

# Data Integrity Clean-up for Health-Tech startup and New Performance Metric Creation for Regional Health System

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CHIP 793: Internship Final Presentation

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a digital marketing &  
crm platform, built  
for healthcare  
organizations



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# Presentation Overview



## **Business Development and Analytics at Cured Health**

Data Integrity Clean-Up

HubSpot

Dashboard Building

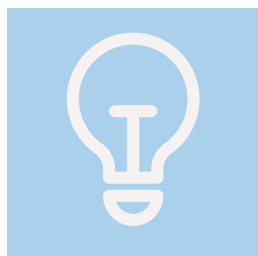


## **TPMG Analytic Consulting Internship**

Overview of TPMG

SAS and SQL Programming

Tableau Dashboards



## **Challenges and Lessons Learned**

First time working in sales

Learning new programming language and software: SAS and Hubspot

Juggling two different projects at once



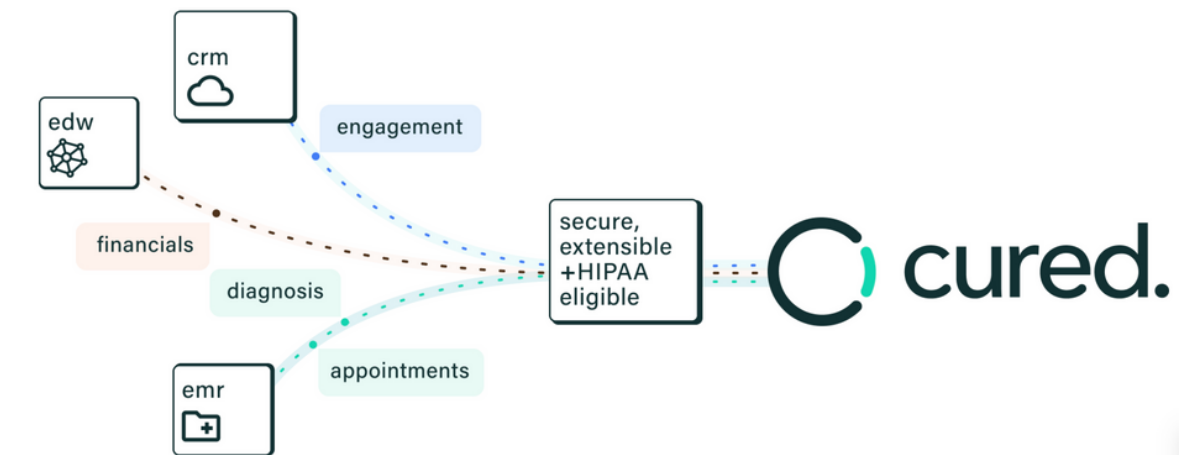
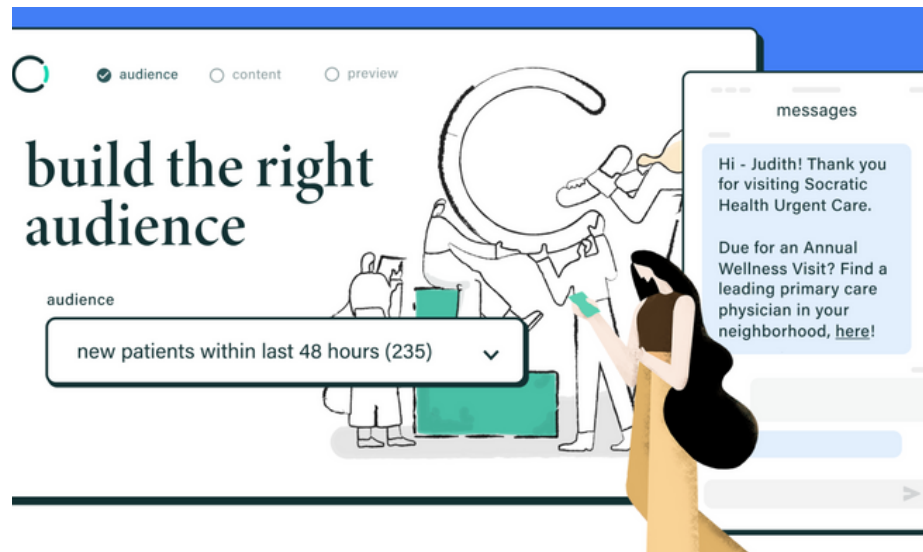
# Background



- Sponsoring Organization #1
- Series A Health Tech Start-up
- Manager: Josh Kalscheur – VP of Business Development
- Supported: Business Development Team

