

CHILD SUPPORT AGENCY PILOTS ANALYTICS TO IMPROVE FAMILY OUTCOMES



CHALLENGE

The Office of Child Support (OCS) within the Michigan Department of Health and Human Services plays a crucial role in helping to ensure children receive the financial support they need even when their parents are not together.

The first step is a process that leads to obtaining an obligation to pay child support. Known as “pre-obligation” in Michigan, this process spans from intake by the OCS through handoff to the county prosecuting attorney. Until pre-obligation is complete, a case cannot advance to obligation—the process for calculating the non-custodial parent’s financial responsibility in order to establish the formal child support order.

In Michigan, as many as one in five child support cases kept getting “stuck” in pre-obligation. That leads to too many children waiting to receive the support they need. It also puts the OCS at risk of not meeting federal child support guidelines for the percentage of open cases for which obligation is established.

Reflecting Michigan’s strategic goal of using analytics to improve child support services and outcomes for families, the OCS decided to test predictive analytics as a tool for understanding—and reversing—that trend.

STRATEGY AND SOLUTION

Michigan's OCS collaborated with Accenture on a pilot exploring how analytics could drive deeper understanding of how and why some child support cases stall in pre-obligation.

"Pre-obligation is the foundation of the child support process, so it made sense to start there," explains Ian Broughton, OCS's Planning, Evaluation and Analysis Manager. "That would help us figure out where things are falling off course from the very beginning."

The team established three core goals for the pilot:

- 01** To use analytics to reveal case and demographics attributes that lead to delays in obligation.
- 02** To understand and prioritize actions to proactively progress a case toward obligation.
- 03** To use predictive modeling to identify and mitigate cases with high delay risk.

To address those goals, the pilot team assembled three critical types of expertise: subject matter experts with deep understanding of child support, including business processes and legal statutes; data scientists with knowledge of artificial intelligence and machine learning techniques; and OCS's longstanding program experts.

"From the very first meeting, it was clear that this pilot required more than just analytics expertise," Broughton recalls. "We also needed business subject-matter experts in the room to help validate what the data scientists were finding through their work."

The team's data scientists selected 50 tables from the OCS's enterprise data warehouse to create the Michigan Case Analytic Record (MiCAR). All told, MiCAR consolidates information from 40+ disparate data sets at a case level. The result is a 360-degree view of the pre-obligation process for each case. MiCAR also provides the wealth of data needed to understand interrelationships among a host of

variables. By applying machine learning models to four years' worth of case data, the team began to uncover the factors that correlate with higher risk of delay, and to predict which cases would become delayed.

Based on those factors, they built models for two key points of delay. The first modeled delays between the time a case is opened through the point where the OCS hands the case over to the county's prosecuting attorney. The second modeled delays from the receipt of the case by the prosecuting attorney to the time the non-custodial parent can be served papers requiring a court appearance to establish the order.

In addition to creating visual dashboards to present a highly granular view of how case attributes map to the steps in the pre-obligation process, the team used predictive modeling to create a "risk score" for each case. The risk scores enable the OCS to intervene and mitigate potential delays.



TRANSFORMATION

In just 16 weeks, the pilot successfully demonstrated the potential of predictive analytics and led to the formation of an Analytics Hub for the State of Michigan.

The pilot identified regional, demographic, racial and socio-economic differences in the prevalence of delays. For example, Medicaid cases and cases with younger children and younger custodial parents were more likely to experience delays in getting to obligation. The pilot also found that having driver's license information for the non-custodial parent reduced delay significantly. These and other insights are enabling proactive mitigation of more than half of Michigan's delayed child support cases.

For Broughton, the pilot helped overcome any traces of his own skepticism about predictive analytics: "I was interested to see how accurate the models would be, and I was impressed by how they work and how accurate they were in predicting a delay. With this pilot, we've shown how we can use these capabilities to identify the highest-risk cases." Broughton and his colleagues, including a recently hired statistician, continue to have access to the MiCAR tables and a Tableau dashboard—empowering them to pursue additional analytics use cases.

He says the OCS continues to explore how it will apply the initial set of findings. Possibilities include changing how staff are aligned and creating a specialized team focused on gathering information about non-custodial parents in high-risk cases. The OCS is also considering integrating dynamic risk scores into its core case management system. Beyond that, the analytics-driven insights have revealed opportunities to redesign how the OCS interacts with various participants in the child support ecosystem.

Above all, the pilot is building momentum for an important, longer-term journey: the OCS's transformation to become a data-driven organization and to collaborate more effectively with other Health and Human Services organizations.

"There's an incredible potential here as we all continue to talk about wanting to reduce silos and get out of our individual programs," says Erin Frisch, Michigan's Chief Deputy Director of Opportunity and Director of the Office of Child Support. "Using these analytical models will be key in breaking down the silos. When we can connect data across multiple program areas, we can get better insights into exactly what's happening with the folks we serve."



MORE INFORMATION



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