Ambulatory Surgery Visits

The background process of Verification and authorization.

by Regine N. Denerville

Welcome to Heartland Healthcare Network

Heartland Healthcare Network is a group of 10 facilities servicing the Metropolitan Area of Smiley Face City.

Facilities:

- General Hospital
- Chicago Hope
- Hilltop Hospital
- Amsterdam
- Kingdom Hospital
- Memorial Hospital
- Plainsboro Hospital
- Saint Eligius
- Rally Hospital
- Star Hospital

*The name of facilities has been anonymized to protect the information of NYC H+H patients.

Summary

At Heartland Health Care Network we care about our staff, patients and most especially our data.

We recently decided to look into our Ambulatory Care Service Visits because this is a large area where we collect high dollars from Health Insurance Companies in Outpatient settings.

According to the CDC: National Health Statistics Reports from the National Hospital Ambulatory Medical Care Survey, Ambulatory Surgery has increased since the early 1980's and with new technology and medical advancements we will continue to see an increase.

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Introduction

Why is there a growth in Ambulatory Care Services?

As mentioned earlier, an expansion in medical and technological advancements, with improved changes in anesthesia and in analgesics for pain relief as well as an increase in minimally invasive and noninvasive procedures (such as laser surgery, laparoscopy, and endoscopy and more). Prior to this growth, many of these services were performed in Inpatient settings, while minor procedures were done in a physicians offices. This later causing changes to health care costs.

How does this affect hospitals?

Medicare and other insurance payors now needed to update their reimbursement costs. U.S. healthcare costs are reduced by more than $38 billion per year due to the increase of ambulatory surgery centers for outpatient procedures, as noted by the Healthcare BlueBook, Ambulatory Surgery Center Association and HealthSmart.

Don’t be frightened this is a good opportunity!

Remember less is more! More Amb Surg Clinics and less minor Inpatient procedures in our facilities, welcomes more revenue and good reviews from our patients.

Objective

Motivation

Before we collect dollars from insurance companies we need to know how well are we at collecting the correct information from patients with scheduled visits.

From my previous experience in the Finance Department working specifically with Amb Surg visits, collecting insurance is similar to collecting data for research. Front-End teams are hard at work communicating daily with patients, physicians and insurance companies to obtain authorization in a timely manner.

Goal

- Display how many amb surg visits are scheduled within 1 month.
- Identify visits that have been verified and authorized by the expected admission date.
- Determine what is the turnaround time Front-End teams are able to work on visits assigned to their respective Workqueue.
- Point out which insurance payors are more likely to pay for Amb Surg services.

Methodology Characters

Raw Data Danielle

Raw Data has been collected from the Electronic Medical Record System EPIC.

Workqueue Productivity - Reporting Workbench

Google Colab Cole

Python Notebook

Used for creating logical syntax to filter and manipulate large data.

Tableau Tina

Tableau

Visualization

Raw Data

Collected from EPIC an Electronic Medical Record system

Epic

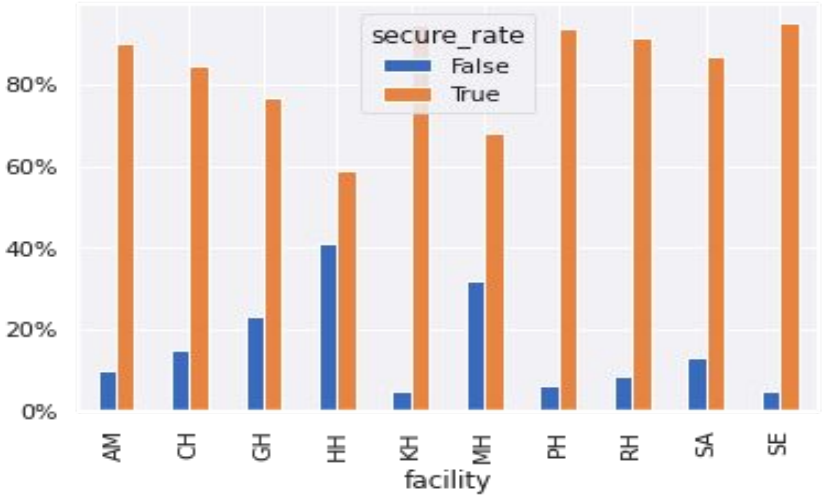
Data was collected from EPIC reporting workbench. This data is based on the productivity of work queues with Amb Surg and Pre-Admission visits. Visits are scheduled by OR teams not Finance Teams. Therefore we are using this data to understand where our facilities can improve to continue to collect dollars and allow OR Teams to continue to schedule based on their patients needs.