## Project Goals:

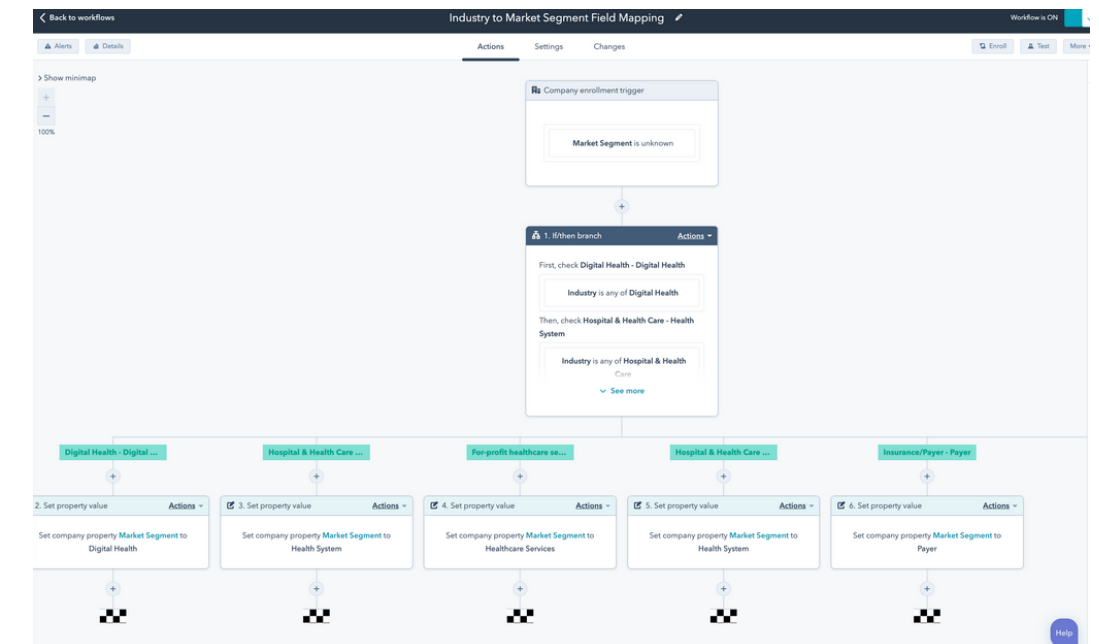
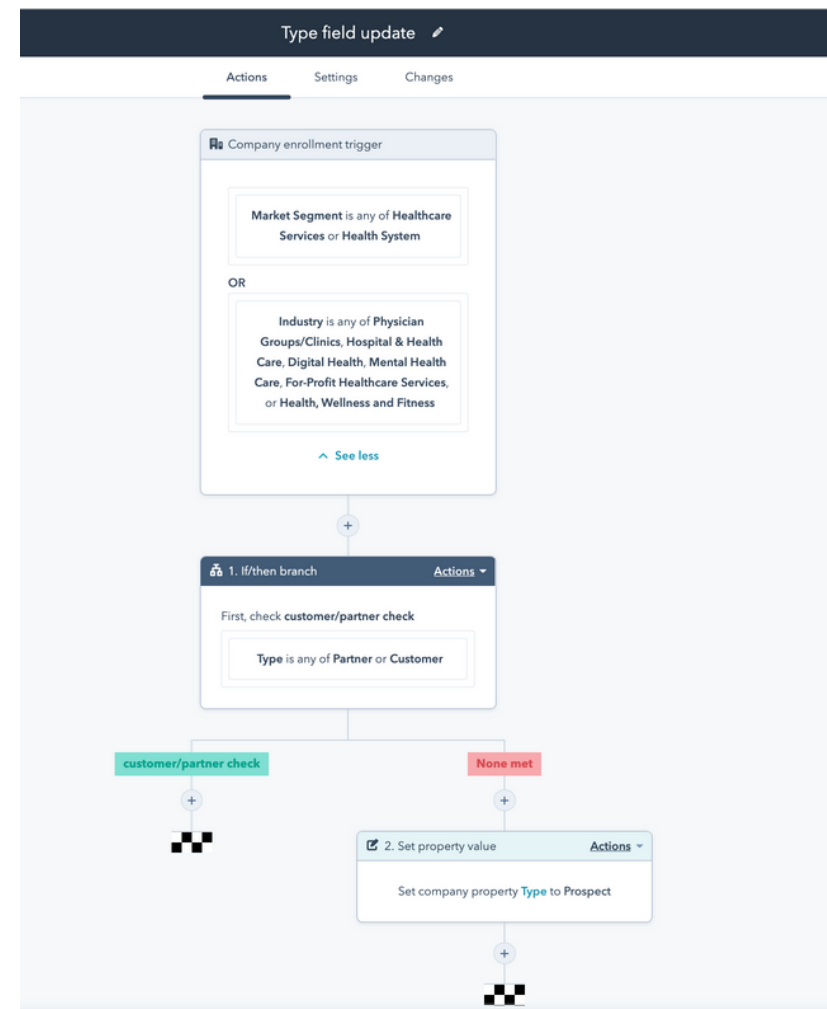
- Improve data integrity of HubSpot Sales Management platform
- Create workflows to ensure consistent record upkeep
- Create dashboards to track representative outreach, deal progression, and market segment activity



