



TidalHealth Internship Richard A. Henson Research Institute

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Background

- Robert L. Joyner, Jr, PhD, RRT, RRT-ACCS, FAARC
- M. Patricia Chance, CCRC
- Megan Brimer
- Amanda Miller
- Founded in 2012 as a result of a grant from the Richard A. Henson Foundation
 - Johns Hopkins Clinical Research Network

Responsibilities



Create a research proposal including an abstract, background, primary objectives, method and procedures, etc.




Organize and format large data sets for analysis

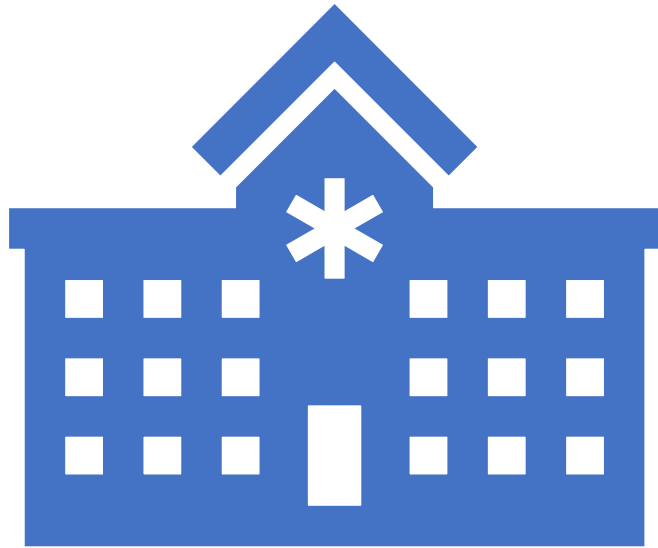


Analyze large real-world data using using advanced techniques with Excel



COVID-19 Background

- Background
 - SARS-CoV-2 virus causes COVID-19, an infectious disease discovered in 2019
 - Symptoms can range from mild to severe
 - Individuals can become infected through droplets and particles spread through the air
 - Data Source
 - Premiere, Inc is a healthcare improvement company that supports cost containment of healthcare organizations
 - Self Reported de-identified data from March 2020 – February 2021
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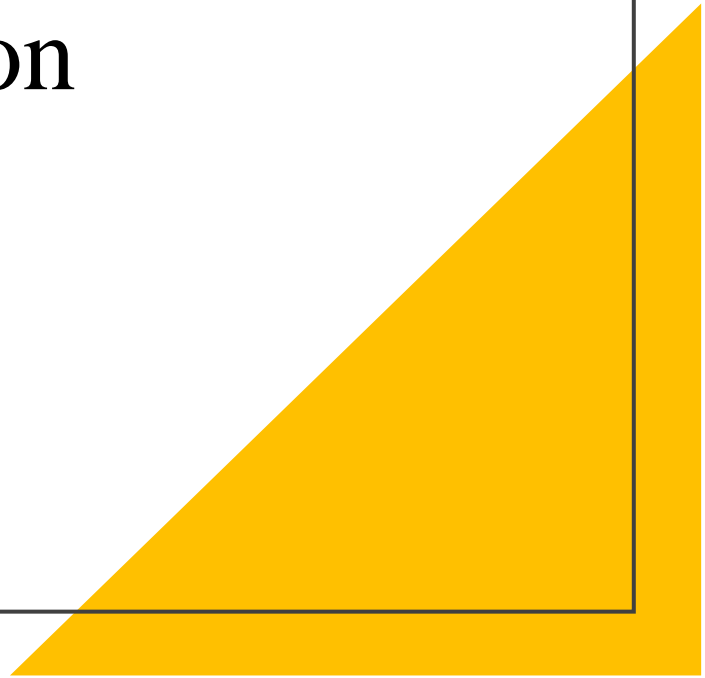


