

CASE STUDY

# State Collection Increases Liquidation With AI-Driven Segmentation & Call Cadence.

Predictive modeling and machine learning workflow optimizations improve collections while more efficiently utilizing human resources.



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To further State Collection's commitment to balancing revenue recovery with building strong patient relationships, State engaged Sift Healthcare to provide AI-based workflow optimizations and detailed revenue cycle reporting solutions. Sift's data-driven patient payment management worked to advance State's tech-centric approach to revenue recovery and complement State's best-in-industry patient satisfaction – all of which drive increased account resolution.

In a rigorous 120-day live, side-by-side test for a large health system, State matched Sift Healthcare against their current propensity to pay (P2P) vendor. Sift's patient scoring and segmentation, workflow optimizations and detailed operational reporting drove increased liquidation while enabling State to be more strategic in their outbound calling efforts.



#### ABOUT STATE COLLECTION

Rooted in a tradition of ethics, integrity and innovation since 1949, State assists healthcare organizations with services spanning the complete revenue cycle including Pre-Service Financial Clearance, Early Out Self-Pay Resolution, Insurance Follow-Up and Bad Debt Collection. State is a leader in healthcare receivables, focused on a patient-centric approach, technology and compliance.

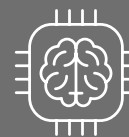
For this case, State is providing early-out self-pay and self-pay after insurance account resolution for a large, nationally ranked health system.

## OBJECTIVES

- Use Sift's predictive modeling to improve patient segmentation and better leverage alternative payment approaches, working to proactively assist patients while maximizing collections.
- Implement a data-driven call cadence methodology to optimize outbound phone calls to patient accounts while maintaining overall liquidation rate.
- Roll out daily reporting on KPIs, account resolution and work efforts.

## IMPACT

- **8.6% INCREASE** ↑  
In collections\* across all accounts, representing **\$4.1mm, annually**
- **2.89% INCREASE** ↑  
In net liquidation rate for payment plan eligible (PPE) segments\*\*, representing **\$2.6mm, annually**
- **ROBUST INTELLIGENCE**  
With insights that helped functional leaders make decisions around strategy, resources and workflows.



**SIFT'S APPROACH TO SEGMENTATION IDENTIFIES WHAT ACCOUNTS TO WORK, WHEN TO WORK THEM & HOW TO GET THE BEST RESULTS, TAILORED TO EACH PATIENT.**

## THE CHALLENGE

State has always had a proactive and patient-centric approach to self pay account follow-up. But State also knew that there was even more data they could be leveraging to segment patients and drive work efforts. State had been using a vendor to score patient accounts, but wanted to go further, leveraging the full scope of their data to segment patients more finitely and determine the best-fit payment plan for each patient.

State was looking for a more patient-centered solution for segmentation and payment plan recommendations.

**"We have learned that with more finite data our approach can be more personalized for each patient. When we have this kind of 1-to-1 approach, patients are more likely to work with us to resolve their accounts and keep their payment plans."** said Tracy Dudek, COO for State Collection. Additionally, State wanted transparent reporting and actionable insights around the effectiveness of scoring and revenue cycle work efforts. Previously, to measure work strategy adherence, reporting was cumbersome. Sift's Rev/Track portal provided an option that would make call cadence and follow-up adherence easier to measure.

State's goal was to find a solution that leveraged more data and tied together patient scoring, payment plan recommendations and detailed reporting so that State could be more effective in reaching different patient segments while making the best use of employee time and talent.

\*Sift provided a 1.36% increase in net liquidation rate across all patient accounts. This is representative of an 8.6% increase in collections.

\*\*2.89% increase in net liquidation rate is specific to patient accounts that were eligible for payment plans.

# SIFT'S SOLUTION

In the fall of 2019, State engaged Sift to provide propensity to pay scoring as well as to design a corresponding workflow that delivered custom recommendations for patient segmentation, payment plan provisioning and contact cadence.

Sift went beyond a simple P2P score, segmenting patient accounts and providing specific payment plans and call recommendations for each segment. Sift provided daily reports that allowed State to track outcomes and monitor the effectiveness of Sift's approach.

