



### Business challenge

One of SmartAnalyst Inc.'s customers wanted to know more about psoriasis patients' typical progression from topical remedies to oral medications to injectable biologic treatments.

### Transformation

SmartAnalyst and the IBM® Watson Health™ team used the IBM Explorys® data set to study the journey of more than 6,500 real-life psoriasis patients. The data revealed a tendency for patients to jump from topical remedies to injectables rather quickly, skipping oral medications. As a result, SmartAnalyst's customer, a pharmaceutical company, is changing the way it communicates with patients and doctors.



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

## Results

### Uses real-world data

to show how physicians and patients use medications outside of clinical studies

### Offers timely information

so that researchers can study recently introduced medications

### Supports robust research

with detailed real-life data, bringing valuable insights and recommendations to clients

# SmartAnalyst Inc.

## Using IBM Explorys clinical data to improve how a company markets its medications

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 IBM Explorys data allows us to see how patients are really treated—not just how we think they are treated.”*

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

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## Studying psoriasis patients

One of SmartAnalyst's customers, a pharmaceutical company, wanted to learn more about how patients progress from one psoriasis treatment to another. Specifically, the organization sought to understand more about how patients progress from topical prescriptions to other treatments.

It can be difficult to understand patient behavior using clinical trials. Eros Papademetriou, Health Economics and Outcomes Research (HEOR) Engagement Manager at SmartAnalyst, explains that although researchers have done many other studies on psoriasis medications, those studies tend to be extremely restrictive. "In the clinical trial world, research is very tightly controlled. Those studies help researchers learn whether the medication works as intended and identify potential side effects, but they don't really measure effectiveness outside of the lab, and they don't intend to inform us on how the drug will be used in real life."

## Identifying treatment patterns

As opposed to using clinical trial data, which is usually older and limited to specific medications and homogenous patient groups, SmartAnalyst turned to the IBM® Watson Health™ team and its tool for extraordinarily detailed, cutting-edge

research: IBM Explorys® data. Based in the cloud, IBM Explorys data helps companies gain real-world evidence for decision making, using de-identified longitudinal data on more than 50 million unique patients and 344,000 unique providers.

Papademetriou describes SmartAnalyst's approach: "First, we used various criteria to define psoriasis patients as precisely as possible; then we created a cohort of more than 6,500 patients. The IBM Explorys data allowed us to look at these patients' journeys over the course of three years and develop a treatment pattern algorithm as a way to identify when medications are being used in succession and in combination."

The IBM Explorys data set revealed that many patients move from topical therapy to injectable biologics rather quickly—the median time was 206 days, which may not be enough time for some topical medications to take effect. However, when patients tried oral agents before switching to biologics, the median time elapsed was 488 days.

As a result, SmartAnalyst and its customer concluded that offering oral agents can significantly delay the need for biologics. Further, the team surmised that maintaining patients on effective topical treatments may help minimize the need to switch to biologics. The pharmaceutical company is developing a plan to work with

insurance organizations and physicians to encourage patients to remain on topical medications longer and to try oral agents before switching to biologics. Biologics are more expensive than topical and oral agents, plus they require injections weekly, every two weeks or monthly.

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***"The IBM Explorys data also gives us a unique opportunity to see how real people are using the drug. When you take a drug out of the experimental design phase and put it into the real world, a bunch of new factors come into play."***

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

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## Investigating further

"The IBM Explorys data set played a critical role in the study," says Papademetriou. "It's updated every week, which was really useful because some of the psoriasis medications we're studying are new. Some of the other databases have a 3–6 month lag, which can be really frustrating for the type of analysis we need to do to answer the client's business questions."

He adds: "The IBM Explorys data also gives us a unique opportunity to see how real people are using the drug. When you take a drug out of the experimental design phase and put it into the real world, a bunch of new factors come into play."

Finally, IBM Explorys data offers insight into research worthy of further investigation. As Papademetriou explains, the team was intrigued to discover that in more than half of the patients who tried an injectable biologic—typically the final line of treatment—the prescriber was a general practitioner, not a dermatologist. This suggests a need to educate general practitioners about psoriasis medication, and the pharmaceutical company is eager to explore this approach. "They definitely want to know more about the link between physician specialties and the typical patient journey. I see that as being a great opportunity to dig deeper into IBM Explorys data," says Papademetriou.

## Solution components

- IBM® Explorys®
- IBM Watson Health™

### 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](mailto:scienlif@us.ibm.com).

To learn more about SmartAnalyst and its services, contact [Manu Bammi](#) or visit the SmartAnalyst [website](#).

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