

PROJECT BY:  
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# PREVENTABLE HOSPITALIZATIONS FOR DIABETIC PATIENTS

1999-2008 Detailed description of all the attributes is provided by Beata Strack, Jonathan P. DeShazo, Chris Gennings, Juan L. Olmo, Sebastian Ventura, Krzysztof J. Cios, and John N. Clore, "Impact of HbA1c Measurement on Hospital Readmission Rates: Analysis of 70,000 Clinical Database Patient Records," BioMed Research International, vol. 2014, Article ID 781670, 11 pages, 2014

# PROJECT OVERVIEW



## ORIGINAL DATASET 1:

- 51 COLUMNS
- 101,766 ROWS
- 1999 - 2008

## ORIGINAL DATASET 2:

- 15 COLUMNS
- 15340 ROWS
- 2005 - 2021



## TOPIC

Hospitalizations due to diabetes is potentially preventable through access to high-quality outpatient care. Original data of 10 years shows very common (46%) readmission statistics, which is supported by supplementary data set showing the often occurrence of hospitalisation of diabetic patients.



## HYPOTHESIS

People with diabetes receive and need more ambulatory care.

# HANDLING DATA



## REMOVE

Removing irrelevant observations ( such as medication and increase in insulin level after admition )

## NAN

Reviewing duplicated, missing or 0 values and its impact to dataset.

## RENAME

According to research some values from numerical had to be transformed to more suitable descriptive ones.

