

# Opioid Abuse Management

A changing epidemic that requires new approaches

HEALTHCARE



What if you could predict patient behaviors that are likely to result in opioid overutilization before it actually happens? Even better, what if you could take timely action with analytic insights to reduce or eliminate opioid overutilization and associated cost, risk and tragic problems? With Teradata, you can.

## The Problem

Opioid abuse is a costly problem for the healthcare system and the nation. The concept of opioid addiction has evolved; traditional ideas and association with risky behavior don't apply in the same way anymore. The majority of today's opioid addiction results from the valid medical use of prescription medicine to treat pain for common conditions ... such as surgery, accidents and some diseases. While the initial use of these opioids are valid therapeutic applications, their continued use goes well beyond initial needs and are often leads to overutilization. It can affect anyone, even those who live healthy lifestyles and are not normally prone to drug experimentation.

## What's New

The changing nature of opioid abuse demands the adoption of a new analytic approach. Instead of only utilizing standard reports and tools to detect opioid overutilization

### Opioid epidemic by the numbers



Figure 1



Figure 2: Overutilizer's Opioid Journey. Requires Integration of Disparate Sources of Data.

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## Pattern Analysis

### Text Analytics



- Unlock Unstructured Data
- Predictive
- Machine Learning

### Sequence Modeling



- Sub-Paths
- Significant Next Event
- Time Between Events

### Segmentation



- Provider Populations
- Demographics
- Prior Patterns
- Comorbidities
- Therapeutic Combinations

### Overutilization Factors



- Most Frequent
- Most Impact
- Most Preventable

Figure 3: Identify Patterns of Members Who Have Overutilized Opioids

after it's occurred, organizations must adopt a new set of analytics to predict and prevent abuse before it occurs.

## Teradata Solutions

Teradata employs an innovative analytic approach to plot the sequence of events in a path that identifies a patient's journey from initial use of opioids to overutilization. We use a broader range of data, a behavioral approach, a richer collection of analytic tools, predictive modeling and industrialize the process so it can be done repeatedly at scale.

In addition to the more standard data used to identify who and where opioid overutilization occurs, Teradata uses 360-degree patient data to track and analyze a patient's behavioral journey to overutilization.

Based on a broader range of data in events sequence, Teradata can visualize major pathways to opioid overutilization to better understand the journey of known opioid overutilizers and focus next-step analyses on the most important drivers of overutilization.

A combination of multiple analytic techniques (Statistics, text analytics, machine learning, path analysis, and segmentation) is used to analyze patterns in the pathway

to opioid overutilization and identify key drivers. Machine learning is employed to develop a predictive model to apply to new populations to identify and intervene upstream to prevent overutilization.

While it is great to create a one-time predictive model, it is more important to create a repeatable process on an industrial scale allowing organizations to continuously take advantage of and improve the ability to predict and prevent opioid overutilization.

## Benefits/Results

Teradata's unique expertise, experience and analytics empower companies, while providing greater control over managing this important problem. Companies can predict and intervene to prevent opioid overutilization to avoid unnecessary costs and promote alternative treatments ... ultimately enhancing patient recovery.

## For More Information

To learn more, visit: [Teradata.com/Teradata-opioid-management-solution](http://Teradata.com/Teradata-opioid-management-solution). Or, contact your Account Executive to arrange a meeting with one of our Solution Experts.

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