Primary Objectives

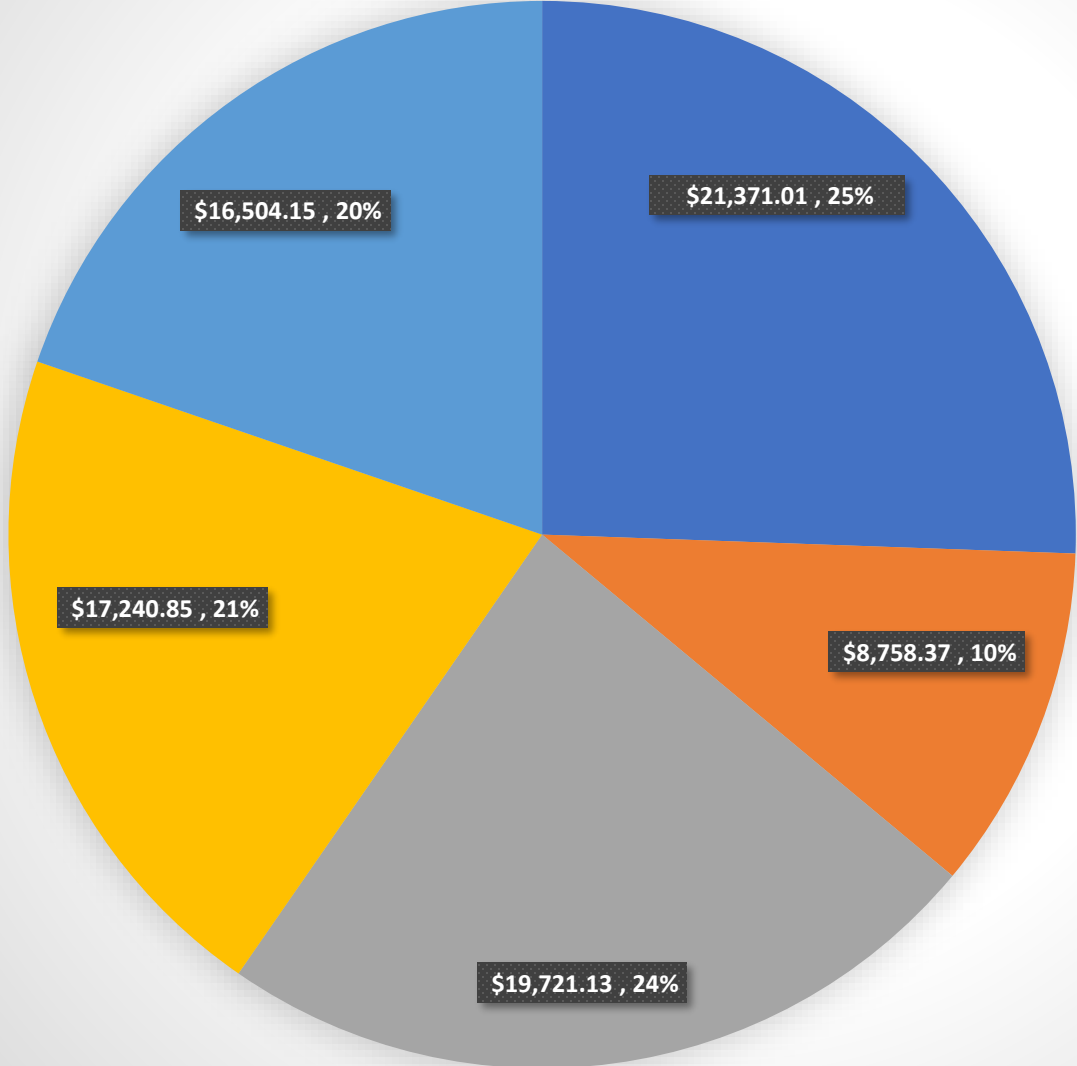
1. Evaluate the impacts of patient demographics on the cost of a COVID-19 related TidalHealth hospitalization
2. Determine the average cost of a COVID-19 related TidalHealth hospitalization based on length of stay
3. Understand the origins of the costs of a COVID-19 related TidalHealth hospitalization
4. Determine how specific therapies, such as Remdesivir, convalescent plasma, Tocilizumab, and Baricitinib affect the cost of a COVID-19 TidalHealth hospitalization

Objective #1

Evaluate the impacts of patient demographics
on the cost of a COVID-19 related
TidalHealth hospitalization

