Reducing Fraud and Abuse in Ohio's Unemployment Insurance Program

Category: Data Management, Analytics & Visualization

State: Ohio

Agencies: Ohio Department of Administrative Services and the Ohio Department of Job and Family Services

Contact: Katrina Flory, State Chief Information Officer, Department of Administrative Services, State of Ohio; katrina.flory@das.ohio.gov

Project Initiation & End Dates: August 2020 - November 2021

Executive Summary

The COVID-19 pandemic spawned an unprecedented surge in unemployment claims filed by individuals – some of them attempts at fraud. This strained the business operations of the Ohio Department of Job and Family Services (ODFJS) Unemployment Insurance Program, causing a processing backlog for legitimate claimants.

Starting in August 2020, ODJFS began working with the Ohio Department of Administrative Services (DAS) Office of Information Technology (OIT) InnovateOhio Platform (IOP) on a multi-pronged series of initiatives to fight attempted fraud, improve security and enhance service and privacy for Ohioans seeking benefits.

IOP, established by Governor Mike DeWine's [Executive Order 2019-15D](), helps state agencies improve service delivery by becoming more customer-centric and data driven. The IOP Data Analytics team uses leading-edge approaches to solve the state's most important challenges and inform strategic decision making. The IOP User Experience team ensures that state resources are accessible to every Ohioan and information is secure, private, and easy to access when authorized.

As part of the unemployment insurance claims initiative, the IOP Data Analytics team deployed an advanced solution that leveraged machine learning, predictive modeling, and interactive dashboards to create a system for the ODJFS to target unemployment claims that were most likely to be fraudulent and where investigative effort was best directed. A variety of interactive, user-friendly dashboards were created to tackle specific unemployment insurance concerns, including dashboards to identify and investigate fraudulent claims, track the backlog of denied claims under appeal, provide executive summary metrics for ODJFS leadership, and identify cross-population matches to help identify suspicious claims. To reduce the risk of fraud on the front end, multifactor authentication (MFA) and identity proofing were also established for Ohioans applying for unemployment benefits.

> **Fraud Reduction at A Glance**
>
> - **$51 million** in fraud-related overpayments in the traditional system
>
> - **$455 million** in fraud overpayments in pandemic unemployment assistance
>
> - **$784 million** in non-fraud overpayments in the traditional system
>
> - **$4.5 billion** in non-fraud overpayments in pandemic unemployment assistance

The IOP Customer Experience team onboarded the Unemployment Benefits System: Ohio Job Insurance (OJI) to OH|ID, the state's digital identity provider. The PIN and social security number login system that was previously in place was repeatedly abused by bots and bad actors during and the pandemic.

To reduce the number of successful fraudulent claims, the OJI filing process was onboarded to the state's digital identity. Risk-based MFA and identity proofing services were also added to the process. Claimants now access their benefits through single sign-on with OH|ID and are then redirected to the claimant portal. These security enhancements, coupled with the identity integration, greatly reduced situations of account takeover for ODJFS and its claimants. Their accounts are secured using risk-based, MFA with IBM Verify MFA and identity proofing services