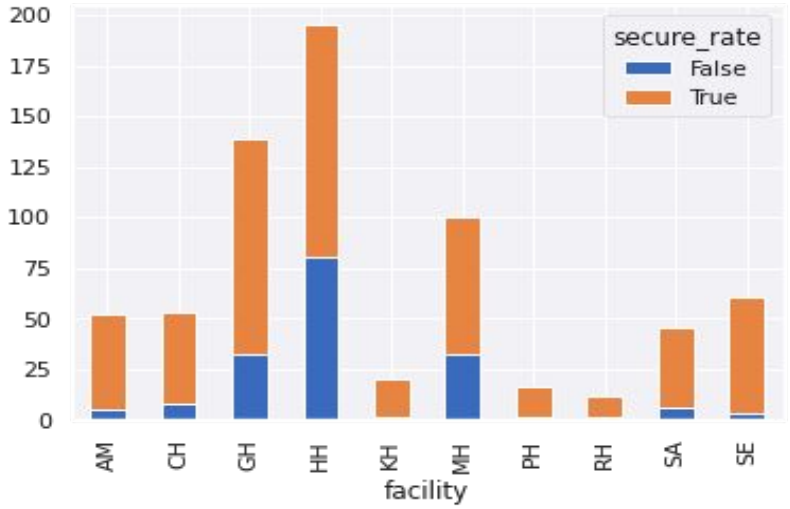
*The name of facilities, patient names, mrn and visit number has been anonymized to protect the information of patients.

Google Colab

Data Wrangling

- 694 Rows, 22 Columns
- Drop columns: 12 columns used
- Convert columns to a numeric: changing from dtype object to dtype int
- Filter/Sort
- Distribution Plots





Matplot Bar Graph

This graph displays the percentile of visits that have been verified and authorized by facility.

(Secure = True) & (Unsecure = False)

Matplot Bar Graph

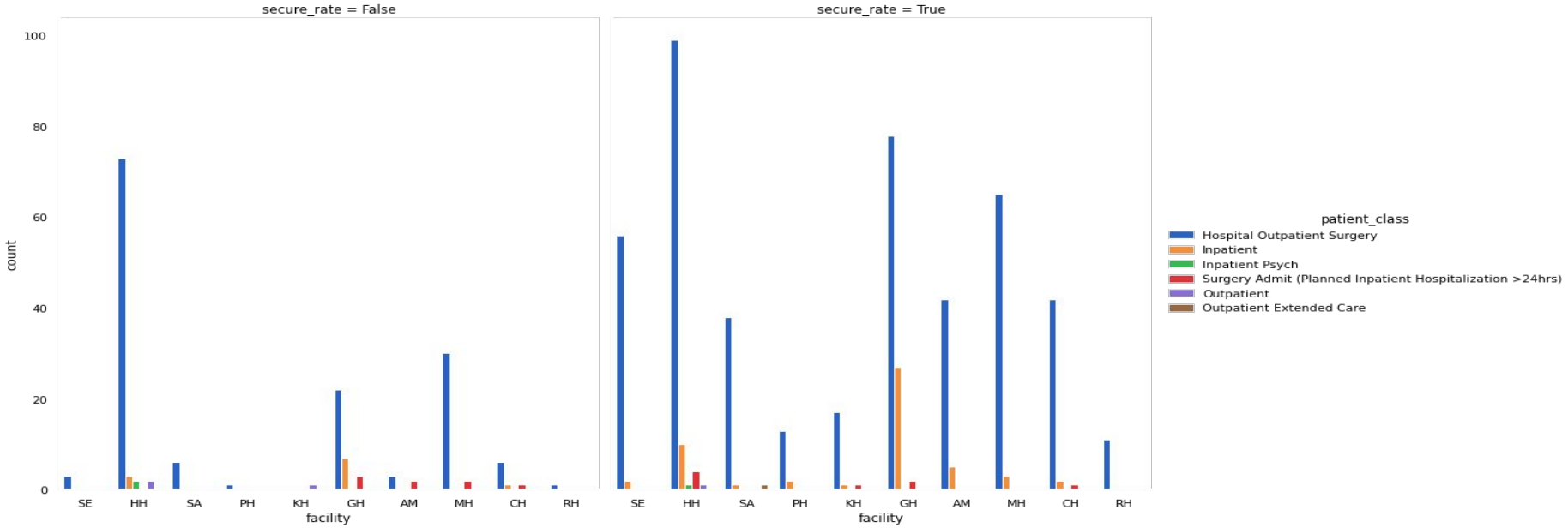
While this stacked bar graph displays the count of visits that have been secured for an Amb Surg Visit by facility.