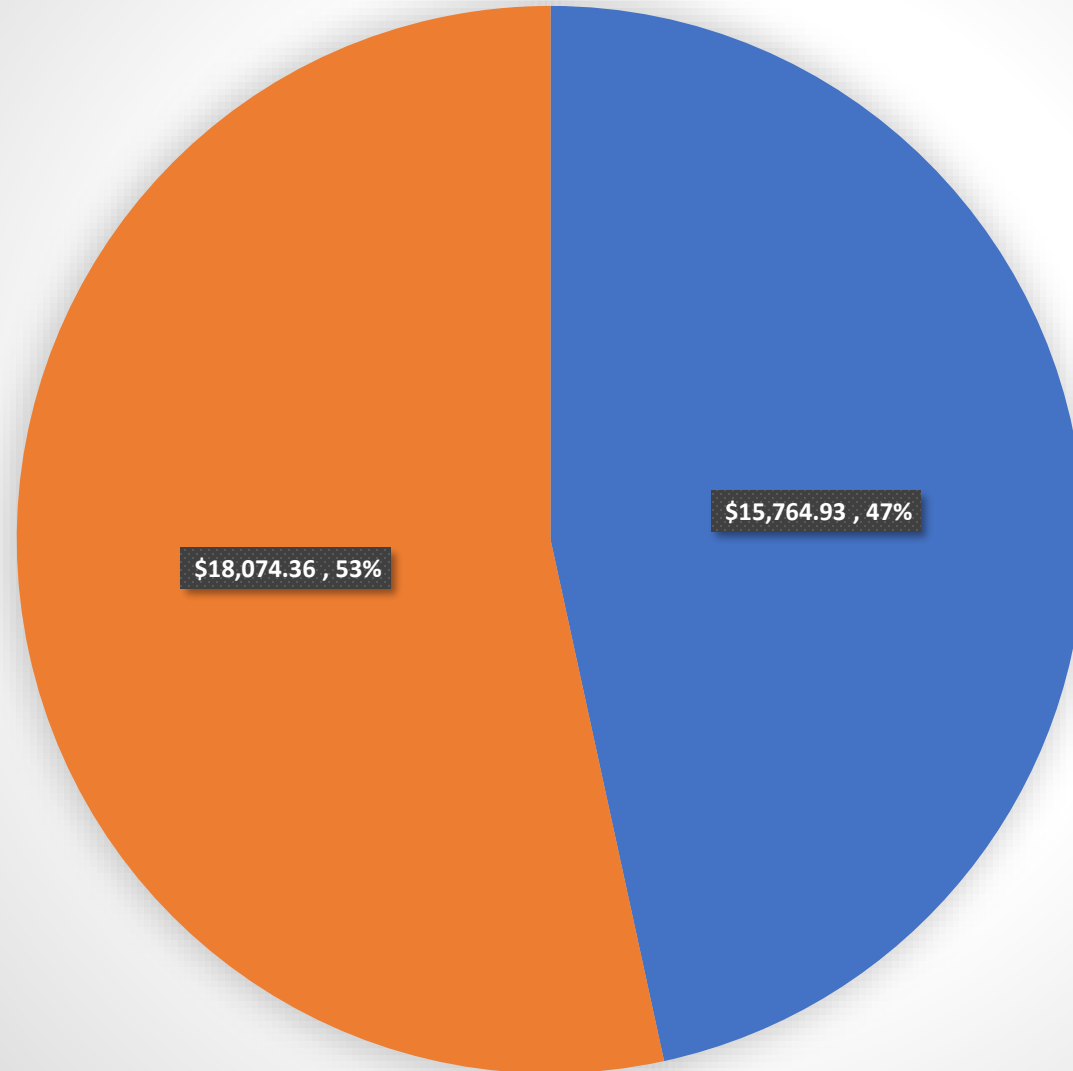


Average Cost per Case By Age



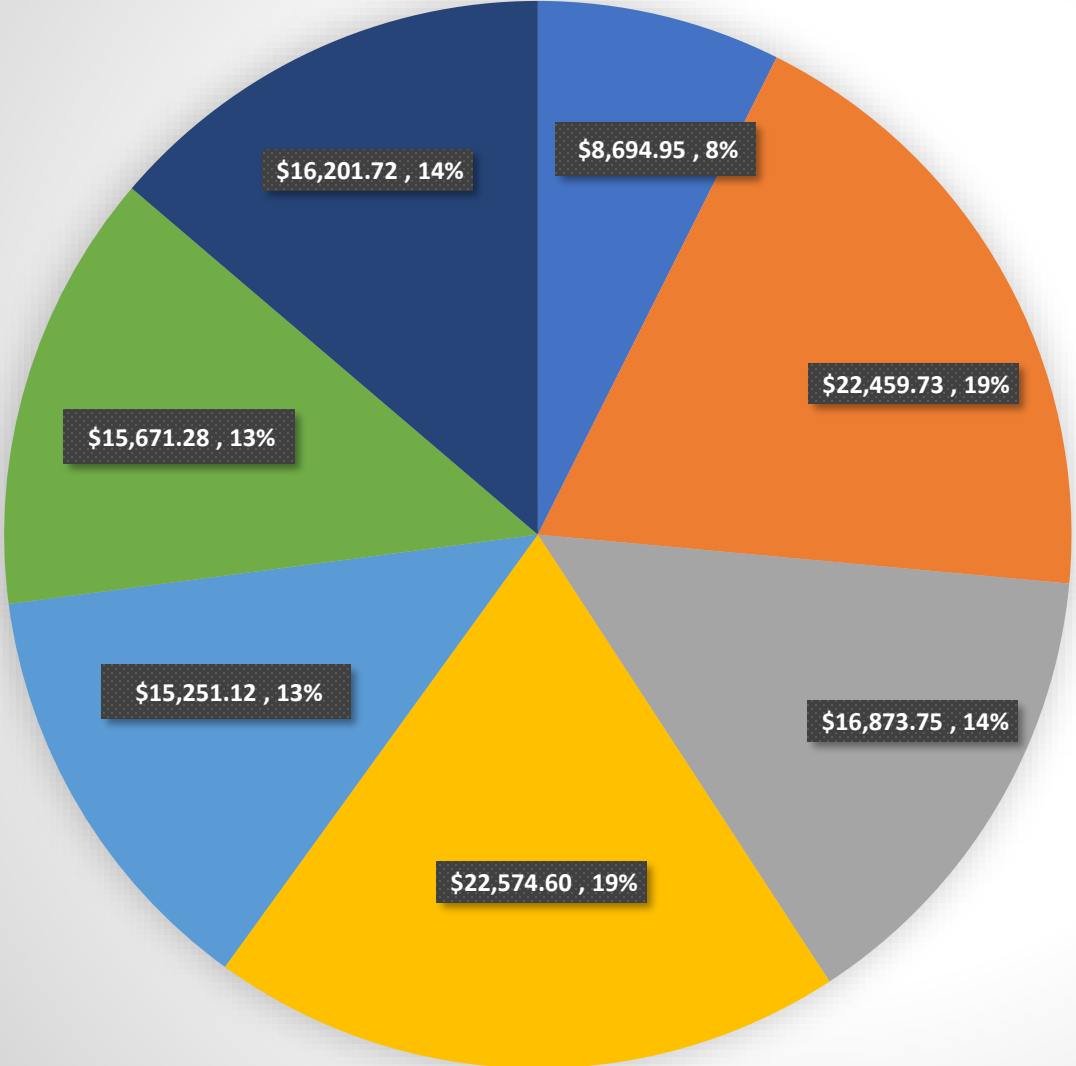
- 0-17 years
- 18-39 years
- 40-59 years
- 60-79 years
- 80+ years