# Data Integrity Clean-up

Updated over 4,000 records within the sales tracking platform Hubspot

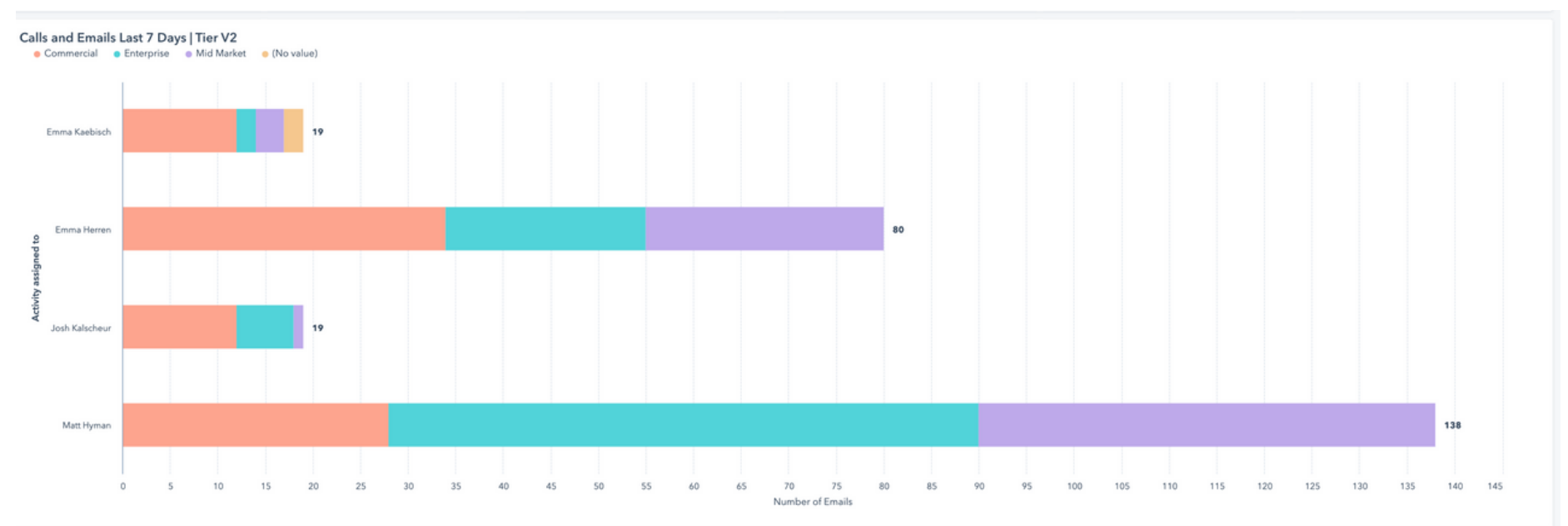
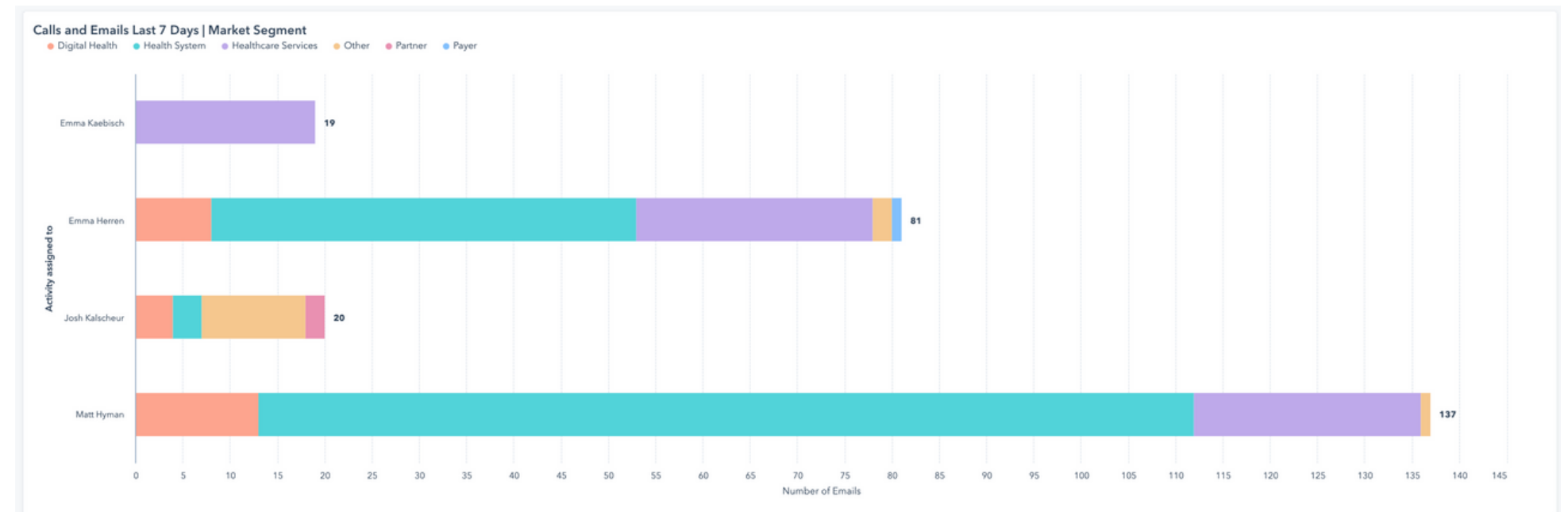
- Researching and building out prospective customers and associated contacts in HubSpot
- I researched and updated over 4,000 company, deal, and contact records
  - This was a huge help to the BD team who was struggling to keep on top of updating records within Hubspot
- Created multiple workflows that would automatically update company records if they were missing fields in the future



