

› Solution Brief



Business Impact

"Abuse of drugs and alcohol is costly for our society and, left untreated, places a tremendous burden on our workplace, our healthcare system and our communities. . . . The economic cost of drug abuse in the United States was estimated at \$193 billion in 2007, the last available estimate."

White House fact sheet, How Illicit Drug Use Affects Business and the Economy

Challenges

- **Data integration issues.** Combining data from numerous pharmacies and medical providers to get a single view of patient behavior is complex and time consuming, a challenge compounded by privacy issues.
- **Turning data into insight.** State prescription drug monitoring programs (PDMPs) do a great job of collecting prescription data, but few proactively analyze it to detect signs of abuse and addiction.

- **Underuse by prescribers.** Physicians are encouraged to consult their state's PDMP before prescribing, but 28 percent report that the information is unclear, and 58 percent say it's too time consuming.¹

¹Arlotta, C.J. "Only 53% of Primary Care Physicians Use Prescription Drug Monitoring Programs, Survey Finds." *Forbes*. March 2, 2015

Detect and Prevent Abuse of Prescription Drugs

The Issue

Each day, almost 7,000 people are treated in emergency rooms for misuse of prescription drugs. And each day, 44 people in the US die from overdose of prescription painkillers. The death rate has more than tripled since 1990.²

To tackle this epidemic, state-run prescription drug monitoring programs (PDMPs) gather data on prescriptions for controlled substances into a consolidated database. Most PDMPs simply collect data about what was prescribed and what was dispensed. Few analyze the data to find inappropriate or suspicious behaviors.

What if your state PDMP could give prescribers and dispensers data-driven insights that can be quickly understood and acted upon to deter abuse and diversion?

Our Approach

SAS® Analytics for prescription drug monitoring provides improved data integration, advanced analytics and alert management capabilities to detect problematic behaviors of prescribers, dispensers and patients. States can identify past patterns of abuse, addiction or criminal activity, and also proactively improve painkiller prescribing, inform clinical practice and protect patients at risk.

SAS provides the software and services to help you:

- **Stop addiction before it starts.** A unique, hybrid analytics approach can detect when a patient begins misusing prescription opioids, so states can intervene earlier with investigation or addiction counseling services.
- **Detect collusion or organized crime** by using visual social network analysis to find connections among entities.
- **Identify and prioritize highest-risk activities.** Investigators can focus on the most important cases. Law enforcement and public health officials can get immediate notification of emerging threats.
- **Combine data from many pharmacies, medical providers and patient records.** Disparate data elements are standardized, cleansed, correctly integrated and can be anonymized as necessary.
- **Get quick insights** through a self-service portal and dashboard that provide an executive-level view, support ad hoc data exploration and enable what-if analysis and forecasting.
- **Continually improve.** Results of investigations are fed back into the system to improve analytic models and reduce false positives over time.

² Injury Prevention and Control: Drug Overdose. Centers for Disease Control and Prevention. Accessed Sept. 16, 2015.

The SAS® Difference: Better Data, Deeper Insights and More Effective Prescription Monitoring

- **Proven analytics.** SAS has been used and proven for decades in the medical industry and for fraud detection in government and financial services, resulting in impressive capabilities for public health and crime prevention challenges such as addiction and drug diversion.
- **Hybrid analytics.** A unique hybrid analytics approach combines business rules, anomaly detection, predictive modeling and social network analysis to identify patterns of behavior across providers, dispensers and patients.
- **Machine learning.** A self-learning capability - with a continuous feedback loop to the analytics system - helps reduce false positives and improve data models over time.
- **Rapid detection.** SAS can continually alert on suspicious behavior as prescription records are received, without cumbersome manual analysis. This reduces any lag time in processing data and speeds time to decision, which can be critical in dealing with addiction and illicit prescription drug activity.
- **Intuitive user interfaces.** The customizable case management component enables PDMP administrators to tailor the solution to match their ways of working. This flexibility makes the system powerful and easy to use for analysts, public health officials, prescribers and law enforcement.
- **All-in-one system.** There's no need to cobble technologies together. SAS Analytics for prescription drug monitoring is built on a common framework with integrated components for a more robust solution.

Case Study: State PDMP Program

Situation

The epidemic of prescription drug abuse and associated criminal activity costs more than \$193 billion a year in lost productivity, higher health care costs and justice system costs.³ It is imperative to have a centralized way to track the prescribing and dispensing of controlled substances across providers and pharmacies.

Solution

SAS Analytics for prescription drug monitoring bundles data management, analytical and case management tools to detect drug misuse, addiction, and other suspicious activity from among the millions of prescriptions written annually in a single state. Rapid and accurate detection enables the state to address the growing rates of addiction, crime and deaths related to prescription drugs.

Results

Transparency within the state and across borders enables quicker decisions by prescribers (due to additional context by analytics); alternative treatment for high-risk patients; more proactive and timely enforcement; reduced overall number of addictions and drug-related deaths; and more effective use of funding across outreach, treatment and law enforcement.

³How Illicit Drug Use Affects Business and the Economy. The White House. Accessed Sept. 16, 2015. www.whitehouse.gov/ondcp/ondcp-fact-sheets/how-illicit-drug-use-affects-business-and-the-economy

What if you could ...

Identify early signals of addiction and take action sooner?

Proactively stop abuse and diversion of prescription drugs?

Make your PDMP database even more valuable to prescribers?

Help law enforcement address criminal concerns?

Deliver vital PDMP statistics and success measures?

**You can. SAS gives you
THE POWER TO KNOW®.**

SAS Facts

- The gold standard for analytics and reporting, SAS is used in all 50 US states - and at 75,000 sites in 140 countries worldwide.
- The SAS Advanced Analytics Lab for State and Local Government has more than 200 PhD-level statisticians dedicated to solving the most critical and challenging issues for government agencies.

Learn more about SAS software and services for state and local government at: sas.com/gov