Sales forecasting in the pharmaceutical industry is not always accurate, pre- and post- product launch. Deloitte sees 3 main pillars to drive and increase forecasting process maturity:

1. **Driver-Based Modeling & Predictive Analytics**
   - **Driver-based modeling** allows to effectively predict and estimate business drivers and immediately evaluate the financial impacts of those decisions.
   - **Predictive Analytics** enables to produce consistent and well-understood metrics / reports based on internal and external information available across the organization.

2. **Aligning Strategy, Finance & Operations**
   - Increases understanding of new markets, indications and trends.
   - Reduces time and cost required to analyze information, forecast outcomes and drive decision making.

3. **In-Memory Computing, Multi-dimensional OLAP & Cloud Solutions**

**What is driver-based modeling & predictive analytics?**

- **Driver-based modeling** allows to effectively predict and estimate business drivers and immediately evaluate the financial impacts of those decisions.
- **Predictive Analytics** enables to produce consistent and well-understood metrics / reports based on internal and external information available across the organization.

**The specific nature of pharmaceuticals requires specialised methods: patient-based forecasting**

Pharmaceutical companies face many different challenges in comparison to other manufacturing companies:

- The valuation of a company being primarily based on its pipeline products, increasing the importance of an accurate sales forecast.
- The long lifecycle of pharmaceutical products.
- The scientific and complex research setting.
- The highly regulated sales and technical operations environments.
- Increasing costs to develop an asset and declining sales.
- The long and expensive product development process.

Specialized methods are required for the methodological framework and forecasting analytics used to support product sales projections and long term planning.

**Patients-Based Forecasting** is a reliable approach that allows for a better understanding of the primary drivers behind the sales.

- **Strategic**
  - Allowing for better allocation of resources and promotional investments.
- **Flexibility**
  - Managing future uncertainties (outcomes of clinical studies, approval dates, launch dates,...)
- **Transparency**
  - Assumptions and their impact on total volume and sales are easy to understand.
- **Insightful**
  - Understanding new markets, indications and trends, as well as giving insights in the patient flow and the main drivers influencing sales.

**The four steps of patient-based sales forecasting**

1. **Epidemiology & Segmentation**
   - Estimation of total market and population by indication and split of total number of patients into segments and subsegments.
2. **Patient Shares & Penetration Rate**
   - Forecast of market share by brand per (sub)segment, relative to competition in each segment.
3. **Volume Derivation**
   - Conversion of number of patients into a unified measure of unit with regards to the volume sold.
4. **Sales**
   - Conversion from volumes into sales by applying certain price taking into account certain industry specific items e.g. Parallel trade, rebates,...

For a more detailed description of the above steps, please see next page.

Contact us directly to discuss how to leverage Patient-based sales forecasting for your organisation.

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The four steps of patient-based sales forecasting

1. Epidemiology & Segmentation
   - (Relevant) Population
   - Epidemiology
   - Diagnosis Rate
   - Treatment Rate
   - Segmentation

   - Emphasis on qualitative data
   - No historical data available
   - Historical analogy
   - Predicting future results based on the pattern of a sales history similar to the present situation

2. Patient Shares & Penetration Rate
   - Conjoint analysis
     - Determining how different product and service attributes are valued
   - Scenario planning
     - A framework in which to measure consequences of potential events
   - Estimation of dose per day per formulation (can vary according to treatment, stage, weight, gender, ...)
   - Days of therapy needed to calculate how many doses per month/year the patient will be given
   - Estimating # patients that are (correctly) diagnosed with the disease

3. Volume Derivation
   - Determining total treated population with forecasted brand
   - Determining pack split (# of patients treated with each formulation) if multiple brand formulations exist
   - Estimation of dose per day per formulation (can vary according to treatment, stage, weight, gender, ...)
   - Days of therapy needed to calculate how many doses per month/year the patient will be given
   - Enabling the calculation of dose per patient, taking into account different dynamics such as changing demographics

4. Translating volumes into sales figures
   - Volume
   - Net Price
   - Net Sales

   - Financial Planning and Analysis
   - Portfolio Strategy and Planning
   - Operating Strategies and Plans
   - Demand and Commercial Planning
   - Sales Demand Consensus
   - Supply Consensus

   - Technology breakthroughs and commoditization of computing power are enabling companies to achieve a new level of value creation through (integrated) planning

   - Technology
     - In-memory data engine
     - Built-in intelligence
     - Spreadsheet-like immediacy
     - Blueprints & apps
     - Cloud delivery

   - Ability to integrate new business planning domains that previously happened in different tools and level of detail
   - Simulations and what-if analyses that before required overnight runs can be executed on the fly

   - Ability to integrate new business planning domains that previously happened in different tools and level of detail
   - Simulations and what-if analyses that before required overnight runs can be executed on the fly

How to unlock the full potential of patient-based sales forecasting?

Sales forecasting should not be an isolated process:
- Aligning Finance and (Sales &) Operations leverages on both strengths to decide upon the course of action:
  - Calculating the true bottom line impact of different scenarios
  - Using an accurate supply chain model to decide upon the course of action

Forecasting process should be part of an integrated planning cycle:
- Establishing and ensuring an environment for successful execution of the strategic directions of the organisation

Embed organisationally via integrated business planning...
underpinned by technology

...underpinned by technology