Sift's solution applied true machine learning that encompassed more data points than competitive solutions. Sift's robust approach to data normalization allowed Sift to be more precise in how patients were segmented and to provide more specific recommendations around payment plans and how patient accounts should be worked. Sift's approach is also dynamic, with daily adjustments around patient segments, work strategy and payment plan recommendations.

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## METHODOLOGY

To initiate the State Collection Test, Sift analyzed two years of historical patient encounter data, normalizing this data and using it to build custom predictive models around propensity to pay, payment amount and contact cadence. These models were used to define Sift's patient segments.

### **Data for Modeling**

Powered by Sift's cloud-based data platform, Sift assembled historical payments data in a relational database and then randomly divided (50/50) the data into training and validation sets. The training data was used to build Sift's predictive models and validation set was used to test the accuracy of the models on the historic data.

### **Supervised Learning**

For the State Collection Test, Sift used proprietary supervised learning models, which are trained to find important attributes leading to the most accurate prediction that a patient will pay in full during the early-out period. Sift utilizes a variety of models and algorithms that provide accuracy, robustness and resistance to data problems in scoring.

### **In Production**

All patient encounter data was sent to Sift each day through secure FTP (SFTP). The daily workflow recommendations for the Test Group were dynamically fed into State's Artiva workflows. This setup allowed State and Sift to monitor and directly measure the impact of Sift's predictive modeling, patient account segments and machine learning recommendations.

Sift collaborated closely with State in the setup of this test, ensuring that patient segments made sense, workflow recommendations integrated seamlessly into their Artiva system and reporting captured key metrics and insights that could be shared with State's client.

# 120-Day Side-By-Side Test Results

## 1. LIQUIDATION RATE AND DOLLARS COLLECTED

Sift's recommendations around payment plans and contact cadence increased total net liquidation for State. Across all segments, Sift's Test Group saw a 1.36% increase in net liquidation vs the Control Group.

Applied to the entirety of patient accounts, this increase in net liquidation rate represents an 8.6% improvement in dollars collected or \$4mm on an annual basis.

## 2. PAYMENT PLAN MANAGEMENT

Sift's improved liquidation rate is driven by Sift's superior patient segmentation and Sift's targeted recommendations around whom should be proactively offered payment plans, in what amount and for what duration.

For patient segments where Sift recommended a payment plan, the Sift Test Group saw a significant, 2.89% increase, in net liquidation rate vs the Control Group, representing \$2.6mm on an annual basis.

## 3. OPERATIONAL INTELLIGENCE

In the 120-day test, Sift provided daily reporting on the execution and efficacy of all calls – clear metrics around the calls being made and their results in terms of liquidation and dollars collected.

Sift's daily reports provided details around important levers such as:

- Which calls should be prioritized each day, by segment.
- Call adherence – i.e., Are teams calling the accounts required by contracts and are they making the calls as recommended?
- Which accounts in each segment require enhanced attention.

## 4. STRATEGIC CALL CADENCE

Sift's data-driven scoring, segmentation, and call cadence recommendations enabled State to be more strategic in their outbound calling efforts.

Sift's workflow recommendations and tracking drove better timed calls and higher value calls. This focus enabled State to better allocate human capital resources and increase calling efficiencies.

### COVID-19 IMPACT

The results summarized in this case study are pre-COVID-19, as State's initial 120-day test with Sift closed in February 2019. State has continued to implement Sift's patient segmentation and machine learning recommendations during the COVID-19 pandemic.

Throughout the pandemic, Sift's impact on liquidation rate has remained constant and Sift's recommendations around work efforts have become increasingly valuable as State navigates this turbulent time in healthcare collections.



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Sift brings data science to healthcare payments, using AI and machine learning to improve revenue cycle workflows and providing actionable insights around operations and collections.

- Denials Management and Prioritization
- Patient Payments Management
- Omni-channel Patient Contact Strategy
- Robust Operational Reporting
- C-Suite Intelligence