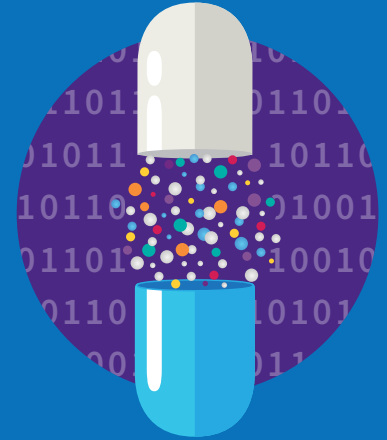




# The right prescription for provider compliance



## KPMG's predictive monitoring tool detects potential waste, fraud, and abuse in prescription drug programs

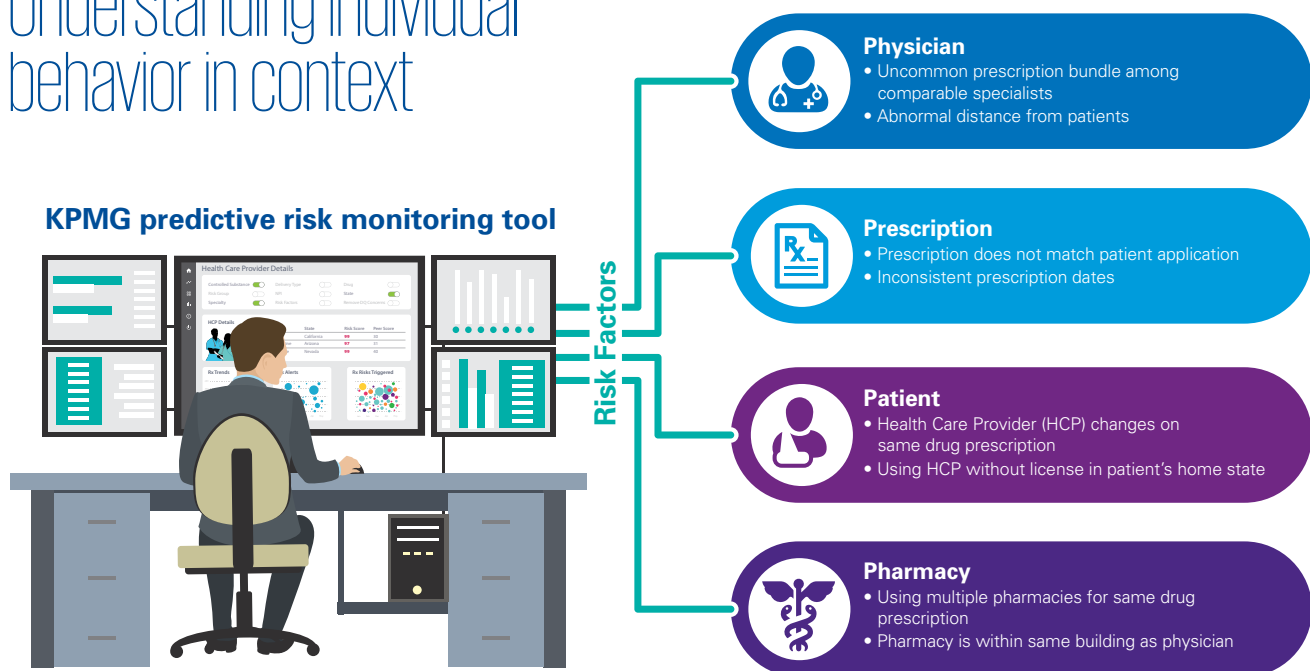
When a patient assistance foundation for a global pharmaceutical manufacturer wanted to create a leading risk and compliance program, it relied on KPMG to build a predictive monitoring capability that would enable more than 100,000 uninsured and underinsured patients across the U.S. to continue obtaining drugs for free.

Using the latest analytics, automation, and machine-learning technologies, KPMG's tool automatically scans through signals and patterns in millions of rows of data to detect potential waste, fraud, and abuse in the behavior of almost 60,000 physicians prescribing products, including tablets and injectables, across multiple therapeutic areas.