via Experian. Through OH|ID, claimants also have a variety of self-service options for resetting their password, changing their username, tracking recent account login activity, and updating their profile information. Additionally, because OH|ID login and account creation screens are designed to be mobile-friendly, the user experience was enhanced for those using a smart phone or tablet.
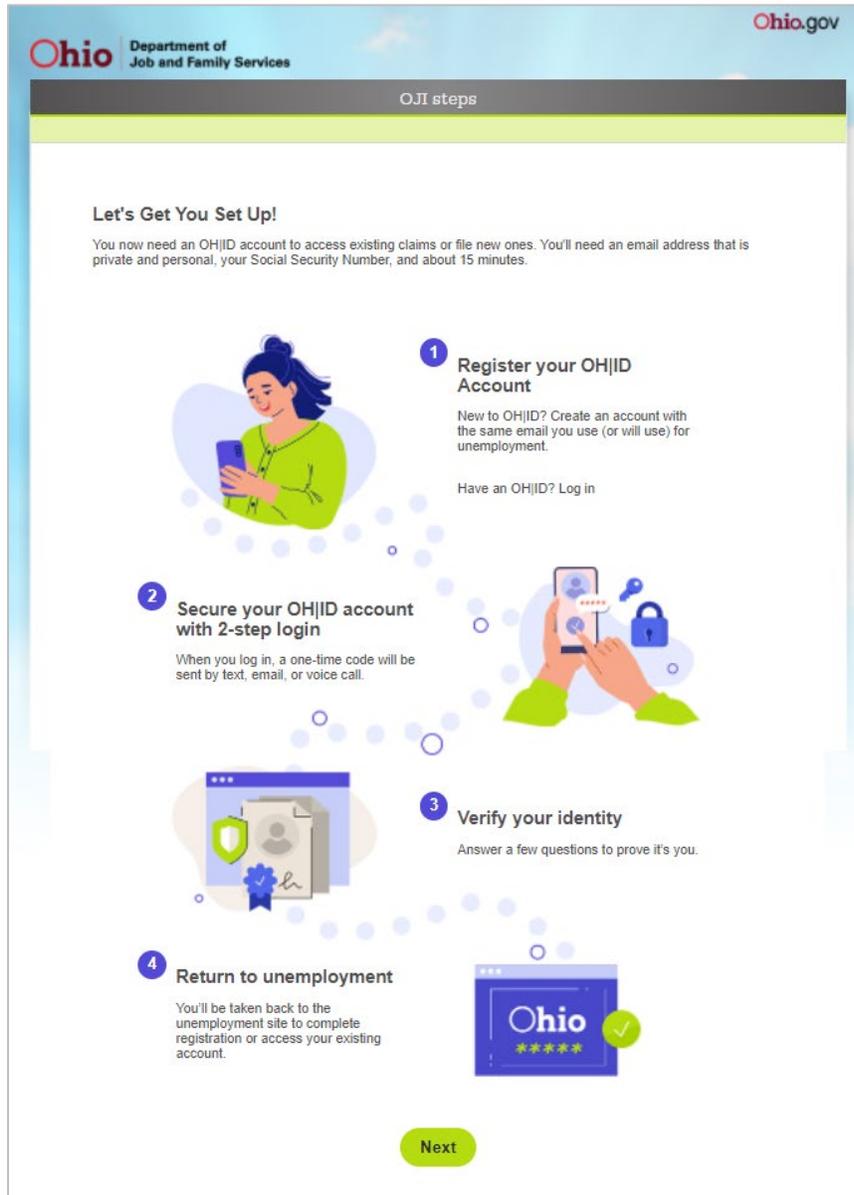

Figure 1: User-facing screen added into OJI login flow to explain the enhanced security measures.

In a heavily technology-based initiative with complex systems and significant user-experience impact, a detailed and comprehensive, organizational change management approach (OCM) provided the necessary context, support, and resources that all stakeholders, internal and external, needed to feel adequately prepared for the change. "What we did differently is we focused on and invested in the user experience, the journey, how people are interacting with the state," said Neal Gallucci, IOP Technical Administrator. Then we focused on change management and used that as a primary anchor to implement our technical solutions."

Implementation

The IOP Customer Experience team implemented OH|ID single sign-on, risk-based MFA, and identity proofing via Experian to the Unemployment Benefits System: Ohio Job Insurance application during an eight-month project that was fully implemented on November 16, 2021.