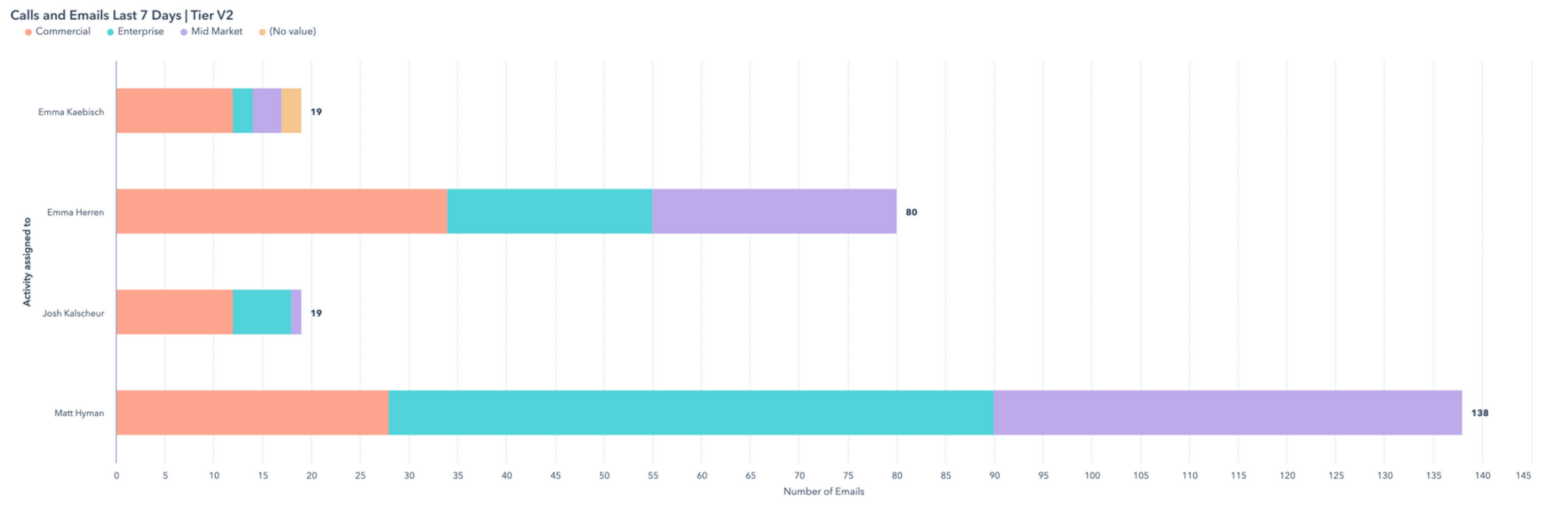
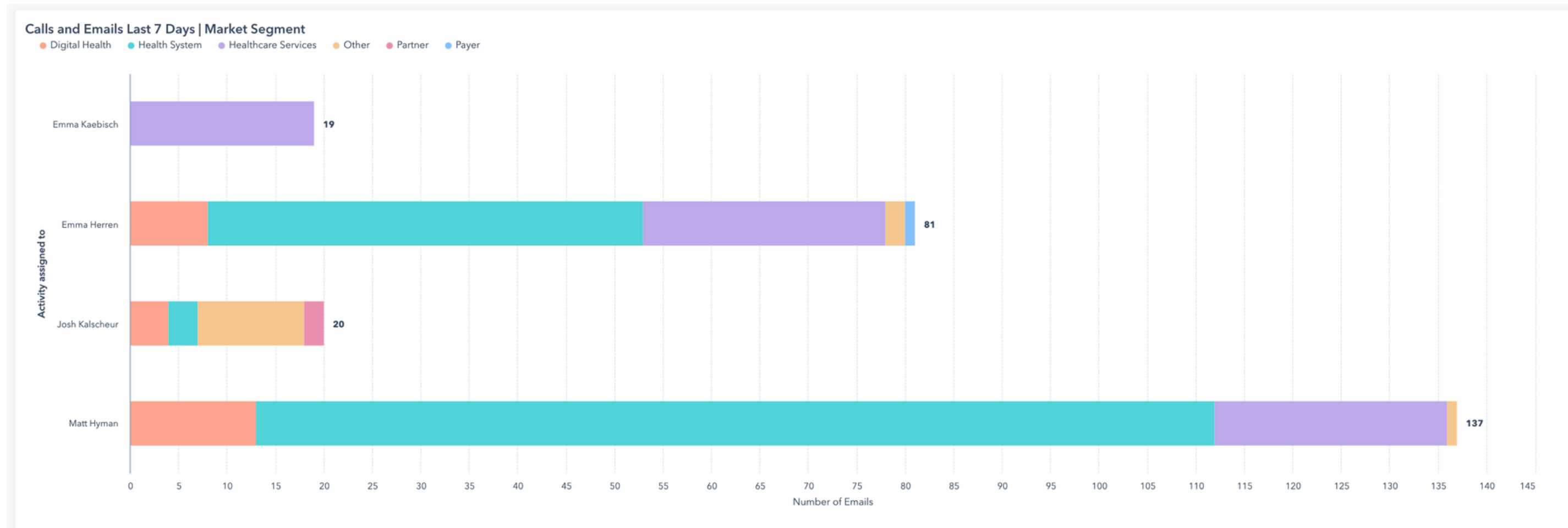
# Dashboard Building