This automated approach goes far beyond the traditional spreadsheet-based method it replaces, which could check less than 1 percent of the portfolio at a time and used simple rules. KPMG's capability enables ongoing, portfolio-wide risk scoring of physicians and prescriptions, including reasons why a score is high or low. As a result, our tool understands individual behavior in context. It works at the prescriber, pharmacy, patient, and prescription levels, and accounts for a combination of behavioral, geographic, and individual patterns.

Our approach can uncover subtle anomalies that were undetectable before, and it can find them sooner. More importantly, as behaviors change over time, it can quickly accommodate and look for those new behaviors.

## Understanding individual behavior in context



## How it works


The KPMG Signals Repository fuels an always-on scoring engine that continuously applies over 60 rules against individual and transactional data (prescriptions), using more than 80 internal and external signals to detect hard-to-find patterns (e.g., multiple physicians prescribing the same medication at the same time for the same patient, where the physicians are far away from the pharmacy and have different specialties). The model identifies complex behavioral patterns that point to potential noncompliance and provides strategic insights that are displayed in easy-to-understand visualizations.

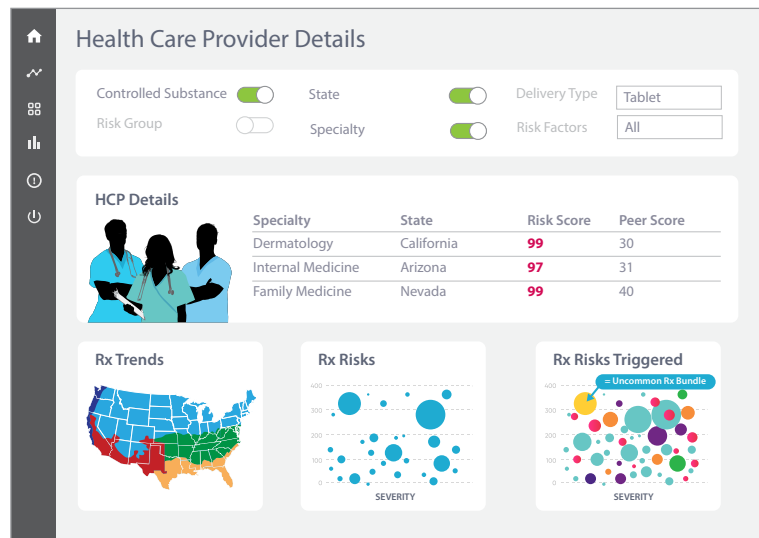
The result is a set of risk scores with comprehensible reason codes driven by a combination of machine-learning and rules-based models. Users can rapidly investigate prescribers and prescriptions—with full behavioral context on one screen. This creates a starting point for further investigations; the solution can be thoroughly integrated within current business processes.

Drivers of potential red flags can be quickly discovered and mitigated with appropriately adjusted controls to decrease the potential for abuse or misuse and allow even more drugs to go to patients in need.

By employing machine learning, the tool can understand which doctors and prescriptions are truly comparable to identify outliers. Further, it has the potential to learn and improve over time as the underlying threats evolve.

Importantly, the framework and methodologies developed to analyze drug-prescribing behaviors and anomalies can be tuned to advance compliance more broadly, such as scoring the risk of physician interactions or third-party risk. While expanding to new areas requires model re-training, the foundation remains the same.

-  **Understanding prescriber behavior**  
Ability to consider multiple patterns of when, who, and how much at the doctor level, and aggregating up to the program level (e.g., “what risk factors are most prevalent in the program today?”)
-  **Risk scoring prescribers**  
Ability to understand, using a model based on advanced analytics, which prescribers may be at higher risk for abusing the program
-  **Visualization**  
Ability to deliver prescriber-level and program-level insights in an immediately understandable and actionable way
-  **Ongoing monitoring**  
Ability to monitor for emerging risks on a periodic basis.



Sample dashboard

## Why KPMG

KPMG helps life sciences organizations develop transformative solutions in risk and compliance. Our differentiated big data offerings and accelerators, such as the KPMG Signals Repository, enable us to discover creative signals using both client and external data. These fuel our innovative machine-learning capabilities to help organizations monitor and manage risk. We also help organizations leverage the power of cloud, analytics, artificial intelligence, and blockchain to drive greater performance.

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