Average Cost per Case By Gender



- Female
- Male

Average Cost Per Case By Race



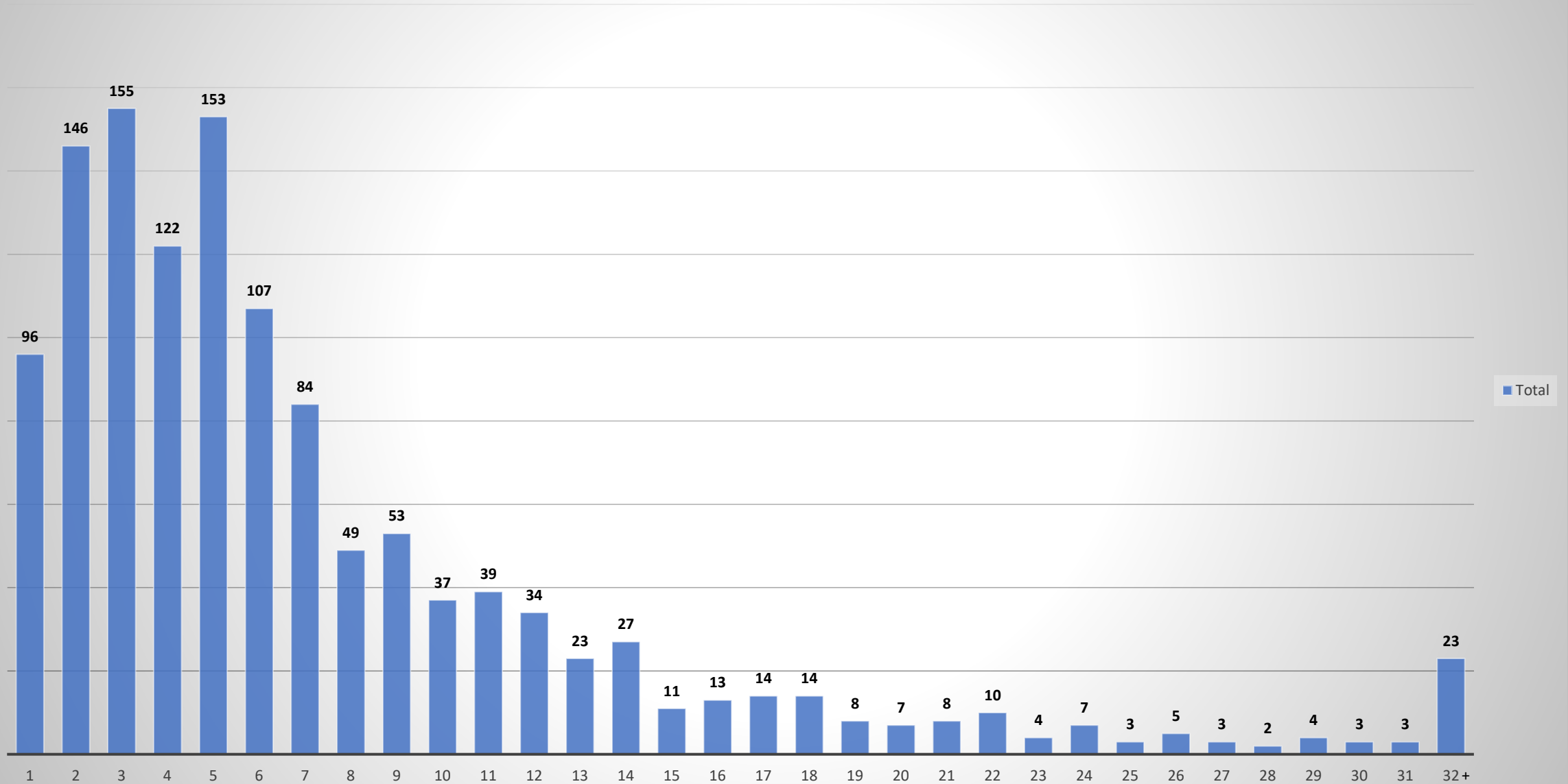
- AMERICAN INDIAN
- ASIAN
- BLACK
- OTHER
- PACIFIC ISLANDER
- UNABLE TO DETERMINE
- WHITE



