DEPLOYMENT OF A DATA SCIENCE PLATFORM

Brandon Shelton, Senior Director of Enterprise Analytics

2019

BACKGROUND

L.A. COUNTY

2.2M MEMBERS

MEDICAID

$9B FUNDING

EXISTING DATA ANALYTICS IN 2016

BASIC TRENDING AND EXPLORATION

SILOED EFFORTS

SQL AND SAS

DATA FOR DECISION SUPPORT REQUIREMENTS

EXECUTIVE BUY-IN

APPROPRIATE USE CASES

APPROPRIATE DATA

ANALYTIC TOOLS

ANALYTIC TALENT

L.A. CARE DATA SCIENCE PLATFORM SEARCH

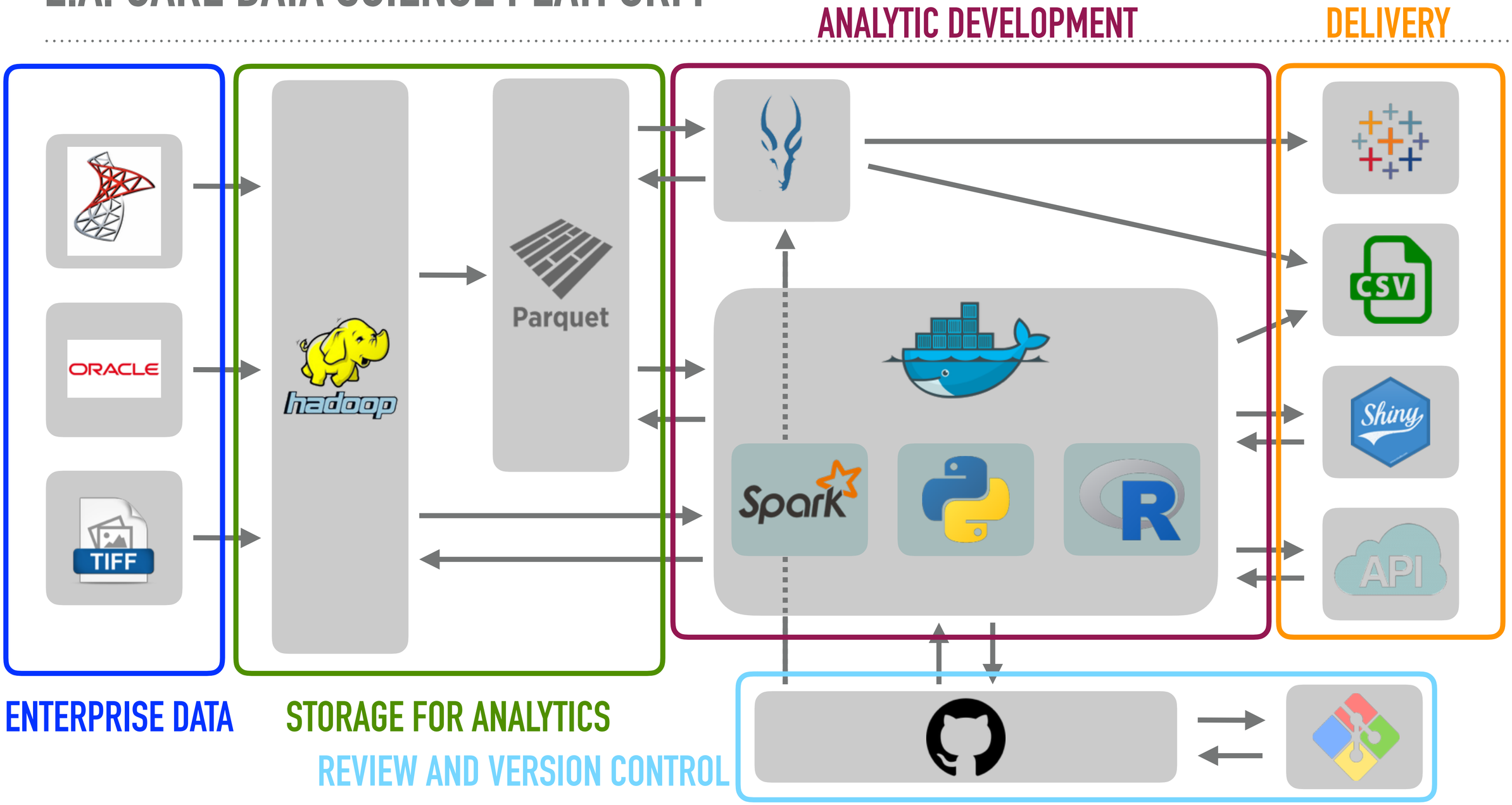
TEAM MEMBERS

- I.T. Infrastructure
- Database Administration
- Existing Data Analytics Team Leaders
- Senior Oversight

