

Biotech Tailored Solution Example

IPF Patient-Based Dynamic Marketing Model

A top-10 biopharmaceutical company was facing marketing and drug supply challenges for its Idiopathic Pulmonary Fibrosis (IPF) drug because of unexpected sales volumes over the previous two years. Sales volumes appeared to be inconsistent with the number of both new and existing patients being treated over time. Marketing activities seemed to be ineffective in generating new patients as expected; nevertheless, higher than expected demand volumes caught the drug in short supply. Unfortunately, because there is insufficient treatment history and data on this drug, it is difficult to explain the recent data and to make confident predictions about market dynamics.

Working closely with the company's market research and analysis group, Applied Strategies Technology designed and implemented a user-friendly, re-usable patient-based dynamic market forecasting model that captures the movement of patients through the progression of the disease and simultaneously through the various potential treatment regimens. The model not only captures the volumes of patients in any given disease and treatment state, but also tracks the movement from state to state at each defined time period.

Designed so that the user can uniquely define the implications and dynamics of each state as it evolves, the model provides the company with the ability to generate insight into the variability and impact of variables such as:

- Length of therapy
- Type of therapy
- Average compliance
- Patient/Physician education
- Diagnosis rates
- Patient segmentation/disease state

On outputs such as:

- New, continuing, and total patients
- Revenue
- Number of vials

The IPF Patient-Based Dynamic Marketing Model provided detailed insight into the anomalies of the existing market by mapping almost identically the patient patterns seen in recent data. The model demonstrated how a "pool" of moderate patients created an initial flow of new patients, but as the pool was depleted, the number of new patients fell. Mild IPF patients did not typically go on treatment and severe IPF patients saw no need to start. However, if the patient had started on the treatment as a moderate IPF patient, there was a very high likelihood they would continue treatment as they transitioned to a severe disease state. This dynamic explained why volumes, but not the number of new patients, increased. Today the tool is used to forecast future sales and help set marketing and drug supply decisions.