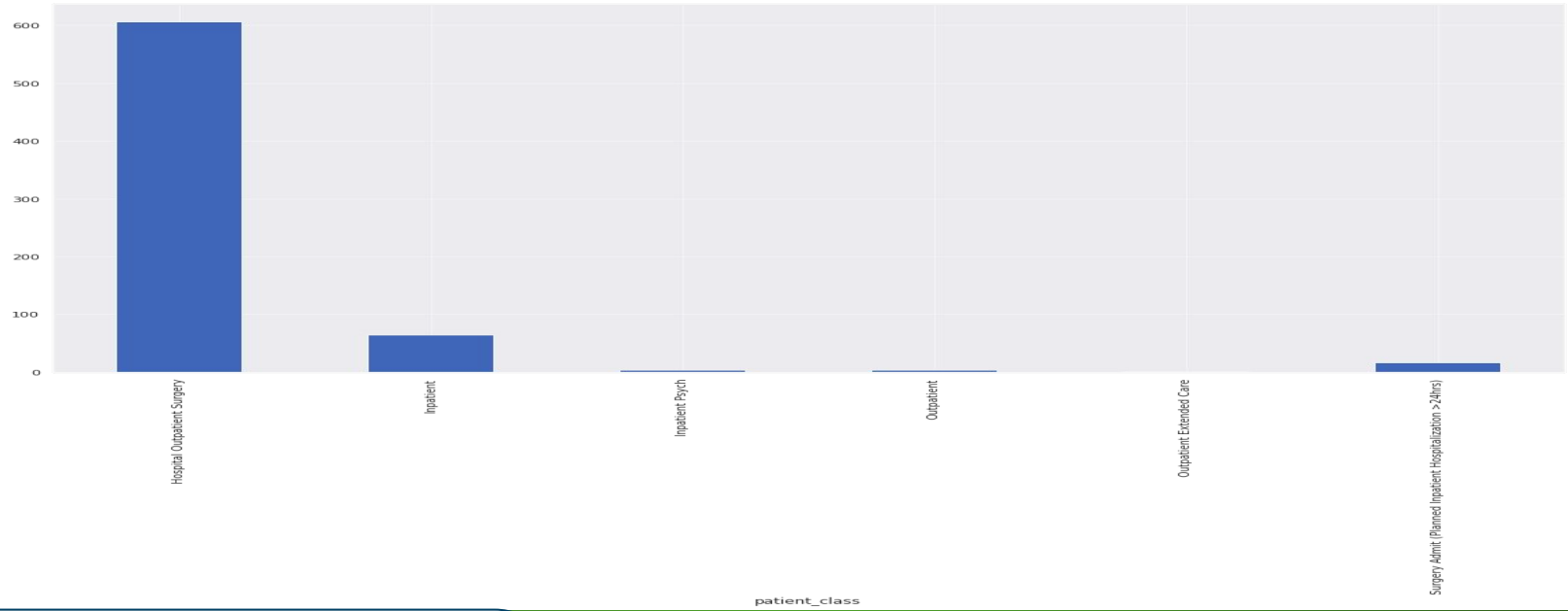
(Secure = True) & (Unsecure = False)

Seaborn Bar Graph

Here is a bar graph which separates the count of visits that have been verified and authorized by facility.

(Secure = True) & (Unsecure = False)





MatPlot Bar Graph

In this last bar graph I have identified the count of visits by patient class.
And our filter displays a clear list, where we see Hospital Outpatient Surgeries outnumber all other Amb Surg visits scheduled.