MUST HAVES

- Support end-to-end data science process
- Access to popular open source analytic tools
- On-premise deployment
- Easily scalable
- Secure, server-based access
- Fast processing

L.A. CARE DATA SCIENCE PLATFORM



ANALYTICS DATA LAYER **PROBLEM**

Inconsistent analytic deliverables

Lack of transparency

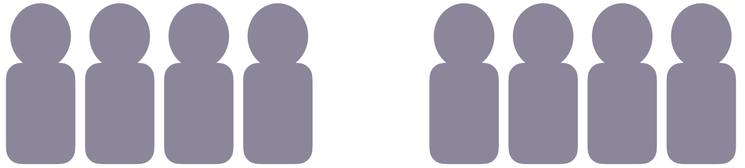
Existing ETL processes ran 1x month

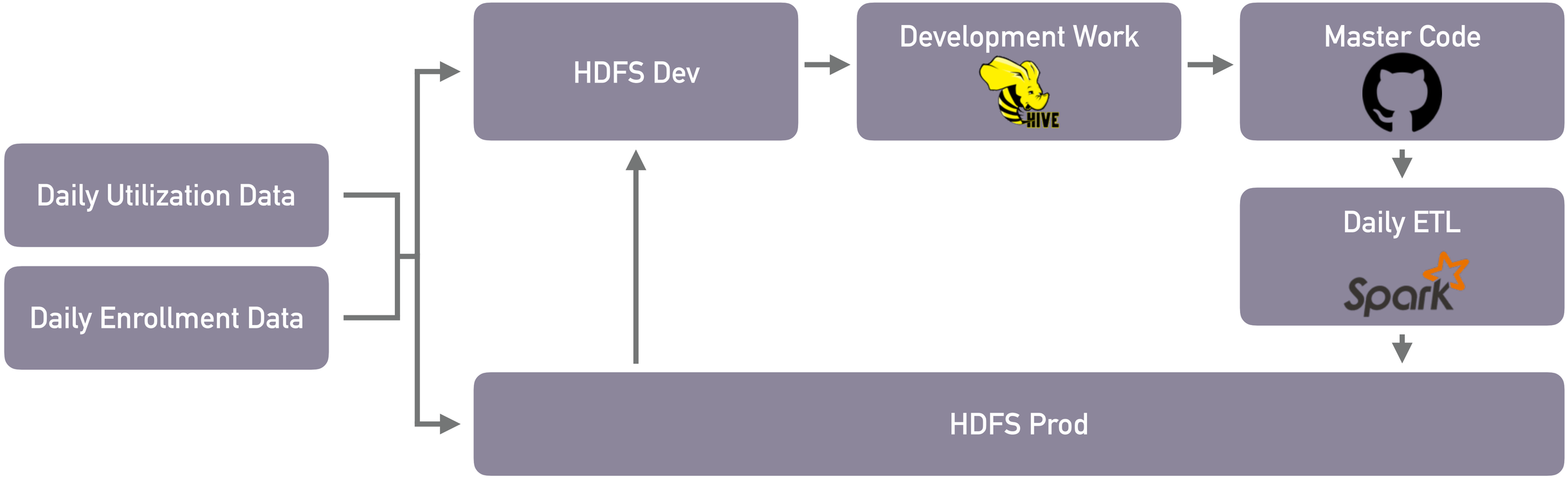
ANALYTICS DATA LAYER SOLUTION

Daily ETL - Reduced processing time by 25x.

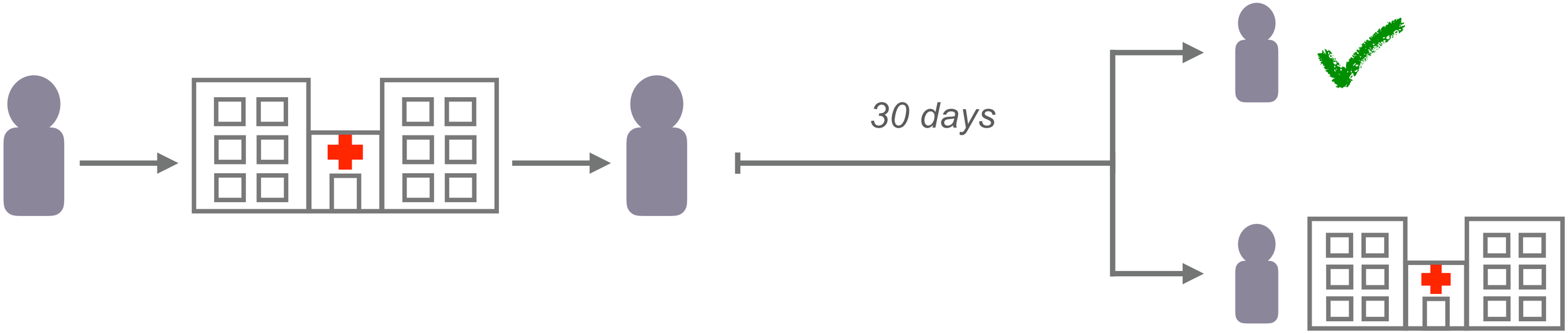
Analytic consistency through team contribution and consumption.

