

INTERNATIONAL CONFERENCE

13TH TO 17TH FEBRUARY,
2023

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Vivekanand Education Society's
BUSINESS SCHOOL

Unleashing the Power of Data Analytics For Managing Business and Innovation



BASIC
Business Analytics
& Social Innovation
February

CONFERENCE



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Case Study:

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Contents

- Business understanding
- Insights about Data
- Exploratory Data Analysis (EDA)
- Remedial Measures
- Model Building and Deployment
- Inferences



Business understanding

- The Medicare programme, which pays for a variety of health services like hospitalisation, doctor visits, and prescription medications, is financed by a combination of payroll taxes and general income. Medicare does not fully cover all medical costs, therefore many beneficiaries opt to buy supplemental insurance, or Medigap, to fill in the coverage gaps.
- The Medicare system can present both possibilities and difficulties for businesses. A lot of businesses offer goods and services that are covered by Medicare, which on the one hand represents a sizable and expanding market for healthcare goods and services. On the other hand, the Medicare programme is strictly controlled, and businesses that take part in it are required to follow strict guidelines.
- Additionally, Medicare reimbursement rates are sometimes lower than those for private insurance, which might restrict the financial return for companies offering treatments covered by Medicare.

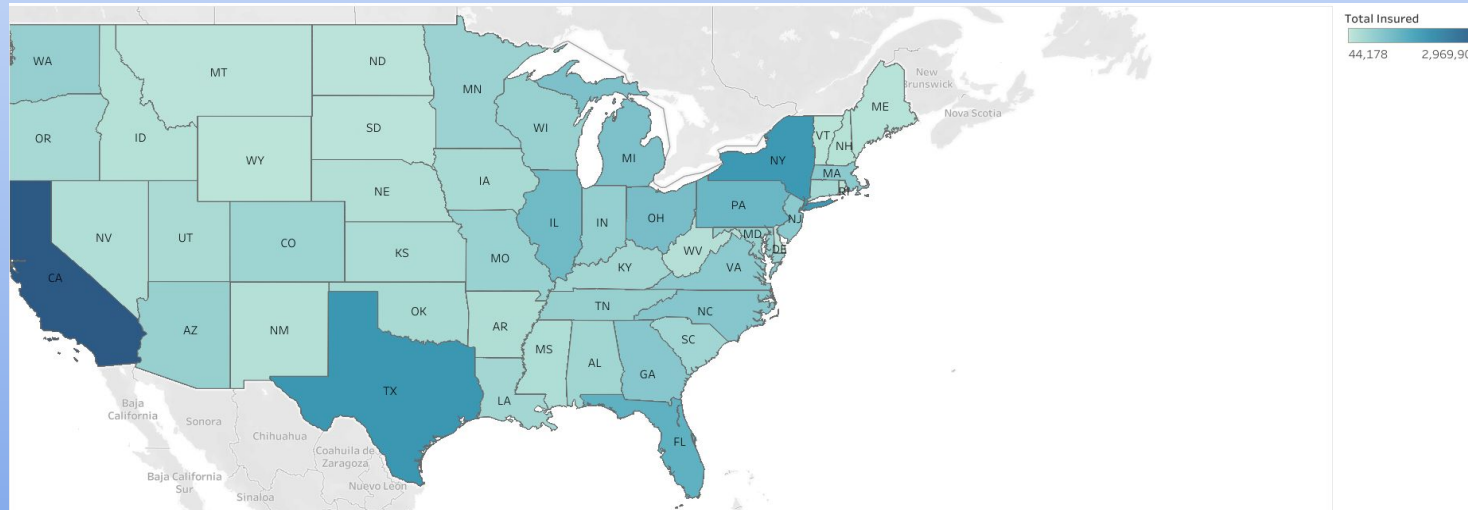


Insights about Data

- Support clinical treatment decisions from physicians and other health professionals.
- Improve the accuracy and speed of identifying patients at highest risk of disease.
- Provide greater detail in the EHRs of individual patients.
- Make the provision of healthcare more efficient, which reduces costs.
- Promote preventive measures by giving patients greater insight into their health and treatment goals.
- Integrate data from consumer fitness devices and other patient-provided sources of health data.
- Deliver real-time alerts to healthcare providers by analyzing health data at the collection point.