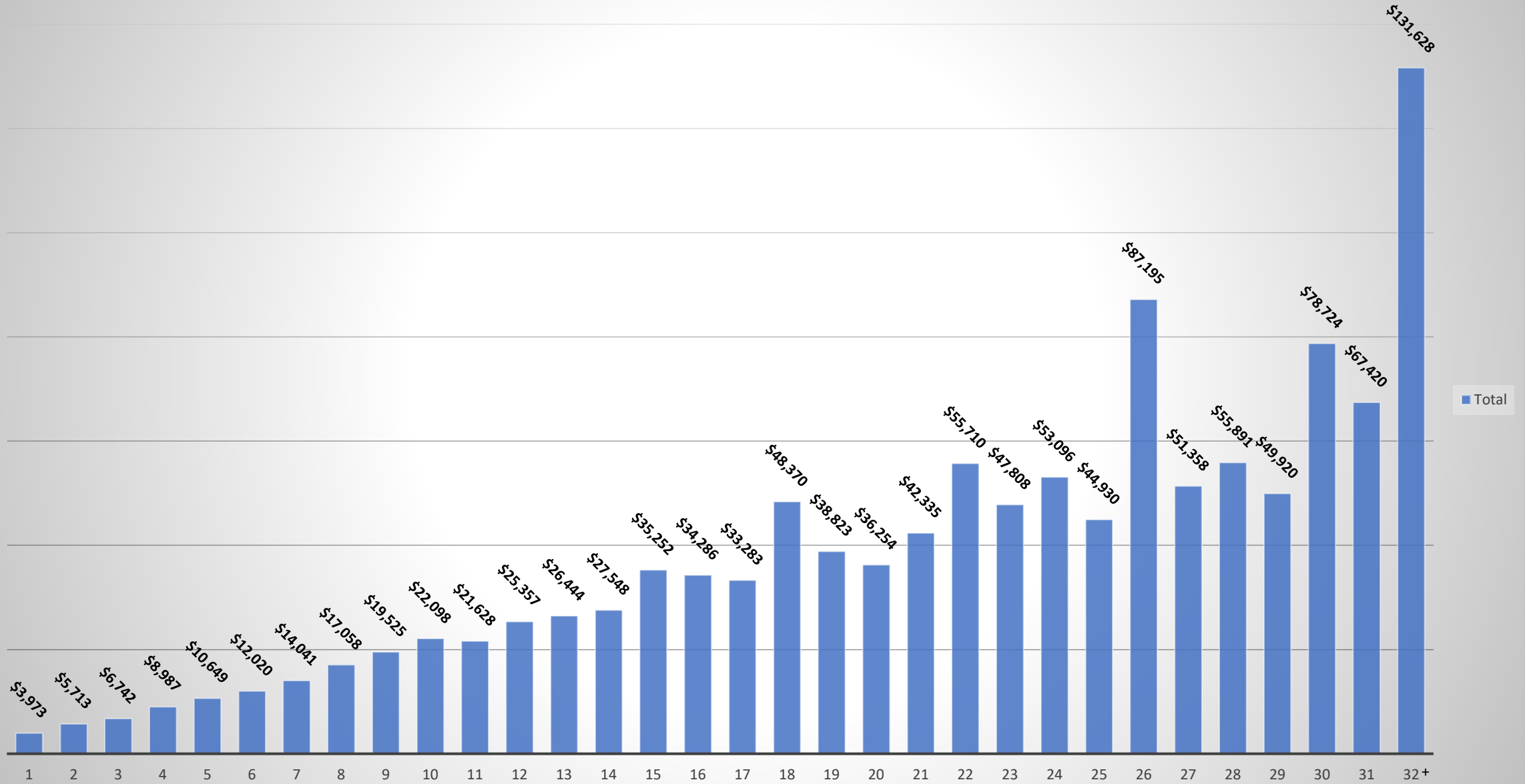
Objective #2

Determine the average cost of a
COVID-19 related TidalHealth
hospitalization based on length of stay