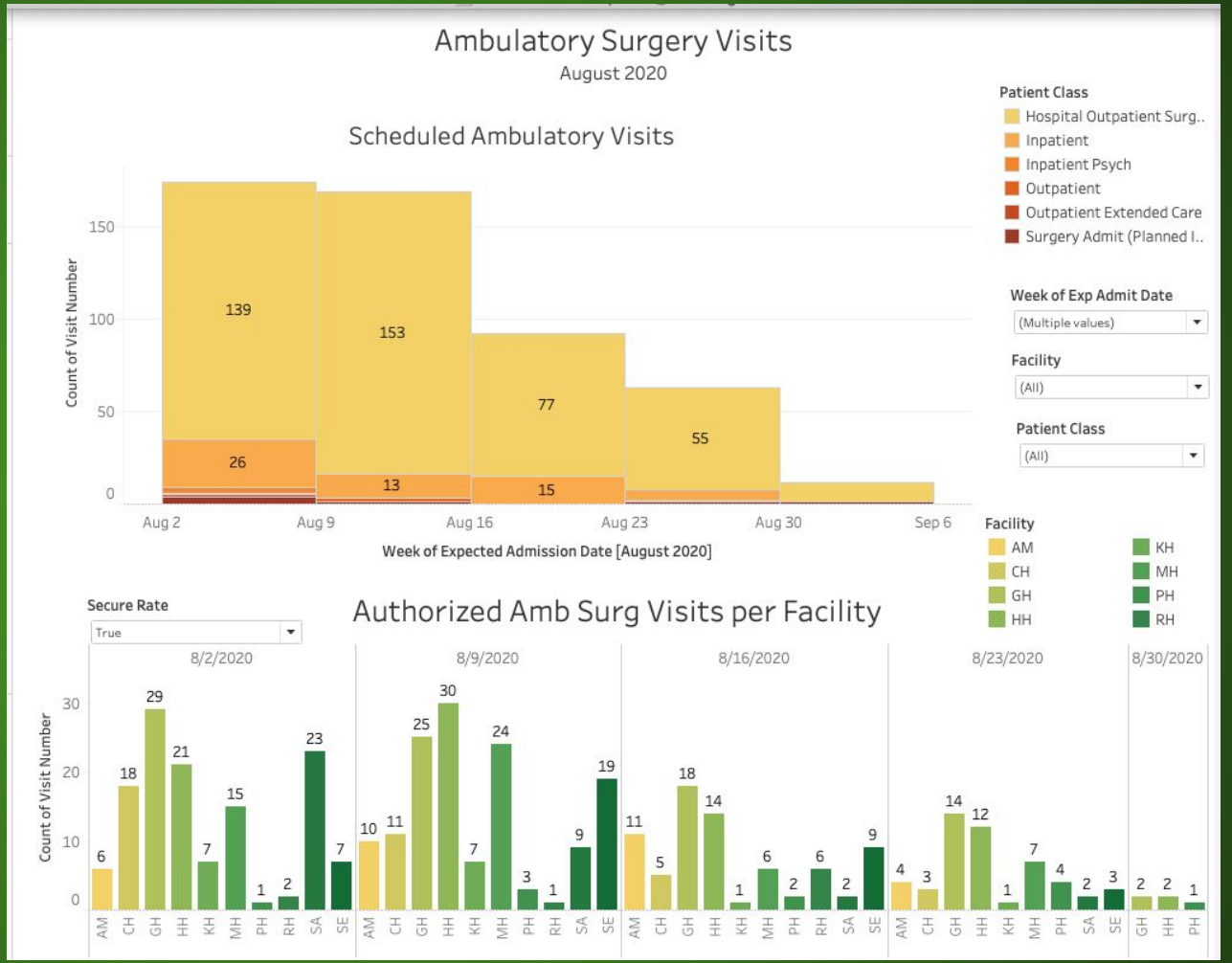
```
Hospital Outpatient Surgery                          606
Inpatient                                             64
Surgery Admit (Planned Inpatient Hospitalization >24hrs)  16
Outpatient                                             4
Inpatient Psych                                        3
Outpatient Extended Care                               1
Name: patient_class, dtype: int64
```

Now let's see what Tableau has in store for our data.