Created dashboards in Hubspot used to track representative outreach, deal progression, and market segment activity

- created dashboards that tracked the BD team's performance on outreach and allowed the team to see their outreach based on market segment and industry
- created dashboards that tracked deal progression based on market segment
- created a dashboard that tracked all company records in which the team had completed a discovery call
  - ensured all these company records contained all the necessary data types

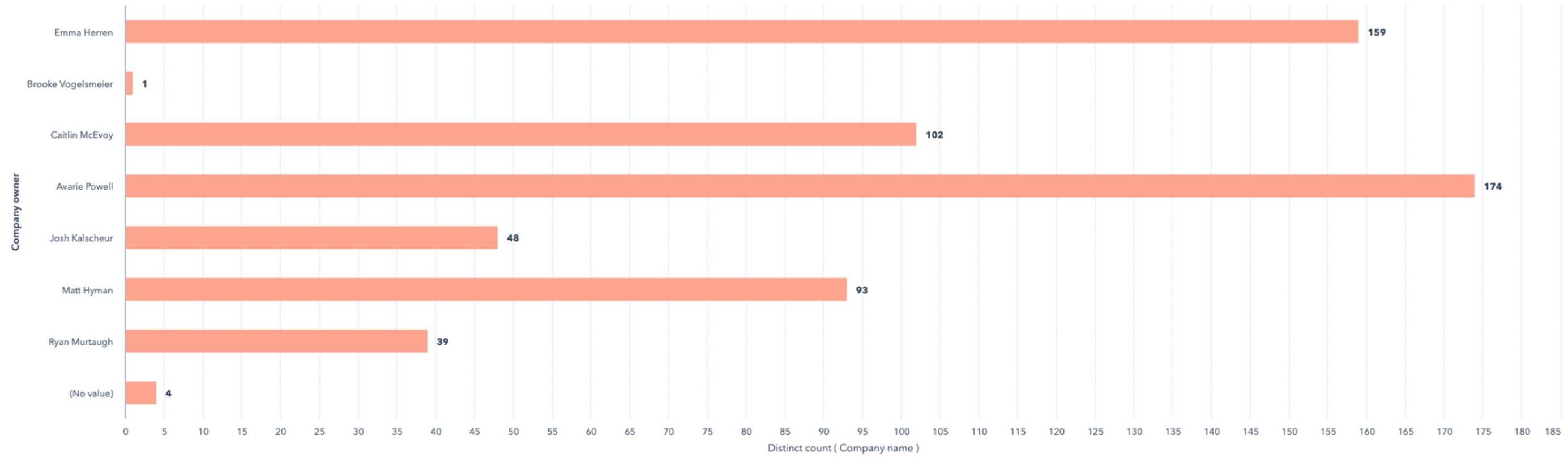


# Examples of Dashboards Created in Hubspot



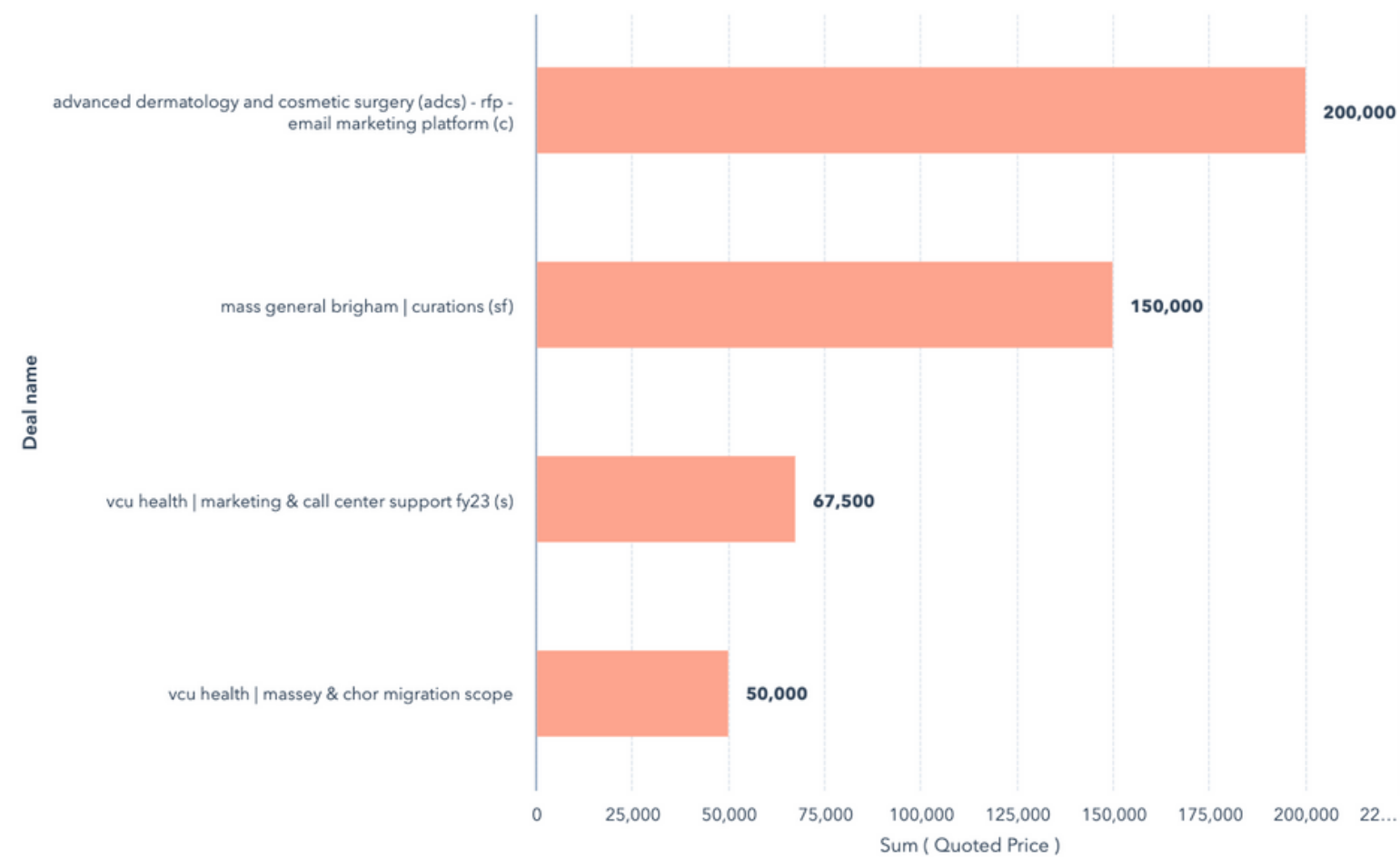
companies without contact in last 90 days

● Distinct count ( Company name )



deals with price quotes | last 10 days

● Sum ( Quoted Price )





# PE Backed Healthcare Services Companies

Identified need to increase outreach to healthcare services companies - researched subtypes and added new company records for outreach in Hubspot

- Collaborated with Cured CEO to brainstorm healthcare services subtype categories
- Researched possible companies within these subtypes, and built them out in Hubspot
- CEO was particularly interested in Private Equity backed healthcare services companies
  - Researched PE firm portfolios to find PE-backed healthcare services companies
- Created a healthcare services tracking dashboard within Hubspot

