Life Sciences Case Study

PROJECT OVERVIEW

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Creating a Statistical Model for Survival Analysis Across Different Drug Regimens

As part of building the foundation for a new relationship between Clarkston Consulting and a biopharmaceutical company that treats rare disease, Clarkston conducted a survival analysis, modeling patient duration on drug regimens of chemotherapy versus the client's immunotherapy treatments.

The client's executive team requested this initiative to understand the patient journey, using the insights for a predictive model of patient volume. The Clarkston team updated existing statistics for the model and evaluated a new approach in understanding the patient's duration of drug groups and delivered improved metrics.

Clarkston's data scientists delivered on that new approach to model the length of duration in a particular drug group that incorporated additional aspects of the patient's journey. With additional clarity into the patient journey, the client can now alter messaging with the healthcare providers (HCPs) to increase persistence.

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PROJECT OVERVIEW

INDUSTRY:

Biopharmaceutical

PRODUCTS AND SERVICES :

Rare Diseases

PRIMARY OBJECTIVES:

- Provide comprehensive analysis of patient journey segmented across different drug groups
- Create and implement changes to statistical models and analytics to update in-house forecast model \
- Work with business stakeholders and executive leadership to increase statistical intricacies of the patient journey

RESOLUTION:

- Created new and curated existing data queries
- Understand different events of the patient journey
- Compared new methods for evaluating patient duration
- Streamlined business input into statistics
- Removed bias from statistical output
- Segmented patient experience based on drug groups
- Updated metrics routinely, with successful implementation of data models
- Met with clinical data scientist to redefine patient values for the commercial stakeholders

KEY BENEFITS:

- Delivered new process that more efficiently tracks a patient's duration on a different drug therapy, bringing more clarity to the patient journey
- Productionized new statistical model
- Created organizational understanding of statistical model improvements, process changes, and business rule changes

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KPIs

- Completed 70% capture rate of patient outcomes
- Improved median calculations (in months) removing group and lack-of-time biases of 2.33 for chemotherapy and 2.9 for immunotherapy to an average 4.1 and 8.8, respectively
- Accounted for non-linear nature of patient journey with custom model types and hazard ratios

CONTACT US

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