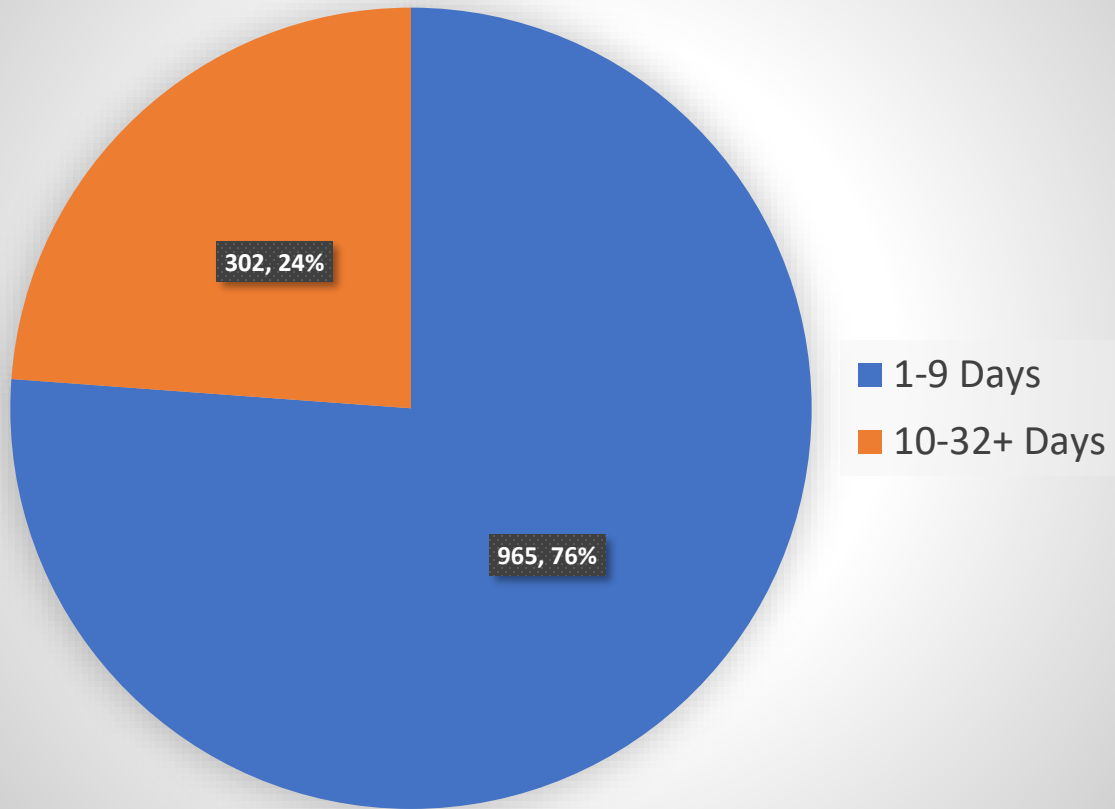
Total COVID-19 Cases by Length of Stay



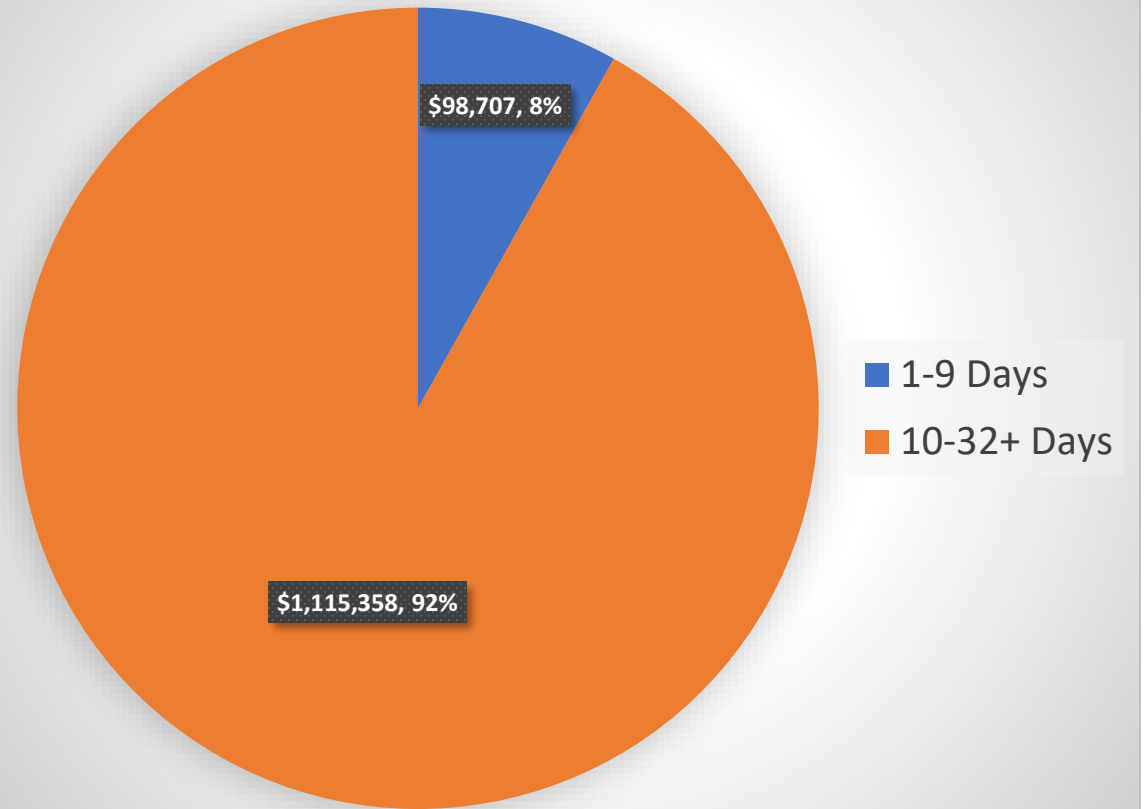
Average Cost per COVID-19 Case by Length of Stay