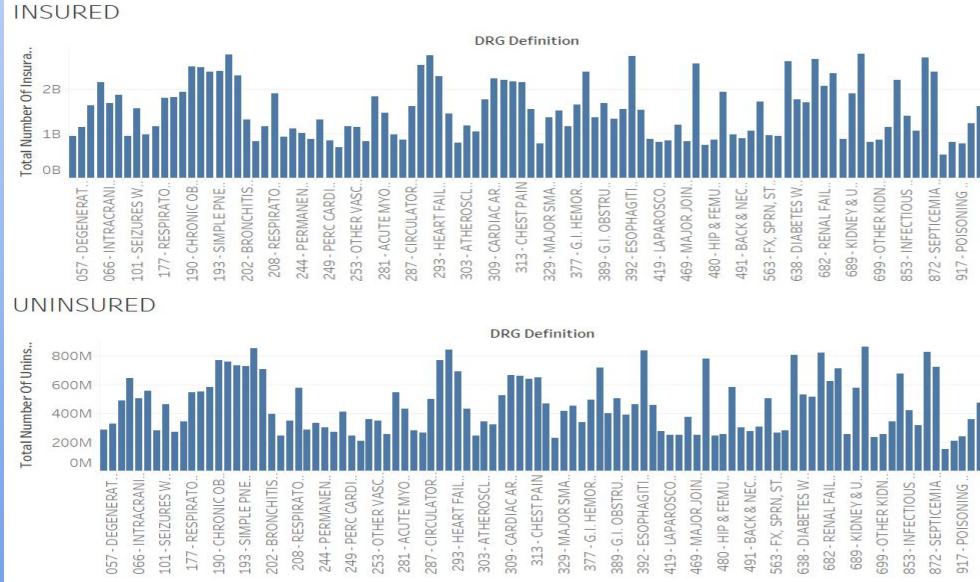


Exploratory Data Analysis (EDA)



- State with highest insured people- CA
- State with lowest insured people- WY

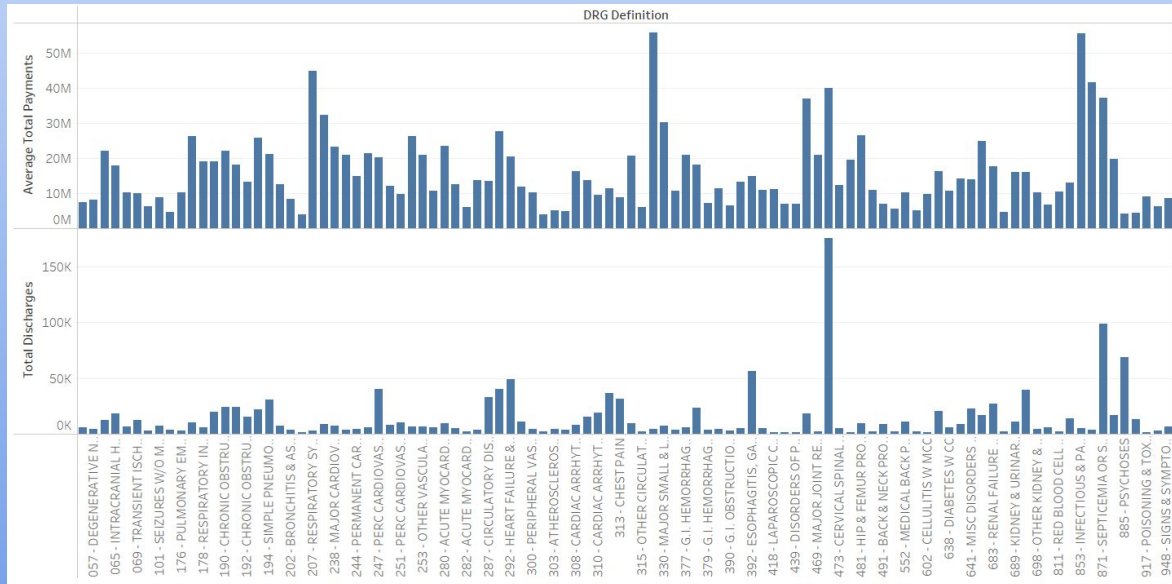
Exploratory Data Analysis (EDA)



Total number of Insured and Uninsured Patients based on DRG Definition.



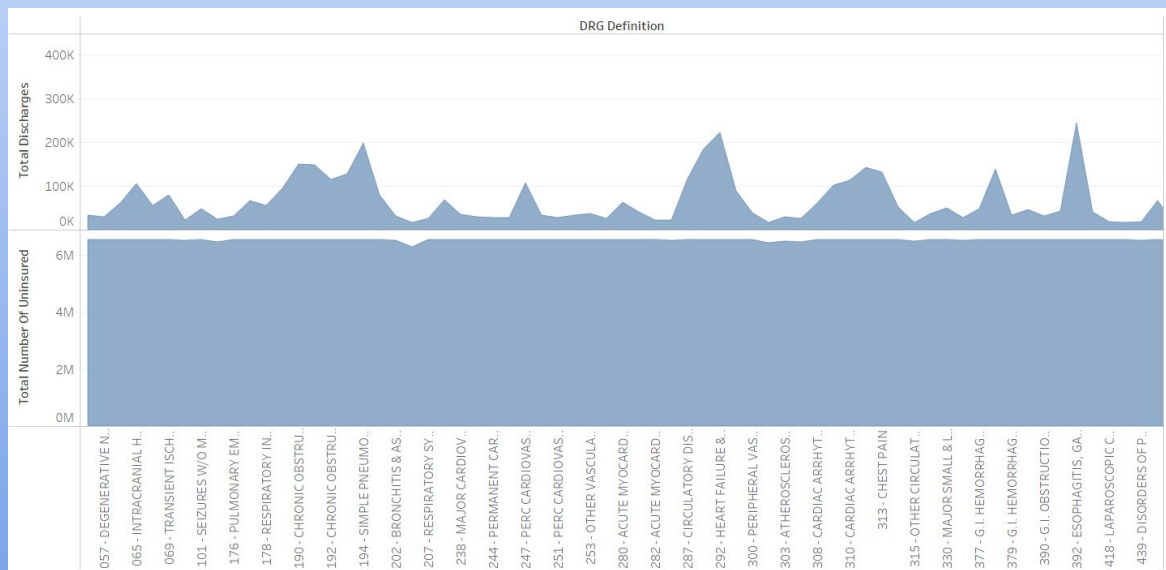
Exploratory Data Analysis (EDA)