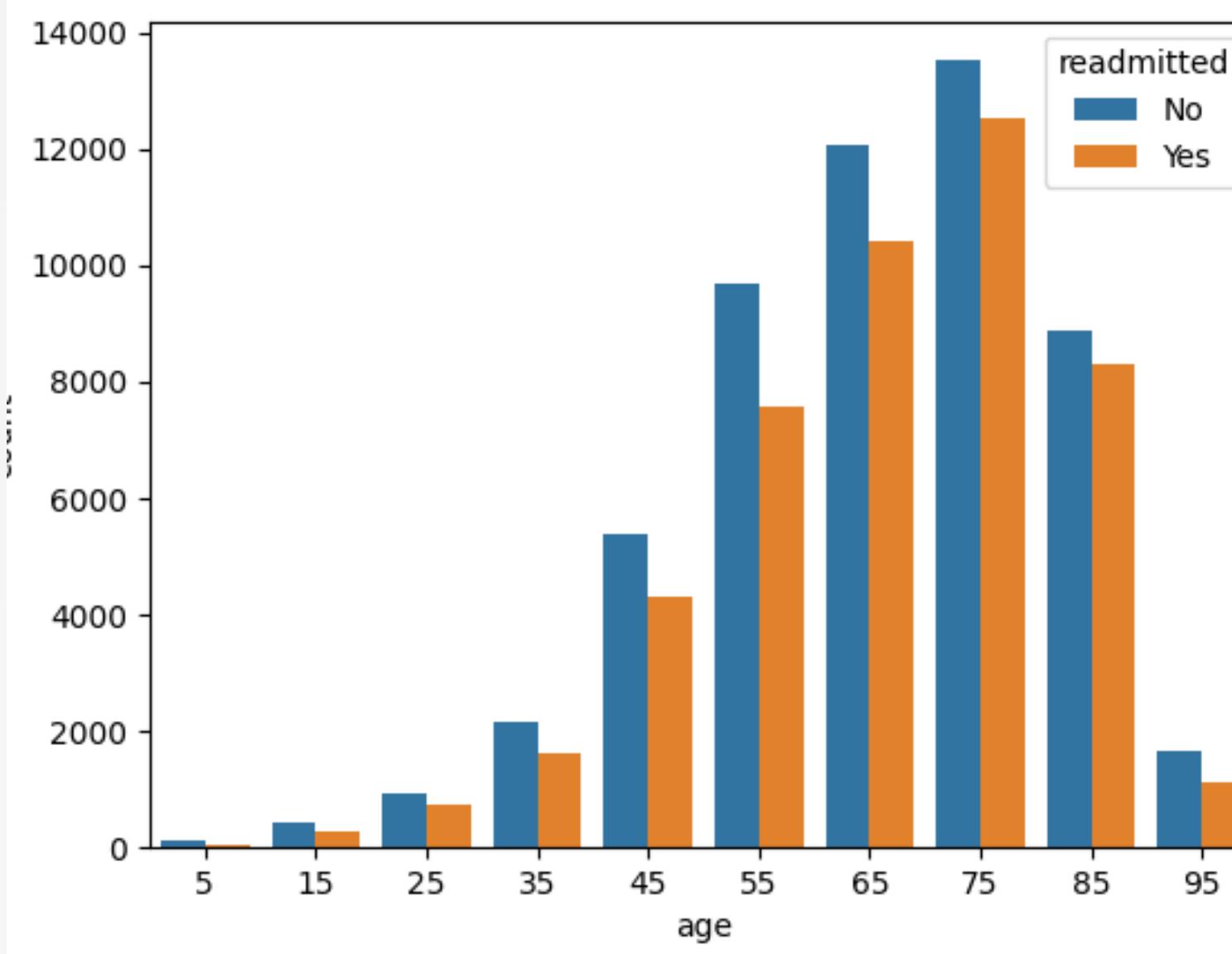
## REVIEW

Checking unique values, and its relevance to hypothesis and data, fitting accordingly.

