# MICHIGAN STATE UNIVERSITY Beta Presentation Healthcare Payer Price Transparency

### The Capstone Experience

### **Team HAP**

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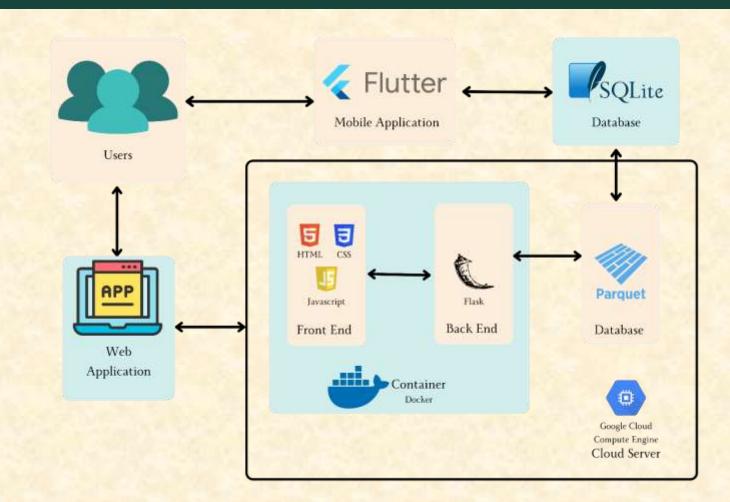


From Students... ...to Professionals

### **Project Overview**

- Extract relevant data from machine-readable files provided by health insurance companies.
- Use the data to create analytical insights about negotiated rates with healthcare providers.
- Show price and coverage discrepancies between HAP and other insurance providers to show where HAP should re-negotiate.
- Use the extracted MRF files in mobile app to show providers available in an insurance plan

### System Architecture



## **Select Files**

hap		Healthcare I	Payer Price Transparency	
Add File to Complete	Select # File	Upload a File 🗶		
	Select Insurance Company	-		
	Salary Pile			

### **Graphs and Analytics**

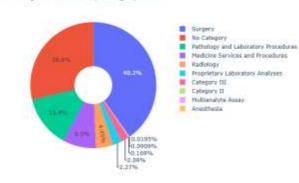
### Comparison Results

C S hap.com/pricesayeranalytics

### Initial Analysis

The analysis indicates that there is a complete lack of overtap between HAP and Psiority regarding the cheapest services, with a count of zero for both companies. Similarly, Blue Cross also registers a count of zero, showcasing an absence of shared cheapest services among all three companies. Consequently, no minimum, maximum, median, or mode values can be determined from the data, highlighting a distinct separation in their service pricing strategies.

In comparing the pricing by provide among the three companies, Blue Cross has the teghest price at 11, 122, while HAP and Priority are more competitively priced with HAP at 7,174 and Priority at 7,141. The lowest price among these is from Priority. The median of these prices is 7,174, corresponding to HAP, and no mode is present since all amounts are unique. Overall, HAP and Priority offer significantly lower prices compared to Blue Cross.



The pie chart for HAP illustrates the distribution of services by category. The largest category is Surgery, accounting for 6, 198 services, while the smallest is Anesthesia, with just 3 services. The category without a specific label, "No Category," is also significant, compresing 4,433 services. Among the categories, the median value is found in Medicine Services and Procedures, at 1,309 services, and the mode is Surgery, with the highest frequency of occurrences.

Percentage of Procedures Not Covered by HAP

Percentage of Services by Category for HAP



The pie chart illustrates the percentage distribution of procedures not covered by HAP across various categories. The largest category is "Medicine Services and Procedures," with 351 procedures not covered, while the smallest is "No Category," with only 5 procedures. The median value of uncovered procedures is 196, sound in the "Surgery" category, and the most thequent value (mode) is 5, though it's only represented by a single category.

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### **GPT** Analysis and Chatbot

### **GPT** Analysis

The data provided primarily revolves around the billing codes and associated costs for two insurance companies. Priority Insurance and Blue Cross Analyzing this data, it is clear that Blue Cross appears to have a larger presence in this dataset, with a significantly higher number of entries compared to Priority Insurance. This could suggest that Blue Cross might have a broader range of services or a more extensive customer base. For instance, out of the 100 entries provided, more than 80 are associated with Blue Cross, indicating a higher frequency of billing events or a wider array of services Billed compared to Priority Insurance.