Data Analysts *Data Scientists*





HOSPITAL READMISSION PROBLEM

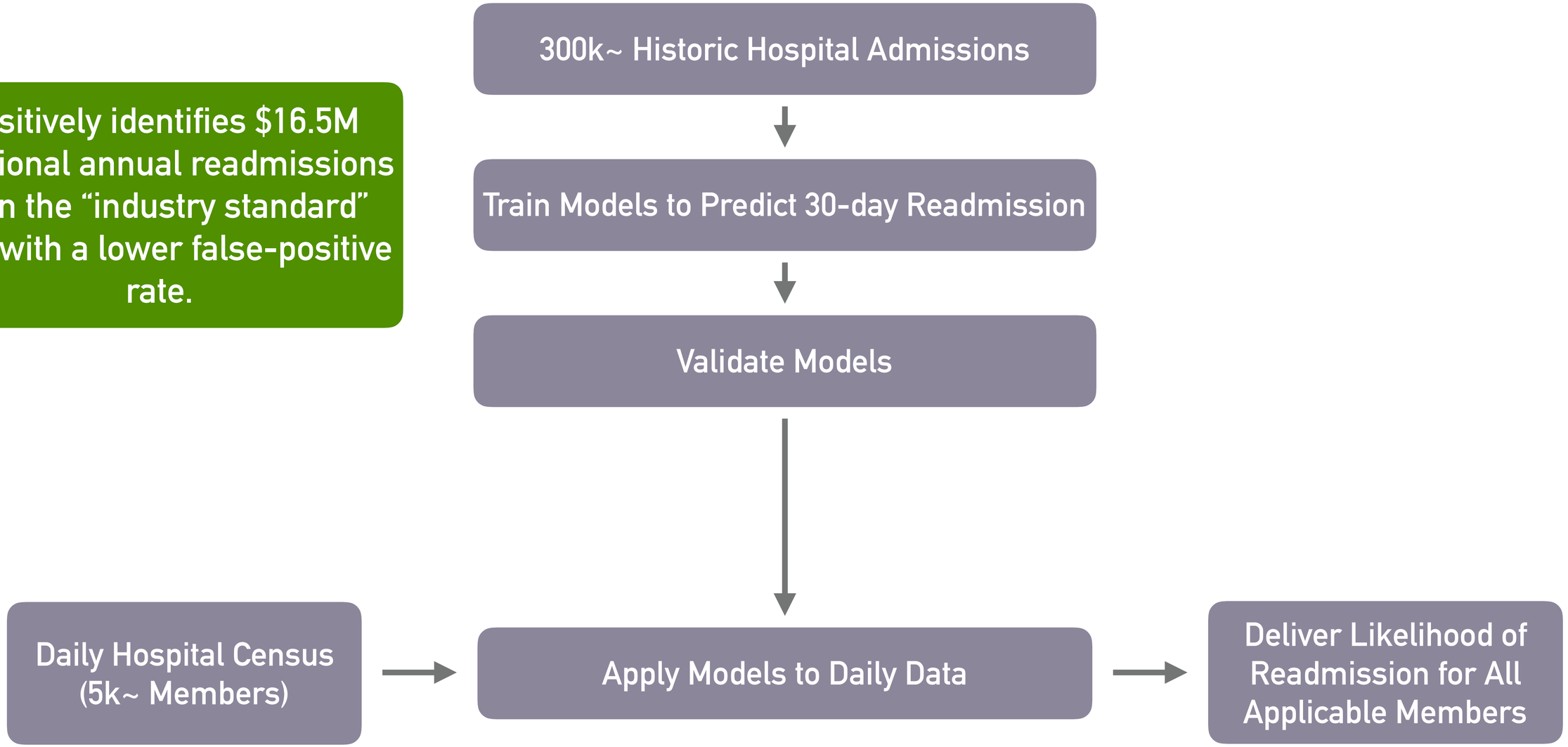


30-day readmissions cost over $150M per year.

How to prioritize member engagement to reduce 30-day readmissions?

HOSPITAL READMISSION SOLUTION

Positively identifies $16.5M additional annual readmissions than the “industry standard” tool, with a lower false-positive rate.



OTHER SOLUTIONS

Unsupervised learning that surfaced a $6M Durable Medical Equipment fraud scheme.

Applications to image and web-scrape competitor provider relationships to assist with network strategy.

Supervised machine learning models that identified $3M in mis-coded hospital overpayments.

Integrated Rx utilization and enrollment data to discover $10M operational issue.

Integrated Rx utilization and medical utilization data to discover $4M of Rx fraud.

Q & A