# EXPLORATORY DATA ANALYSIS

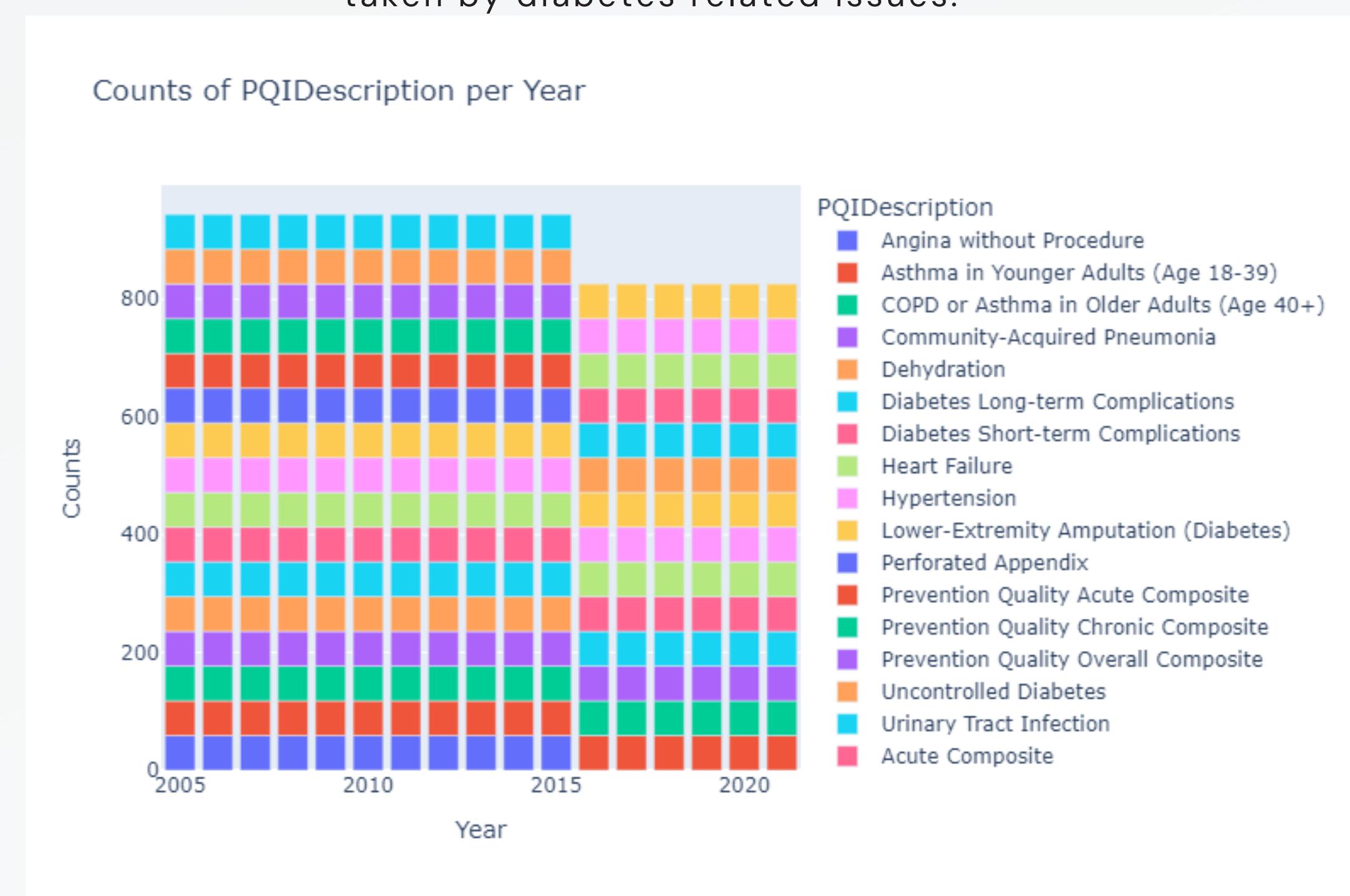
## Objective n° 1

Using data we were able to notice that re-admittions are especially common between elderly patients.



