

Developing New Patient Start Likelihood Programs in Pharma

INDUSTRY:



Biopharmaceuticals

PRODUCTS AND SERVICES:



Commercial Data & Analytics

BUSINESS TRANSFORMATION STORY & BUSINESS CHALLENGE

In support of a biopharmaceutical company that treats rare diseases, Clarkston redeveloped an alerts program that predicts when a patient will be starting a new line of treatment and potentially be eligible for the client's drug.

The previous version of the program had been ineffective at predicting patient progressions at the right time, as well as communicating the identified patients to the sales and medical education teams properly so that they can contact the treating physicians of these patients. Clarkston succeeded in improving the predictions from .28 to .67 recall as well as displaying these alerts in a simple and functional manner.

Clarkston's data scientists were able to save the program from being discontinued altogether, turning it into what is now a well-established and valuable program that has since been expanded into other therapeutic areas. The program has become a cornerstone of new product launches, ensuring the client can reach patients in need quickly.

PRIMARY OBJECTIVES:

- Improve accuracy of new patient start predictions and apply progression likelihood threshold to display the most reliable predictions to field teams
- Productionize the alerts program to generate automated reports with updated predictions weekly and incorporate tracking of previous alerts with feedback from field teams
- Communicate details of the new program to executive leadership and sales teams for robust adoption upon implementation
- Properly document the program so that current and future team members can reference business purpose and impact, technical details, and changes to the program over time





RESOLUTION:

- Evaluated the existing model and identified areas for improvement
- Created a patient deduplication method across multiple claims sources
- Applied updated line of therapy rules for a more accurate definition of treatment lines
- Monitored performance across a historic look-back period to pinpoint the model version with optimal on-time predictions
- Productionized new patient start predictions reporting, along with two other types of patient alerts
- Ensured each patient is only reported once per line prediction to prevent the same patients from being delivered in multiple consecutive weeks
- Educated field teams on how to understand and utilize the alerts program report
- Effectively communicated with field teams about updates to the process caused by changes in claims contracts, physician mapping, and requested alert volume adjustments
- Continuously incorporated feedback from field teams about actions taken on each alert
- Thoroughly documented all aspects of the program at a business and technical level, from the predictive model and line of therapy rules to processing and automation of alert reporting to final delivery and performance monitoring

KEY BENEFITS:

- Enhanced data reliability by properly deduplicating patients across claims sources
- Delivered a refined model with improved accuracy to predict patient drug eligibility at the right time
- Improved informed decision-making by sales representatives, medical science liaisons, and commercial insights teams
- Established a well-documented, automated production process that has been applied to all commercial therapeutic areas

KPIs

- Increased unconstrained forecast visibility by 100%
- Developed process owners, roles, and responsibilities, and improved business decision-making and ownership through process guardrails and guiderails
- Implemented demand segmentation analysis to reduce sales forecasting expectations of reviewing 100% of all customer ship-to/items from ~5,100 to ~180, a 96% reduction
- Reduced replanning efforts by removing firm planning outside of month six, eliminating rework of plan at the item level by month
- Improved S&OP maturity by 55% from an initial assessment score of 5.9 to 12.55 across all areas