-Dashboard-

Ambulatory Surgery Visits

Count & Secure Rate of scheduled visits

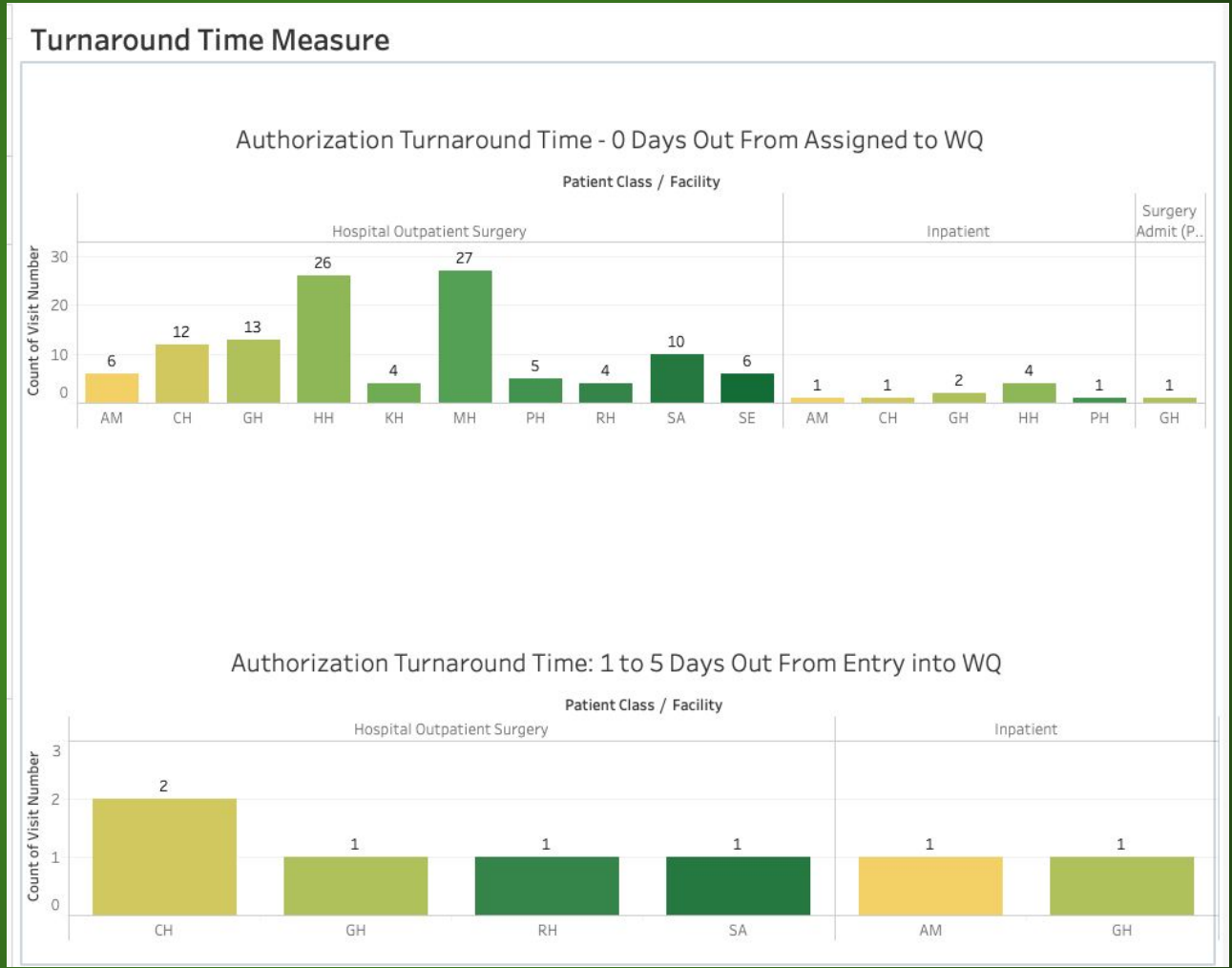


-Dashboard-

Ambulatory Surgery

[0 Days Out & 1 to 5 Days Out]