## Objective n° 2

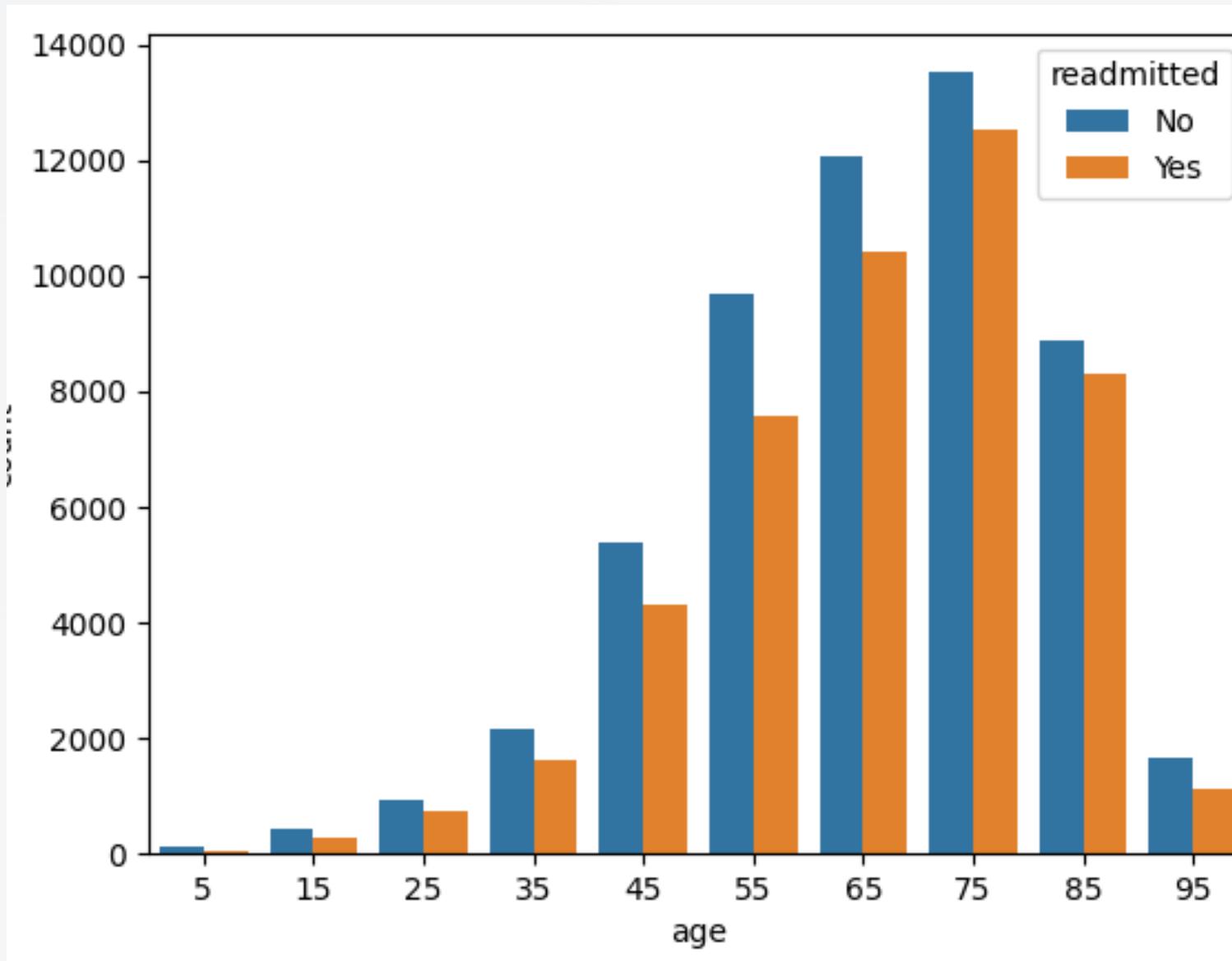
Hospitalization counts and rates, statewide and by county, for ambulatory care sensitive conditions show that almost 30% is taken by diabetes related issues.