Total COVID-19 Cases



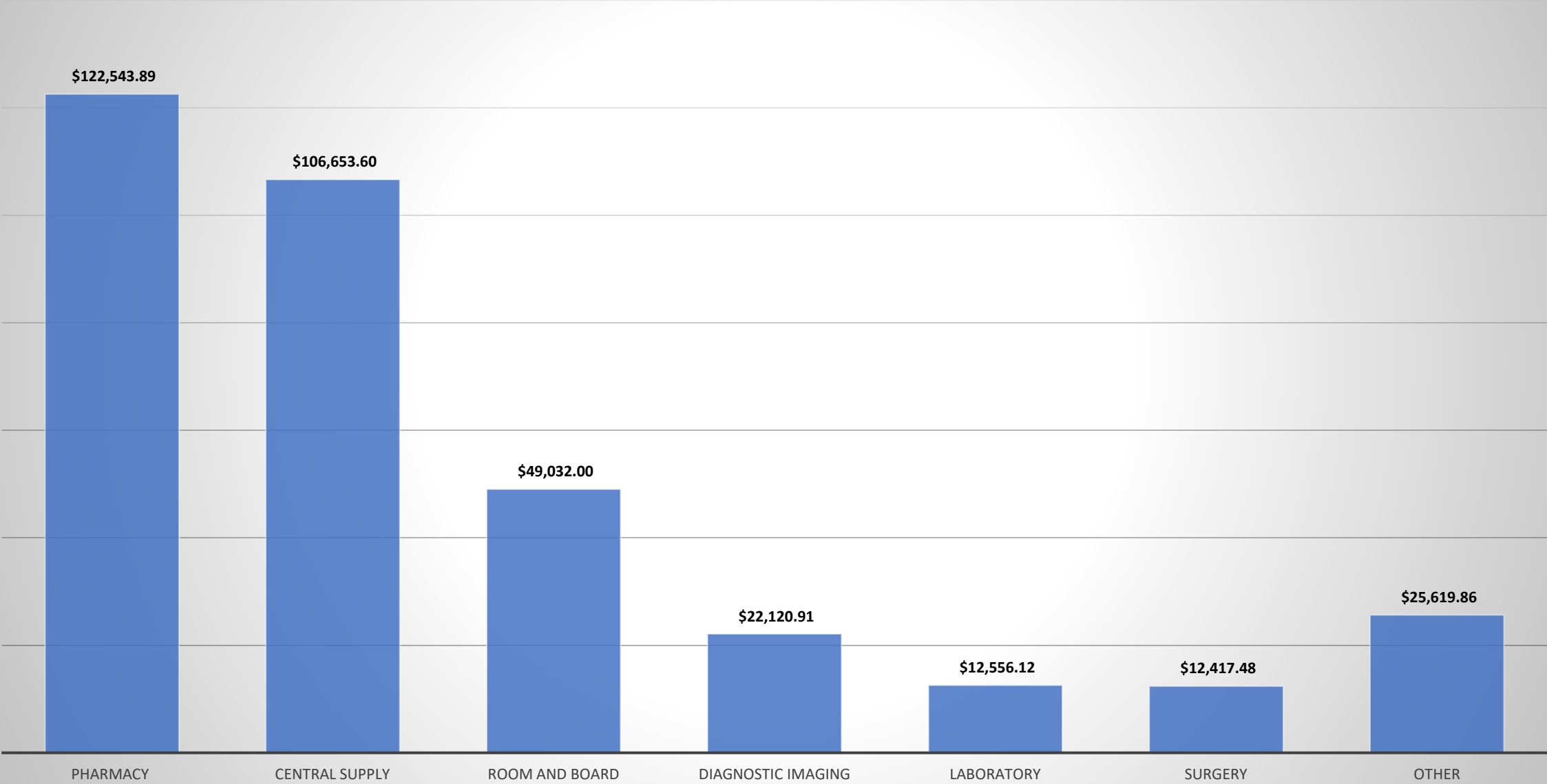
Cost per COVID-19 Case



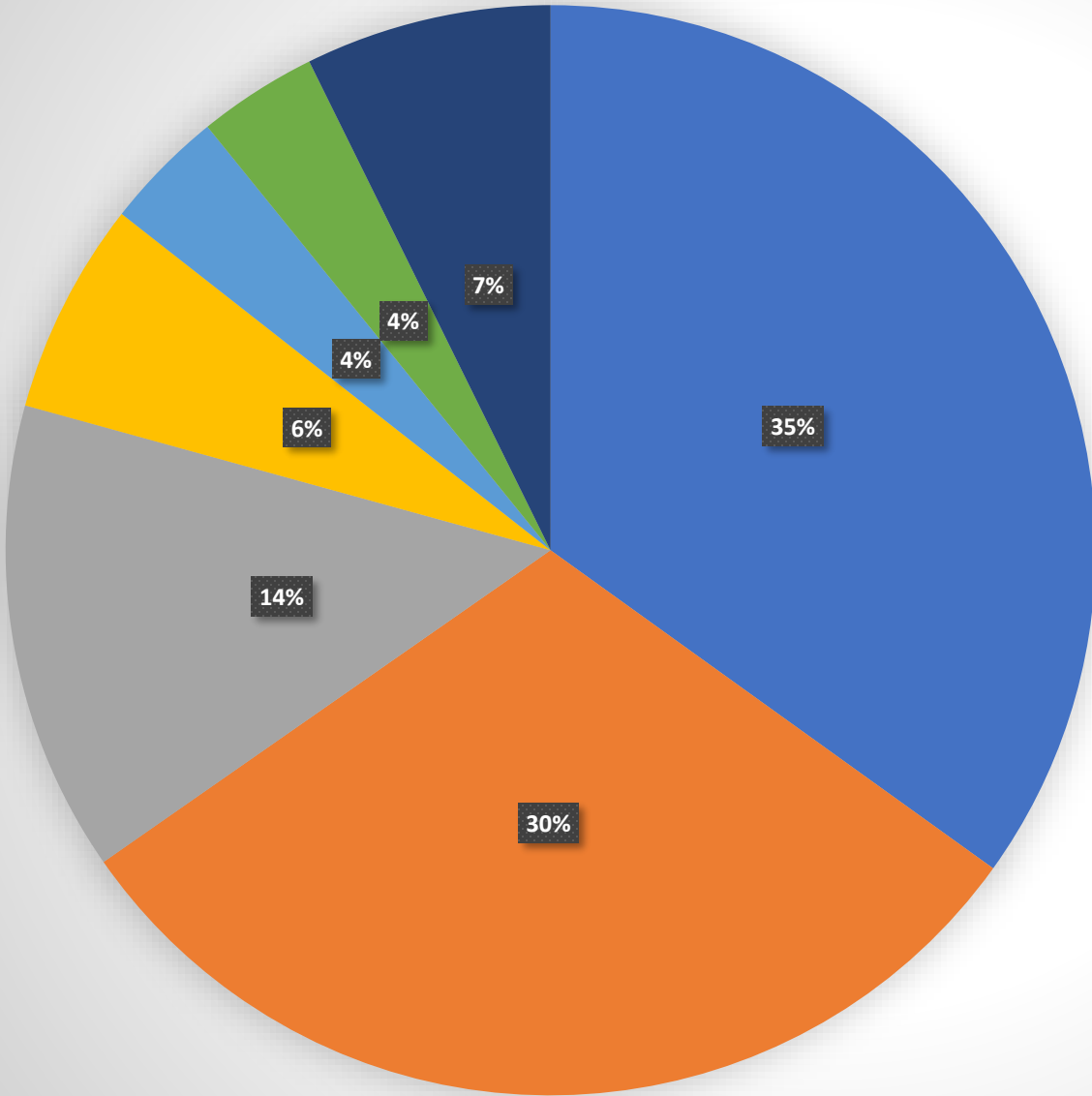
Objective #3

Understand the origins of the costs of a
COVID-19 related hospitalization

Department Total Resource Cost



Department Total Resource Cost



- PHARMACY
- CENTRAL SUPPLY
- ROOM AND BOARD
- DIAGNOSTIC IMAGING
- LABORATORY
- SURGERY
- OTHER



Objective #4

Determine how specific therapies, such as Remdesivir, convalescent plasma, Tocilizumab, and Baricitinib affect the cost of a COVID-19 TidalHealth hospitalization

Emergency Use Authorizations

Cannot be answered with the data provided