When we examine the costs associated with each company, Phority Insurance has some of the highest individual billing amounts. The highest cost in the dataset is attributed to Prointy Insurance with a billing code Q0480 costing \$82,473.23. This billing amount is significantly higher than most of the entries for Blue Cross, which predominantly range from \$20,000 to \$96,307.86 at the highest for a billing code 33270. This suggests that while Priontly insurance might have fewer entries, the costs per entry are relatively high compared to Blue Cross. This could imply that Priontly Insurance might be covering more expensive procedures or treatments, or it could indicate fewer but more costly claims.

Another layer of analysis could involve examining the specific billing codes and their frequency. Blue Cross has a variety of unique billing codes such as 33270, 33264, and 64582, suggesting that the company covers a wide range of medical services. In contrast, Priority Insurance has fewer billing codes like Q0480, A9643, and L7181, but these codes are associated with higher costs. This could indicate that Priority Insurance specializes in certain highcost procedures or that their coverage focuses on particular ruche services. Understanding this could be crucial for stakeholders in healthcare and insurance sectors to make informed decisions about partnerships, pricing strategies, or customer targeting.

### Chat with GPT

Send

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Download CSV

Type your menuage.

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### **Billing Code Search**

S hap.com/pricepayeranalytics										
	indicating its p The distinction where Priority Cross covers a analysis outline	otential foc in the data may focus i more gen es how bot arance don	us on specific, possi iset could reflect diffi on niche or critical m eral and extensive m h insurance provider	loes cover significant costs, bity high-priority medical ne- erent business strategies redical services, whereas 8 ange of medical expenses, is play distinct roles in the o different aspects of medic	lue This al	ng tananga				Sent
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## File Dashboard

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hap		Healthcare Payer Price Transparency	
	File Dashboard		
	Storage Information		
	Total Space: 1.82 TB Used Space: 1.34 TB	Free Space: 486.48 GB	
	Enter the UFIL Blue Cross v Upkned		
	Current Files		
	blue_cross		
	blue_cross parquet	612.11 MB Delate	
	hap		
	2024-09-01_GNVC_Health-Aliance-Plan_compressed parquet	1016-30 MB Delete	
	hap_compressed parquet	1.01 BB Delote	
	priority		
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## App Welcome Screen

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Searc	h for Proc	edure	
Search procedu	for provide Ire	rs by	
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### **Procedure Search**

	Initial Sea	arch
knee r	eplacement	
radio: lower proxii	dure: Radiologic stereometric ana extremity(ies), ( nal femur, knee a Code: 03607	lysis (RSA); (includes hip,
IMPL/ TISSU OSTE TISSU	dure: AUTOLOG NAT DERIVED FR E FOR THE TREA DARTHRITIS OF E HARVEST Code: 05857	OM ADIPOSE
IMPL/ TISSU OSTEI INJEC	dure: AUTOLOG INT DERIVED FR E FOR THE TREA DARTHRITIS OF TION OF C Code: 05001	OM ADIPOSE

### **Procedure Prices**

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NPI: 15486		
Address: D65 FEE R		
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DEBRAL	ANGE	
Address:		
SCOTT B	0YD	
NPE 11847		
Address:		
818 W KIN OWOSSO		
RUTH BR	UCE	
NPI: 11343		

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### **Provider Search**

SARA DRA		
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SARA CRA		
NPI-100303 1588 7588 (1	LEAST LANGING, ML 488256192	
SARAH DI		
SARA KIE		

### **Procedures for Provider**

< Pro	ocedures for Provider
A 100	
Provider	Name: SARA CRAMTON
the second se	LN, EAST LANSING, MI, 488238392
100.10333	54702
Q. Search f	or Procedures
Search in	or Procedures
Colonoscopy th	rough stoma; with directed
	ection(s), any substance
Billing Come 444	
control proces	MIN: 397911-935
Esophageal Rec	cording, Atrial Electrogram W/Wo
Rilling Cook: 936	
Cost of proced	wre+544.30
Lipoprotein, bio	ood high resolution fractionation
and quantitutio	
Billing Code: 005	
Cost of proced	ure: 534.07
Arthroplasty, Te	
filling Code: 2124 Cost of proced	

### What's left to do?

- Stretch Goals
  - Appointment reminders on mobile app.
- Other Tasks
  - Ul improvements for consistency and readability.
  - Find and fix any remaining bugs.

### **Questions?**