The IOP Data Analytics team employs an iterative prototype-first approach, which allows for immediate wins and insights. The ability to quickly design, build, and deploy solutions allows agencies to secure quick wins and make data-driven decisions. Using this iterative approach with ODJFS, the unemployment insurance project underwent multiple phases and continues to build upon past wins to identify new phases for additional business process improvements.
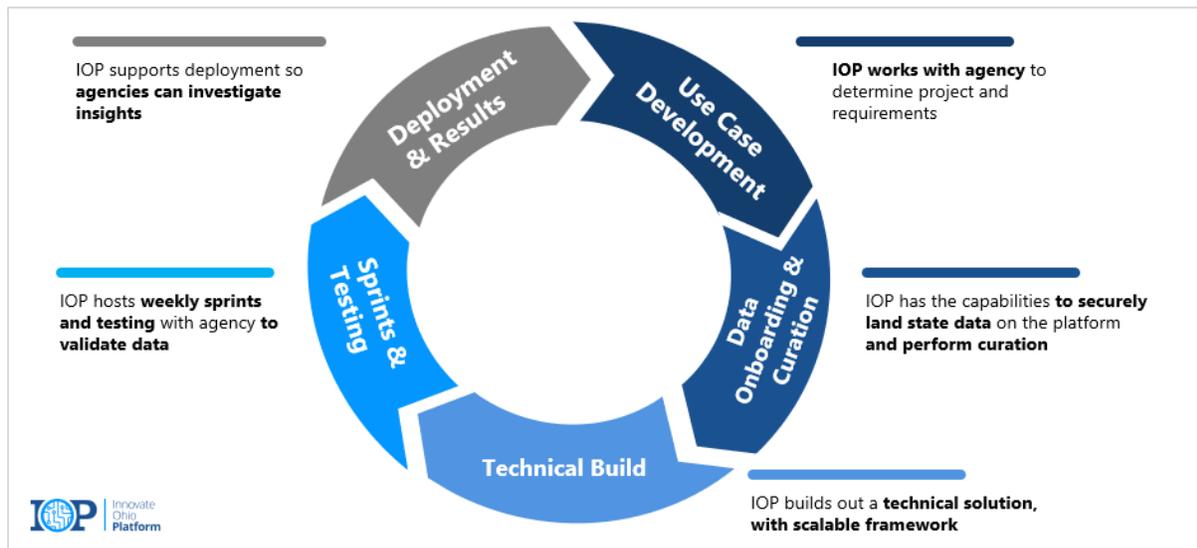

Fig. 2 - IOP Data Analytics Deployment Phases

The prototype-first approach for implementing a comprehensive unemployment insurance project has completed the following phases:

Phase: Build and Deploy Interactive, User-Friendly Dashboards for Immediate Use
- Build and deploy an interactive dashboard that displays flagged potentially fraudulent claims for analysis. While fraudulent scenarios continue to be added, this was completed in October of 2020.
- Build and deploy cross-population match dashboards, which have identified over $80 million in overpayments and potentially fraudulent payments. This was completed in January of 2021.
- Build and deploy executive summary dashboards, which provide high-level summaries on overall metrics and trends. This was completed in April of 2021.
- Build and deploy claims operations dashboards, shrinking the backlog of unemployment claims. This was completed in August of 2021.

Phase: Integrate Predictive Modeling
- Integrate predictive modeling and machine learning capabilities into dashboards to conduct advanced statistical analysis on the likelihood a claim is fraudulent. This phase was completed in May of 2021.

The outputs of these phased solutions often provide new insights that lead to additional improvements for existing business processes.

Automated Approaches to Service Delivery

In August of 2020, the IOP team built, in three weeks, an initial, scalable framework, including a fully operational Unemployment Insurance Fraud Dashboard on Tableau, which flags potential fraud scenarios, allows for continued fraud analysis with drill-down capabilities, and provides direct data access for ad-hoc analysis. The dashboards leverage the state's own data, including death records, prison rosters and logs of currently employed public sector workers to search for suspect claims.

Machine learning is a key feature integrated into these dashboards to conduct advanced statistical analysis on the likelihood that a claim is fraudulent. This capability continues to adapt as new data is made available.

Displayed prominently on dashboards, the predictive modeling capability provides a predicted score that ODJFS can use to flag claims, which require additional research before a determination is made. This feature drastically improved service delivery, it has allowed for higher scoring confidence and a more efficient allocation of resources as ODJFS teams are able to work through the analysis of claims quickly by focusing on those scored as the highest probability of fraud for further investigation or lowest probability of fraud to help work through the backlog of outstanding claims. Claims are not automatically adjudicated by the machine learning model, but it expedites the review process for the ODJFS Benefit Payment Control (BPC) team.