Patients not charged for experimental drugs but can be charged for means to deliver the medications (e.g., IV kits), which is reflected in the data

Funded by Operation Warp Speed and The Cares Act therefore not represented in the financial data



Challenges



Complex data from large data sets



Data was challenging to interpret

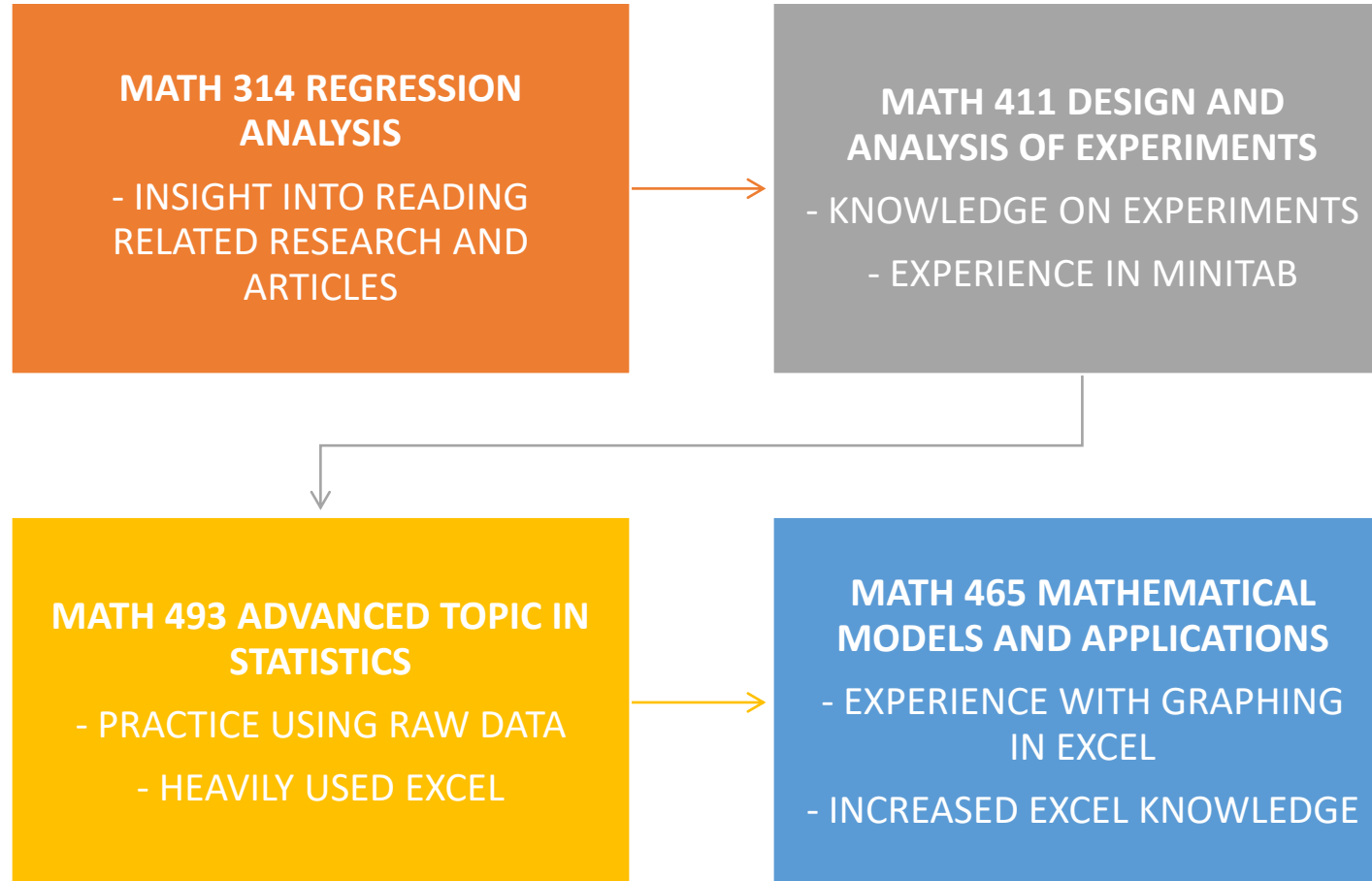


Not all objectives could be fully explored with the data provided



De-identified data does not allow for patient level analysis

Previous Course Experience



Outcome



Developed an understanding for real-world data limitations



How to create a research proposal



Enhanced Excel skill set



Increased attention to detail



Questions