B	C
<b>Categories to Focus On</b>	<b>PE Firms to Focus On</b>
Urgent Care (1)	Adams-Street
Mental & Behavioral Health	Water-Street
MSK - Physical Therapy, Chiropractic, Joint, Ortho (2)	Linden-
Long Term Care (SNF, Post Acute Rehab)	BPOG-
Dental	General-Atlantie
Radiology	Silversmith-
Oncology Care	Martis-
Eye Care (Optometry, Opthamology)	Triple-Tree
Dermatology (3)	Silver-Oak-
Primary Care	TPG
Home Health & Hospice	General-Atlantie
Dialysis	Deerfield-
Women's Health	Great-Hill-
Digestive and Gastro	JMI
Vein Care	Spectrum
Ambulatory Surgery Center (4)	ObriMed-
	Insight
	Audax-





# Background



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## Design Thinking



- |           |               |                |                     |              |
|-----------|---------------|----------------|---------------------|--------------|
| Alameda   | Gilroy        | Oakland        | San Jose            | Stockton     |
| Antioch   | Hayward       | Petaluma       | San Leandro         | Sunnyvale    |
| Campbell  | Lincoln       | Pinole         | San Mateo           | Tracy        |
| Clovis    | Livermore     | Pleasanton     | San Rafael          | Union City   |
| Daly City | Manteca       | Rancho Cordova | San Ramon           | Vacaville    |
| Davis     | Martinez      | Redwood City   | Santa Clara         | Vallejo      |
| Dublin    | Milpitas      | Richmond       | Santa Cruz          | Walnut Creek |
| Elk Grove | Modesto       | Rohnert Park   | Santa Rosa          | Watsonville  |
| Fairfield | Mountain View | Roseville      | Scotts Valley       |              |
| Folsom    | Napa          | Sacramento     | Selma               |              |
| Fremont   | Novato        | San Bruno      | South Sacramento    |              |
| Fresno    | Oakhurst      | San Francisco  | South San Francisco |              |

- Sponsoring Organization #2
- The Permanente Medical Group is the largest medical group in the United States
- Manager: Paul Sims – Data Analytics and Reporting Consultant IV
- Supported: TPMG Consulting Services – Analytic Consulting Department – Primary Care Homerom

## Project Goals:

- Create new Prenatal Screening Performance Metric and dashboard to visualize data
- Transfer existing procedure dashboard from Excel to Tableau and add demographic information

## Fast facts

Headquarters: Oakland, California

Physicians 9,530

Non-Physician Staff 39,630

Hospitals 21

Members Served 4.5M

Medical Offices/ Outpatient Facilities 266



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# Disclaimer:

- I cannot provide specific details about my projects including pictures of dashboards or code because it would be considered a breach of Kaiser Permanente sharing policies.
- Both of my projects included analyzing and querying highly classified PHI directly from the clarity database which holds all patient records from Epic.
- Because of this, the department has particular and strict sharing policies about projects, and we must treat all project details as proprietary information.



# New Prenatal Screening Metric

Worked with TPMG Chair of Chiefs - OBGYN - to create new prenatal screening metric (modeled after existing HEDIS measure specifications)

- Researched HEDIS measurement specifications, and CA recommendations to create specifications for the new metric
  - This included defining the measurement period, initial population, numerator and denominator
- Used SAS and SQL code to query clarity database in order to get the necessary numerator and denominator data
- Exported metric data to Tableau and created a dashboard to visualize the performance by service area and medical center

## HEDIS and Performance Measurement

The Healthcare Effectiveness Data and Information Set (HEDIS) is one of health care's most widely used performance improvement tools. 191 million people are enrolled in plans that report HEDIS results. Visitors to this page often check [HEDIS FAQs](#), [QRS FAQs](#), or ask a question through [MyNCQA](#).

### HEDIS MEASURES

[HEDIS®](#) includes more than 90 measures across 6 domains of care:

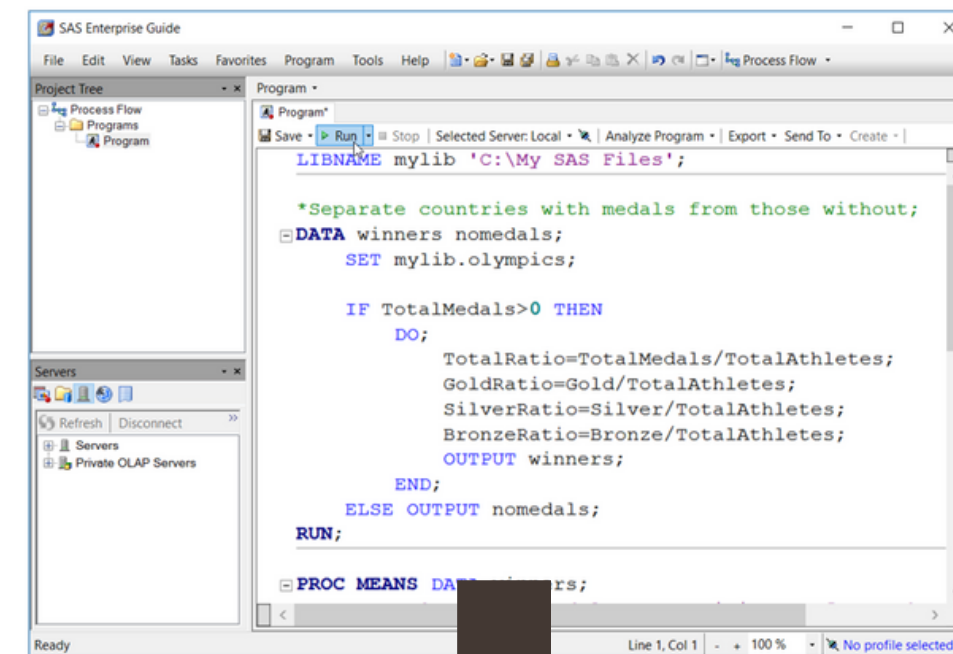
- Effectiveness of Care.
- Access/Availability of Care.
- Experience of Care.
- Utilization and Risk Adjusted Utilization.
- Health Plan Descriptive Information.
- Measures Reported Using Electronic Clinical Data Systems