Comparison of
Average Total
Payments and Total
Discharge based on
DRG Definition.



Exploratory Data Analysis (EDA)



Comparison of Total Discharges and Total number of Uninsured People based on DRG Definition.



Remedial Measures

01

Data pertaining to other age groups is missing

- Compared insured vs uninsured on the basis of the DRG definition

02

Month wise breakdown of patients with insurance is missing

- Instead of the date wise discharges, we analysed using the number of discharge, the average monthly payment to the hospital and the DRG involved

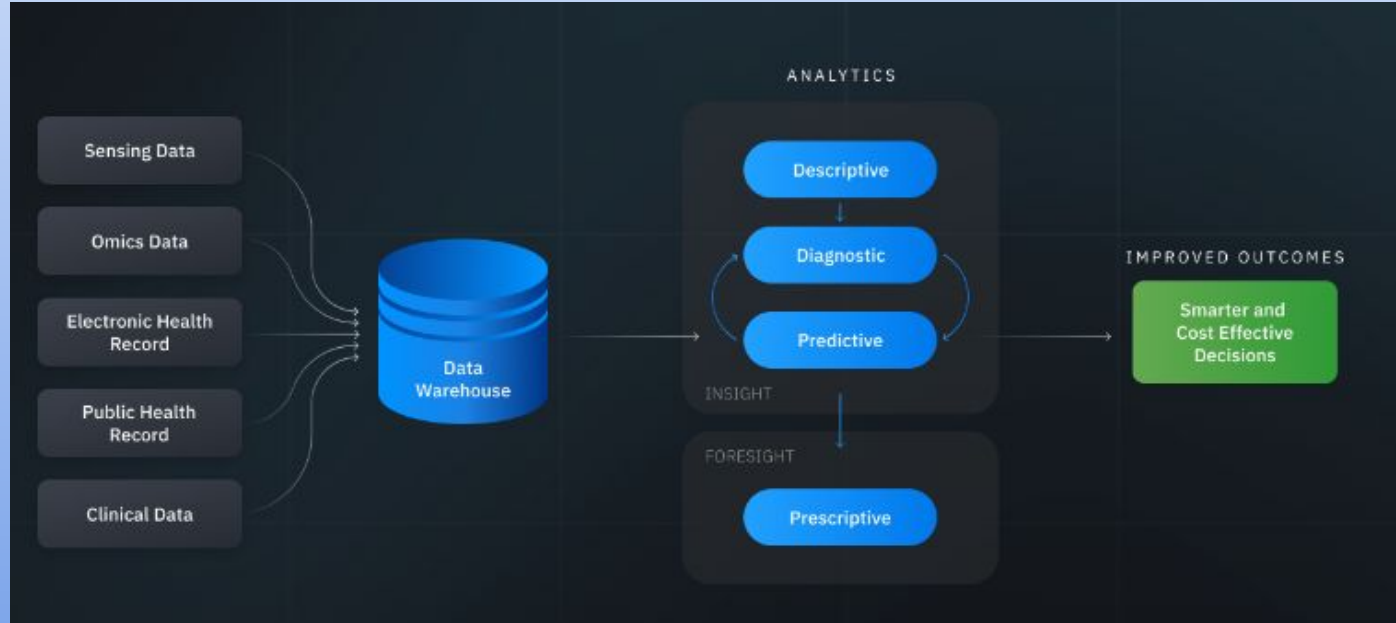
03

The hospital codes provided are repeating

- City and state wise analysis on the basis of average covered payments and insured/uninsured males and females.



Model Building and Deployment





Inferences

- Previous patterns of the most prevalent diseases and the number of persons covered by Medicare could have an impact on the sales of medical insurance in the following years.
- As people look for coverage for the cost of treatment, an increase in the prevalence of some diseases may raise demand for medical insurance. On the other side, as more individuals are covered by a publicly financed programme, a rise in the number of persons insured through Medicare could lead to a decrease in demand for private medical insurance.
- The sales of medical insurance could also be impacted by additional elements like modifications to healthcare regulations, improvements in medical technology, and changes in the general state of the economy.
- It's crucial to keep in mind that this is only a rough estimate, and any forecasts regarding the sales of medical insurance in the future would need to be based on a more in-depth examination of the data and other pertinent variables.



Q&A