# EXPLORATORY DATA ANALYSIS

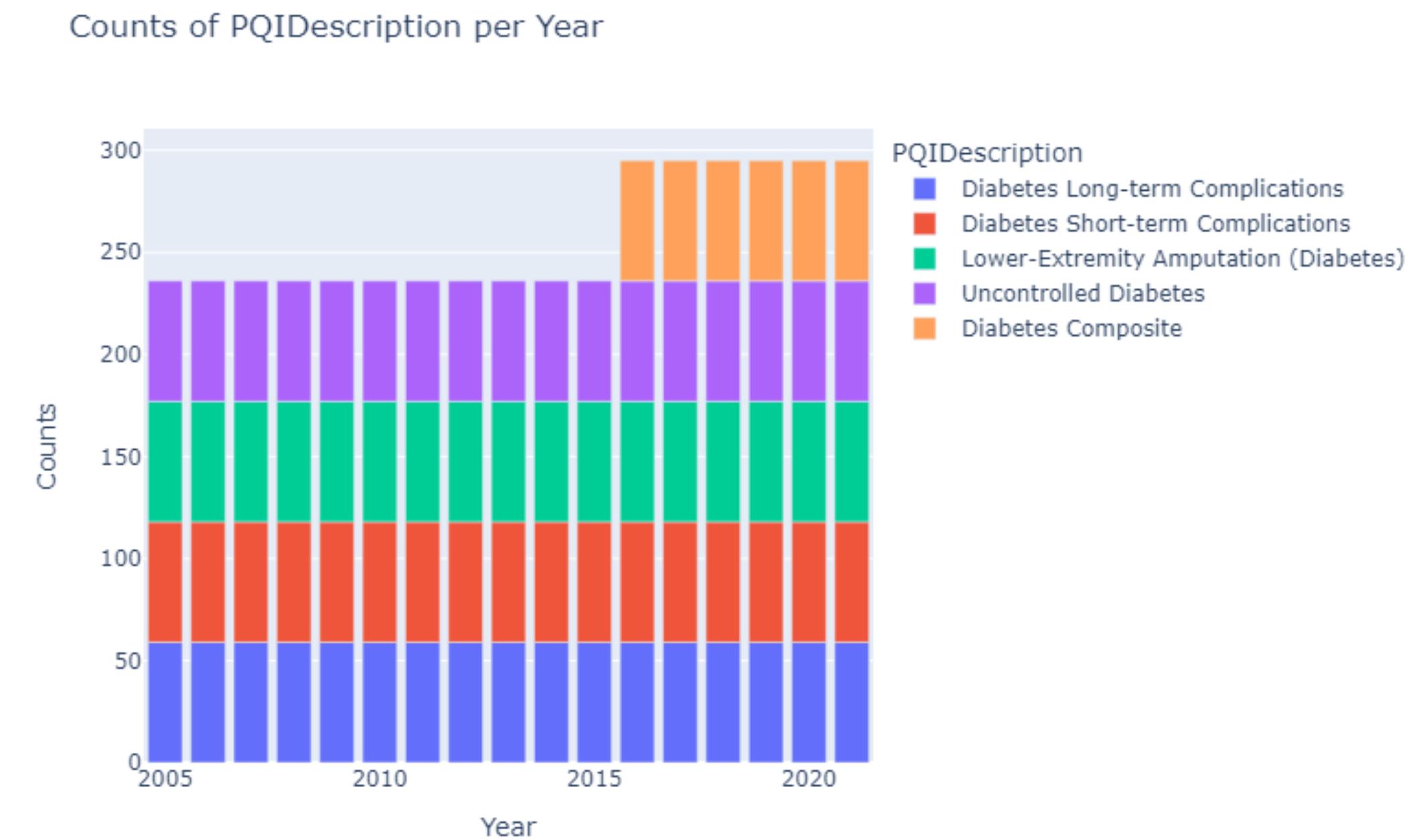
## Objective n° 1

Using data we were able to notice that re-admittions are especially common between elderly patients.



## Objective n° 2

Hospitalization counts and rates, statewide and by county, for ambulatory care sensitive conditions show that almost 30% is taken by diabetes related issues.





**WhatsUpp Doc**

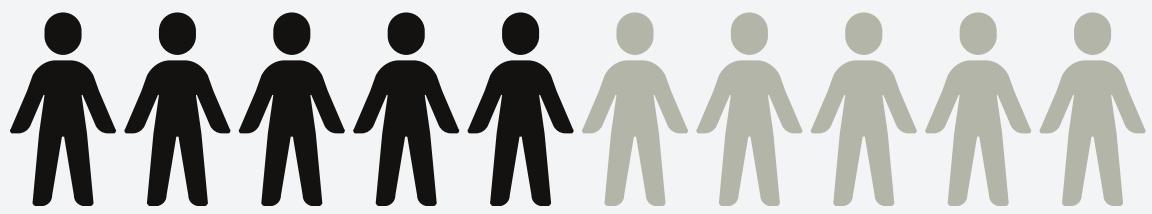
# BUSINESS CASE

Preventable hospitalizations due to diabetes-related issues contribute significantly to healthcare costs. Without intervention, these costs will continue to rise, impacting both healthcare providers and patients.

The average person in the USA spends around **500\$** per month on health insurance, for a person with diabetes on average this price goes **400\$** more, having access to ask your doctor for health advice using an app would not only make it easier for patients to attend their health check up's more often, but also would contribute in better care and less hospitalization.

Our company **WhatsUpp Doc** with diabetes-related health professionals can answer simple questions and share the finding of lab reports online. helping patients with physical or mental difficulties keep a good care of their health without fear.

**46%**



**46% of people with Diabetes were admitted to the hospital again in 10 years times**



# MAJOR OBSTACLE

## Exploratory data analysis

- Applying the code
- Reasoning x and y
- Understanding the benefits and disadvantages of it

## Imposter Syndrome

- Comparing my work with others
- Loosing motivation
- Not trying other options

# CONCLUSION & INSIGHTS



Patients with diabetes due the nature of condition will be admitted to the hospitals more often , when ambulatory care is preventable.

INITIAL HYPOTHESIS

As detailed and flexible datasets can be, just as easily their documentation is playing a crucial part in future findings.

MAIN LESSON

FEEDBACK

Sharing your struggles and findings and discussing things with your teaching team and colleagues will not only give you a fresh ideas, but also helps you to feel comfortable asking questions.





**THANK YOU FOR  
YOUR ATTENTION**

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