In addition to dashboards built for internal analyses, the IOP team also worked with ODJFS to secure Ohioan identities to better mitigate claims issues from initial point of contact. In December of 2021, Ohioans applying for unemployment benefits began accessing their account using an OH|ID through ohid.ohio.gov. Through the IBM Cloud, the unemployment benefits system requires multifactor authentication and prompts users to complete an Experian identity proofing quiz, to further verify their identity and enhance the security of electronic claims submissions and payments.

In May of 2021, the IOP, ODJFS Information Services, and BPC teams integrated additional functionality related to advanced fraud scoring and fraud detection into the framework and dashboard. Predictive modeling with machine learning capabilities were leveraged to improve the ability to identify and predict high probability of fraud or non-fraud claimants. This cutting-edge technological functionality provides a predicted fraud score and disposition on the dashboard based on statistical probabilities derived from the model.

Machine learning is a strategic and innovative addition to the framework and dashboard; it is designed to improve the accuracy of claim determinations for the BPC team who monitor unemployment fraud claims. As the system continues to identify patterns from the data, its predictive analysis will enhance in accuracy, limiting the considerable level of human intervention previously required to score the likelihood of fraud (or non-fraud). Now, the BPC team is able to swiftly move through the adjudication process which determines, identifies, and rejects fraudulent claims and processes valid ones. Integrating this predictive model into the unemployment insurance fraud framework and dashboard solution is part of ODJFS' transformation from a reactive unemployment insurance business process and system to a

proactive one. By accurately flagging suspicious claims before the money is dispersed, state resources will be safeguarded and more expediently allocated to Ohioans in-need.

The integrated dashboards are automatically updated daily and allow ODJFS investigators to view potential areas of fraud ranging from suspect IP addresses and phone numbers to home addresses and bank accounts that are frequently used by suspect claims. Investigators can use the dashboards to drill down into individual claims records for further analysis.

In addition, the IOP team worked with ODJFS to create a Claims Operations Adjudication Workload Dashboard. This allows the agency to confirm and prioritize appealed claims that have been waiting an extended period for adjudication. This assisted the agency in largely eliminating the claims appeal backlog by using the dashboards to efficiently focus on claims based on their scoring and associated attributes, which are all provided in a single dashboard.

Impact

In the month following go-live (Nov. 16 - Dec. 14, 2021), 83,184 Ohio Unemployment accounts were successfully associated to an OH|ID Account. Unemployment filers typically access their accounts weekly. With risk-based authentication in place, in the first month, 9,810 "very high-risk" login attempts were blocked. Additionally, 44,904 "high-risk" login attempts were forced to pass multifactor authentication anytime they attempted to make a change to their account, to maximize fraud protection.

Additionally, as of Feb. 11, 2022, ODJFS identified $5.8 billion in fraud and non-fraud unemployment insurance overpayments. This includes:

- $51 million in fraud-related overpayments in the traditional system
- $455 million in fraud overpayments in pandemic unemployment assistance
- $784 million in non-fraud overpayments in the traditional system
- $4.5 billion in non-fraud overpayments in pandemic unemployment assistance

Over that same period, ODJFS successfully paid more than $24 billion in benefits to over 2.4 million Ohioans. In December 2021, ODJFS announced it had cleared the backlog of appeals for both traditional and pandemic unemployment insurance. This was a dramatic improvement from July 2021 when there were 177,500 outstanding appeals, including 146,000 older than 21 days. Overall, the agency was able to issue more than 558,000 appeals, compared with a typical pre-pandemic volume of 45,000.

Conclusion

In bringing this project to life, all elements of the IOP ecosystem worked together with ODJFS to produce results that improved the claim-filing process for all Ohioans. By late 2021, fraud reduction, customer service and the timely processing of unemployment insurance claims were dramatically improved, and the backlog of appeals was virtually eliminated.