Business challenge

SmartAnalyst's customer, a pharmaceutical company, wanted to compare its multiple myeloma therapy to the competition, both in terms of how physicians used the products and how long patients used each treatment.

Transformation

The IBM® Watson Health™ team helped SmartAnalyst use IBM Explorys® Offerings for Life Sciences to compare treatment patterns and time-to-event outcomes for almost 2,000 real world lines of therapy for multiple myeloma. A retrospective analysis of the data showed that SmartAnalyst's customer's therapy had more favorable medication tolerability outcomes.

**Eros Papademetriou
Health Economics and
Outcomes Research
Engagement Manager
SmartAnalyst Inc**

Results

Produces valuable results

that have already led to the publication of five new scientific abstracts about cancer treatments

Saves time and money

by eliminating the need to rely on clinical studies for detailed, anonymized data, including lab results

Provides timely data

about current patient battling multiple myeloma with the most recent therapies

SmartAnalyst Inc.

Using the IBM Explorys clinical data set to boost physician adoption of certain cancer treatments in the real world

Founded in 2005, SmartAnalyst provides comprehensive, integrated solutions based on its deep understanding of science, the market, and the key business decisions that its clients face. The company deploys agile, cross-functional project teams that are responsive to client needs. By using an experienced team of experts, SmartAnalyst helps biopharma companies make key decisions at the disease, asset and portfolio levels. In addition to its headquarters in New York, New York, SmartAnalyst has an office in London, England, and a research facility in Gurgaon, India.

"The Explorys lab data is much stronger and more in-depth than what we can get with other data sets."

—Eros Papademetriou, Health Economics and Outcomes Research Engagement Manager, SmartAnalyst Inc.

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Studying cancer therapy

One of SmartAnalyst's customers is a pharmaceutical company that develops and manufactures targeted therapies for multiple myeloma. Researchers from this company approached SmartAnalyst with questions about how long patients stay on different lines of treatment and what circumstances lead physicians to switch patients' treatment regimens. Specifically, the pharmaceutical company wanted to see how patients were being treated in the real-world by describing the different treatment patterns associated with multiple myeloma. The company was also interested in how treatment outcomes for its therapy compare with those of competing therapies, with the ultimate goal of increasing physician adoption of its products.

Typical randomized, controlled studies are both costly and time-consuming. SmartAnalyst's customer had already committed a large amount of resources to bringing its medications to market; it needed a research partner that could provide high quality real-world treatment pattern results quickly and economically.

Answering key questions

According to Eros Papademetriou, Health Economics and Outcomes Research (HEOR) Engagement Manager at SmartAnalyst, the IBM Watson Health team held the key to easily answering its customer's questions: the cloud-based IBM Explorys Offerings for Life Sciences data set, which includes living, de-identified longitudinal electronic medical record data on more than 54 million unique patients and 344,000 unique providers.

"With Explorys, we were able to identify a large cohort of patients who are new to the disease," says Papademetriou. "We wanted to start looking at them early in their diagnosis and treatment. We were able to use the Explorys data to get a baseline on these patients and then follow them through their disease progression."

The Explorys data is updated weekly, which facilitates near real-time studies. Papademetriou comments: "The timeliness of the data is an important factor for this research. There are always new drugs being tested, so having current information about current patients means we can see how the new treatments are being used."

The Explorys data revealed encouraging results for SmartAnalyst's customer. The company was able to see how often its drug was used and at what phase of the treatment. Further, among the different therapeutic agents examined in the study, the customer's therapy showed better time-to-event outcomes than the other drugs. This may indicate that SmartAnalyst's customer's treatment is more tolerable at longer exposure than other agents in the study. The next step, says Papademetriou, is to determine whether these results lead to other favorable clinical outcomes.

> **"The depth and breadth of the Explorys data enable us to conduct high-quality scientific research at a fraction of the cost of using clinical trial data."**
>
> —Eros Papademetriou, Health Economics and Outcomes Research Engagement Manager, SmartAnalyst Inc.

Defining a path to further insight

SmartAnalyst and its customer plan to continue using Explorys data to investigate the real-world implications of multiple myeloma therapies for several key reasons. As Papademetriou explains, "The Explorys lab data is much stronger and more in-depth than what we can get with other data sets." Further, the Explorys data set includes specifics about a wide variety of patient attributes, such as demographics, comorbidities, previous treatments, lab results, vital signs and biomarkers. Notes Papademetriou, "The depth and breadth of the Explorys data enable us to conduct high-quality scientific research at a fraction of the cost of using clinical trial data."

The pharmaceutical company is using the Explorys study findings to develop ways to encourage more physicians to employ its treatments, and it has already submitted five scientific abstracts to industry conferences. According to Papademetriou, sharing these results will have a long reaching, positive impact in the fight against multiple myeloma. "It will definitely help our client from a marketing perspective. But it's also an important step toward finding the most effective way to combat multiple myeloma."

Take the next step
To learn more about how research and analytics using IBM Explorys data can help answer your critical business questions, please email scienlif@us.ibm.com.

To learn more about SmartAnalyst and its services, contact Manu Bammi or visit the SmartAnalyst website.

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