# Procedure Dashboard Update

Worked with TPMG Chief of OB/GYN to update an existing excel procedure dashboard to include race/ethnicity information and re-design in Tableau

- Use SAS and SQL code to query database in order to get the race/ethnicity information that was requested by the physician client
- Create a SAS table with all of the necessary information requested by client for the dashboard
- Export data from SAS to Tableau and create a dashboard that visualizes the procedure data by service area, race and ethnicity
  - the goal of the new dashboard was to make it more user friendly and interactive by moving it from Excel to Tableau

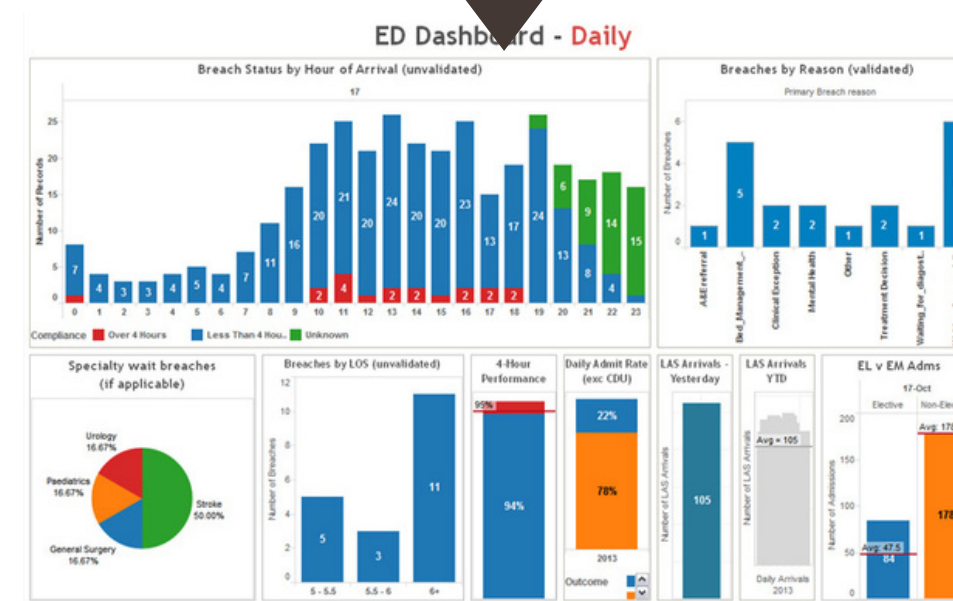


```
LIBNAME mylib 'C:\My SAS Files';

*Separate countries with medals from those without;
DATA winners nomedals;
SET mylib.olympics;

IF TotalMedals>0 THEN
DO;
TotalRatio=TotalMedals/TotalAthletes;
GoldRatio=Gold/TotalAthletes;
SilverRatio=Silver/TotalAthletes;
BronzeRatio=Bronze/TotalAthletes;
OUTPUT winners;
END;
ELSE OUTPUT nomedals;
RUN;

PROC MEANS DATA=WINNERS;
```



# Challenges & Lessons Learned

01

## Thrown into the hectic world of BD for a small series A Healthcare Tech startup

- No prior sales or business development experience
- Realized how integral BD is for a new company

02

## Learned new software and programming language

- Hubspot
- SAS programming

03

## Juggled two different deliverables and clients at once for TPMG

- Can be overwhelming at first but with organization and sticking to a schedule, you can conquer both successfully

04

## Small startup vs large regional health system

- really enjoyed getting to experience the pros and cons of working for a small vs large company
- allowed me to reflect and decide how I want to start my career







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# THANK YOU

*I hope you enjoyed learning about my internship experiences*

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## CONTACT INFORMATION

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