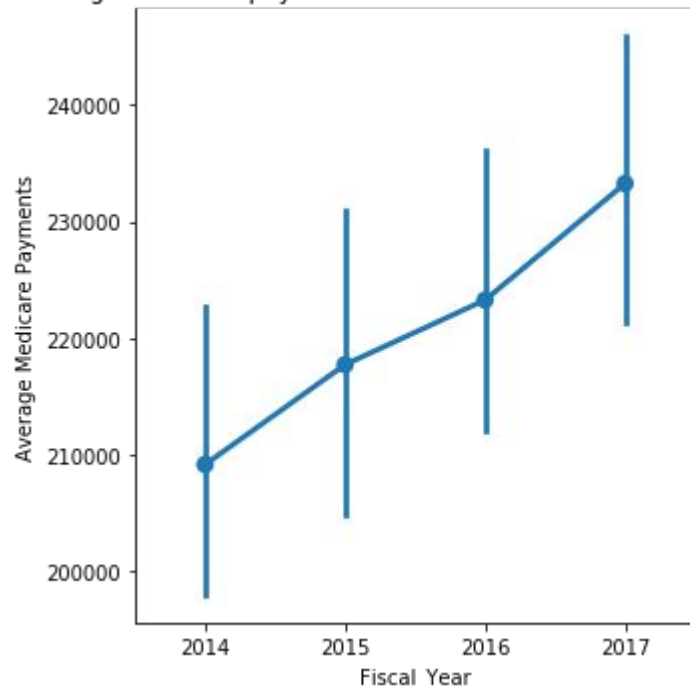Average medicare payments for DRG code 470: Major Joint Replacement

How, Then, Is the Average Increasing?

I found a DRG that was increasing, without a doubt, every year: Heart Transplant.

This DRG averages an **increase of $7800**/year per diagnosis.

Average medicare payments for DRG code 001: Heart Transplant

What Does this Mean for You?

If your system sees a lot of Medicare patients who commonly leave after a top 10 most common diagnosis, perhaps those in the 3xxxx zip code area, you may be feeling more of the fiscal strain of decreasing payments.

Having access to the expected rate of change will help you anticipate and budget for upcoming years, especially as more is expected from fewer healthcare dollars.

This approach could be tailored to the specific diagnoses you see most commonly and applied to your specific hospital system and budgetary concerns.