

# Developing a Patient-Based Forecast Model to Help Drive Marketing Strategy

By Rosina Samadani, PhD, and Jim Carroll

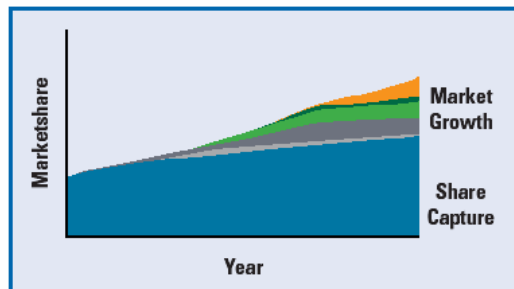
**Dynamic forecast models can provide important input into organizational priorities, budgets, and individual product strategies. In an increasingly complex environment, pharmaceutical marketers need forecasting methods that are able to reflect today's market. Patient-level data can provide a critical advantage in forecasting and strategic planning, as they go beyond traditional prescription data to reveal key insights about patient populations and potential untapped market opportunities. This article explains and illustrates the benefits of a patient-based forecast model.**

## The Challenges

Forecasting is critical to the foundation of a product's short- and long-term plans. In today's environment, forecasting can be quite challenging because the environment is undergoing major shifts in terms of approaches by states and managed care to reimbursement, government regulations on key factors such as drug importation, and greater challenges to patents. In addition, physicians and patients now have unprecedented access to information about diseases and drugs. These challenges form a complex, intricate environment for which forecasting has the difficult task of predicting and planning.

## The Opportunity

Although these challenges make forecasting more difficult, the quality of data available for use has improved. Pharmacy and medical claims provide valuable data that, when appropriately interpreted and scaled, serve as critical inputs into a forecast model.



**Figure 1.** A script-based forecasting model uses assumptions of market growth, competitive positioning, and share to estimate potential. Note: Each color represents a different product.

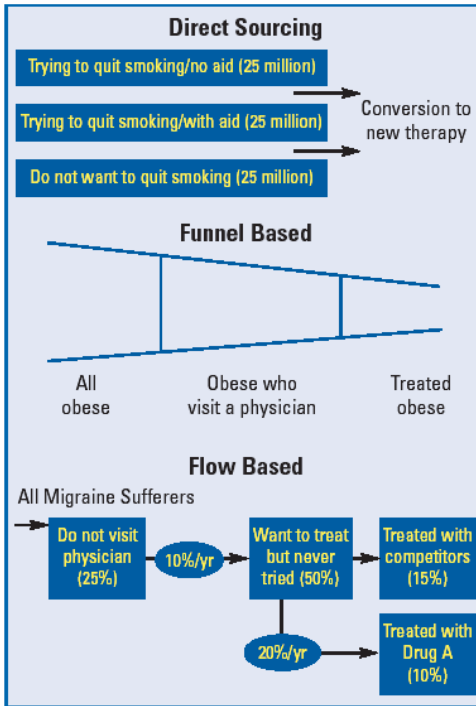
The optimal forecasting methodology for a particular product depends primarily on two factors: (1) the intended use of the forecast and (2) the available input data. Traditionally, script-based forecasts have been utilized because data are readily available for products on the market (Figure 1). These models are helpful for specific applications, but do not provide insight into patient- or physician-related drivers of share in the way that patient-based models can.

The three types of patient-based models illustrated in Figure 2 can all be used to derive inputs for strategic-level forecasts. A direct-sourcing model uses patient states (e.g., current therapy, behavior, etc.) and assumptions about behavior and drivers to estimate the likely percent that will convert. A funnel-based model uses cascading analysis and understanding/assumptions of the decisions driving progression to estimate potential. A flow-based model uses patient states of behavior and patient- and physician-based drivers of progression between flows to estimate potential. Good-quality input data are necessary for any of these methods. However, the more complex the model and the greater the expectations for its use, the more important it is that the data have the necessary depth.

## Optimal Migration Strategy

A follow-on product launch, in which the new entrant requires a complementary positioning, illustrates how a patient-based forecast can be used to provide strategic insights and inputs into accurate forecasts.

In developing a more complex migration strategy for an incumbent product (and its follow-on therapy) in relatively broad disease categories, such as the cardiovascular area, a patient-based forecast model can provide helpful insight that might otherwise be missed. This is because a pure



**Figure 2.** Patient-based models for forecasting. Note: Numbers in parentheses under Direct Sourcing are illustrative of numbers of patients.

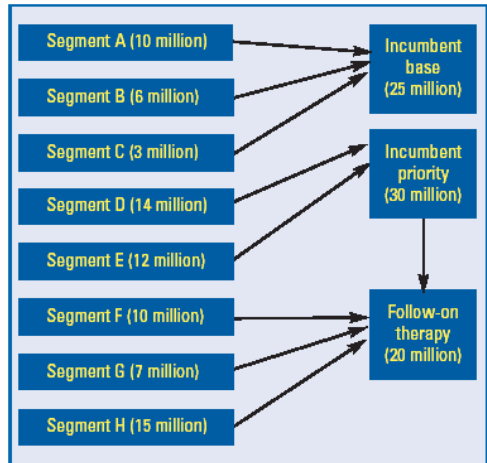
prescription-derived forecast would not provide the necessary inputs required to segment the market in an actionable manner. More specifically, since the follow-on therapy was not a simple replacement but launched before patent expiry of the incumbent, an approach that could elucidate different patient-usage patterns within the disease population would be required.

Based on this need, a patient-based forecast model was built. Patient-level data were used to confirm segments derived from market research and to understand current penetration of the incumbent product and penetration trends. A range of potential launch-uptake scenarios for the follow-on therapy were tested, incorporating

All figures produced by Capella Advisors (New York City).

*Dr. Samadani is Founder and President of Capella Advisors, New York City. Mr. Carroll is Director of Product Management at PharMetrics, Inc., Watertown, Massachusetts. The PharMetrics patient-centric database results from the contribution and integration of more than 70 geographically diverse health plans. In total, this unique database asset contains more than 2 billion health care events including the complete set of pharmacy and medical claims of more than 42 million deidentified patients. The PharMetrics Anonymous Patient-Centric Database strictly adheres to the requirements of the Health Insurance Portability and Accountability Act, insuring all individual patients are deidentified. For more information about PharMetrics, call (800) 783-6362.*

Reprinted from *Product Management Today* September 2004. Copyright 2004 by Product Management Today.



**Figure 3.** A patient-based forecast model provides a basis for migration strategy. Note: Numbers in parentheses are illustrative of numbers of patients. Numbers do not add to totals on right, because not all patients are captured.

differences in managed care uptake and physician acceptance with the patient-based forecast. The result was three clear categories of strategic targets for both products: (1) incumbent base (patients who will not be accessible to the follow-on product and will therefore be an important core of the incumbent product's target), (2) incumbent priority (patients who will be accessible to the follow-on product only if the incumbent product is able to penetrate into these segments before its patent expiry, and (3) follow-on priority (patients who are currently accessible to the follow-on product) (Figure 3).

The rate at which the migration of the patients in the incumbent-priority segment should be targeted for follow-on therapy depends on its actual uptake rate, resulting in a strategic plan that can subsequently be adapted for the environment.

## Summary

Patient-level data can provide a critical advantage in forecasting and strategic planning that can not only optimize portfolio performance but also enhance targeting efficiency and give product teams a competitive edge.