Turnaround Time



-Dashboard-

Ambulatory Surgery

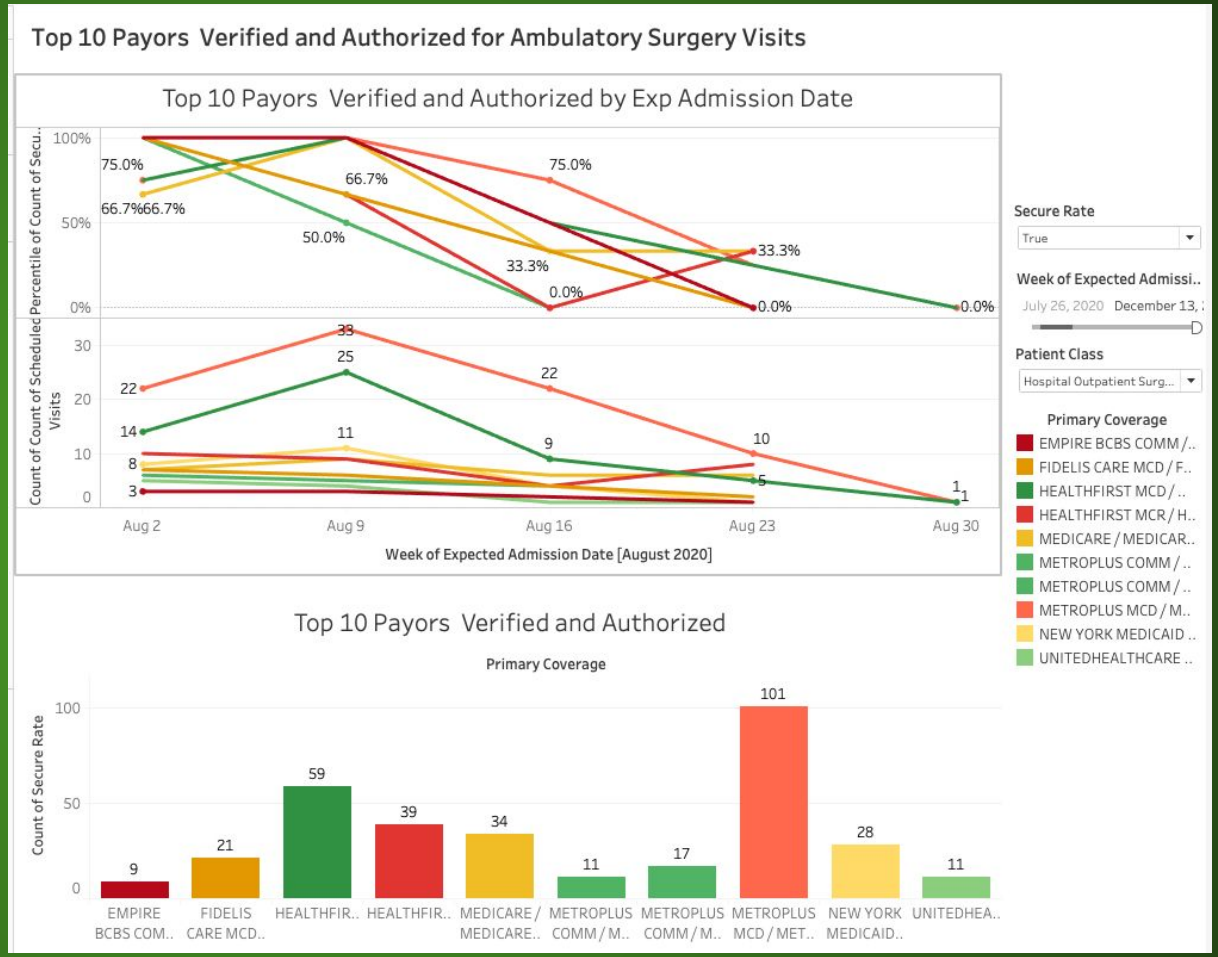
[6 to 14 Days Out & 15 to 31 Days Out]

Turnaround Time

-Dashboard-

Ambulatory Surgery

Top 10 Payors



Conclusion

Ambulatory Surgery Visits

In conclusion, Amb Surg Clinics at Heartland Healthcare Network have a large amount of Hospital Outpatient Surgery visits throughout the month. This is where we may gain the most dollars from in our Outpatient Setting.

Front-End teams work very diligently to be sure visits that are assigned to them are verified and authorized in a timely fashion.

Metroplus is our top payor allowing us to authorize these growing Amb Surg Visits.

Review

Would you recommend this Data Analysis to your facility? And what would you modify or include to assist your Front End Teams?
Write your review here.

Thank you!

Resources:

- Ambulatory Surgery Data From Hospitals and Ambulatory Surgery Centers: United States, 2010. Hall MJ, Schwartzman A, Zhang J, Liu X. Ambulatory Surgery Data From Hospitals and Ambulatory Surgery Centers: United States, 2010. *Natl Health Stat Report*. 2017;(102):1-15.

  https://pubmed.ncbi.nlm.nih.gov/28256998/

- National Hospital Ambulatory Medical Care Survey: 2017 Emergency Department Summary Tables

  https://www.cdc.gov/nchs/data/nhamcs/web_tables/2017_ed_web_tables-508.pdf