

Indiana relies on Enterprise Data Warehouse for improved Medicaid management, health care decision-making



Indiana's \$9 billion Medicaid program serves 1.4 million residents

Indiana has long used a data-driven approach to program management and, since 2013, the State has relied on a powerful enterprise data warehouse (EDW) to aggregate and analyze vast amounts of data across its entire Medicaid services spectrum. The goal: to improve health outcomes and make better decisions about people, policies and programs.

The technology has enabled Indiana professionals in the Office of Medicaid Policy and Planning (OMPP), within the Family and Social Services Administration (FSSA), to conduct analyses in major areas of Medicaid and human services, encompassing outcome improvements, program integrity, and performance management and measurement — all with the goals of improving services for beneficiaries and ensuring that taxpayers are getting the best value for their money.

For several years and in several key areas, the EDW — implemented and operated by Optum, the State's analytics and technology partner — has helped provide officials with information and knowledge about Indiana's \$9 billion Medicaid program, and Indiana has ambitious plans moving forward.

FSSA and OMPP view the EDW as a key component — the "single source of truth" for data and analytics — to support the State's goal of improving care and services for 1.4 million Hoosiers covered by the Medicaid program, and further integrating health and human services data sources to provide powerful unified analytical capabilities across organizations.

"Bolster health care delivery and coordination, reduce disparities, fuel research and innovation, and spur advancements in healthy outcomes for the individuals of the State of Indiana."

— FSSA EDW Annual Report

Following are examples and illustrations of how Indiana has used and will use the EDW and analytics to drive health care improvements and shape policy and programs:

Determining substance use disorders (SUD) among Medicaid beneficiaries

As part of the State's effort to obtain a federal waiver to expand funding for "healthy behavior incentives," FSSA first had to identify Medicaid-enrolled members who had a substance abuse disorder. Only then could officials determine appropriate services and service levels.

FSSA used the EDW to conduct in-depth analyses to determine substance use disorders in Indiana's Medicaid population. Using claims data and analytics from the EDW, FSSA found the following high-level results:

41%

Increase of members with SUDs during a five-year period (2010–2014). The SUD population grew at more than four times the rate of the overall Medicaid population.



More than half of SUD Medicaid recipients are in the aged, blind and disabled population; males between the ages of 25–64 also had high levels of SUD issues.

Nearly 1 in 6

Indiana Medicaid births occurred to a mother diagnosed with an SUD in the same calendar year.

91%

Growth of total value of claims related to SUDs in the Medicaid population over the same period — \$334 million by 2014. The health care costs of the SUD population increased more than twice as much as the size of the population.



Members with a SUD diagnosis are more likely than the general Medicaid population to have comorbid conditions such as depression, hypertension, infectious hepatitis, HIV/AIDS, cirrhosis, obesity, and psychotic and schizophrenia disorders.

If the waiver is approved, the State plans to add coverage for new SUD treatment to enhance current benefits and provide a full continuum of care for Medicaid recipients. Additional services will include expansion of inpatient detoxification, additional residential services, an expansion in the number of providers eligible to provide residential treatment services, and the addition of addiction-specific outpatient treatment services such as peer recovery supports and relapse prevention.

Further, the State plans to encourage members to use available benefits in a meaningful way by requiring Medicaid health plans to develop targeted member incentive programs aimed at addressing SUD and engaging individuals in treatment.

FSSA plans to use data and analytics provided by the EDW to develop a comprehensive view of its members with SUD diagnoses, enabling the agency to apply for and receive federal funds to address this major health issue.

Monitoring medications prescribed to children

The Indiana Department of Child Services (DCS) is federally required to monitor and intervene when psychotropic medications are prescribed to children who are wards of the state or in foster care (or both). Indiana FSSA uses its EDW “data mart solution” to provide DCS with reports of key psychotropic measures, as well as access to Medicaid administrative claims data and member demographic information that were historically inaccessible. This includes the ability to identify DCS members using Medicaid data, which had been difficult to do in the past. Now, FSSA coordinates closely with DCS to provide Medicaid data for children receiving DCS services.

In short, the DCS data mart solution enables DCS to satisfy federal reporting requirements, ensure coordination of health care services for DCS members, and monitor the appropriateness and effectiveness of health care services provided to children served by DCS.

Healthy Indiana Plan (HIP) services dashboard to guide decision-making

In February 2015, Indiana implemented version 2.0 of the Healthy Indiana Plan (HIP). The plan, which had its origins in 2008, provides coverage to more than 400,000 working adults through consumer-driven health care plans administered by a managed care entity (MCE), paired with a Personal Wellness and Responsibility (POWER) account valued at \$2,500 (which operates similarly to an HSA).

HIP 2.0 is Indiana’s version of Medicaid expansion that expanded Medicaid eligibility to non-disabled, low-income adults between the ages of 19 and 64. HIP 2.0 provides enhanced benefits, including dental and vision coverage, and focuses more on improved outcomes as part of its provider reimbursement schedules.

This first-of-its-kind plan requires FSSA to constantly measure progress and outcomes to determine HIP 2.0’s effectiveness — and the EDW coupled with an HIP Services Dashboard provides the data, analytics, analyses, metrics and visualization that the State utilizes to monitor and measure HIP 2.0 on an ongoing basis.

Using data visualization tools — such as bar charts, pie charts, graphs and maps — the HIP Services Dashboard enables FSSA executives to quickly and pictorially determine a wide breadth of information about HIP 2.0, related to enrollment, claims volume and utilization. A few examples include the visual representations of HIP 2.0; pending applications; enrollment by county; number of claims by claim type; pharmacy versus non-pharmacy claims; the top 10 drugs prescribed by class; and brand-name drugs versus generic drugs prescribed.

The dashboard also provides information about overall metrics and CMS reporting, provides users with a single point of access, and is available from mobile devices as well as desktops. The dashboard has become a key decision-making tool for FSSA and will continue to evolve as HIP 2.0 matures and the State defines additional reporting needs.

Improved management of pharmacy benefits

As part of the HIP 2.0 implementation in 2015, Indiana carved its Medicaid pharmacy benefit into the managed care plans, and OMPP directed the managed care entities (MCE) to transfer pharmacy encounters directly to the EDW for aggregation and analysis, bypassing the transactional Medicaid Management Information System (MMIS). FSSA believed this significant change would reduce the rejected claim-rate for pharmacy benefits and improve the overall quality and completeness of data. The operational change was significant, requiring close coordination between the FSSA/OMPP personnel, Optum, the MCEs and their pharmacy benefit managers (PBMs). The collaborative effort worked — by the end of 2015 the rejected claim-rate had dropped from 18 percent to less than one percent, where it has remained, barring a few exceptions.

In addition, during 2016, the Optum/State EDW team integrated pharmacy data from a new MCE into the EDW, and worked with another MCE that was changing both its claims processing and PBM vendor. The Optum/State team also identified additional data fields to support federal reporting and analysis by the Medicaid Fraud Control Unit (MFCU).

Focusing on Medicaid quality measures

FSSA/OMPP is using the EDW to assess and evaluate how Indiana's Medicaid program and population are faring against nationally recognized metrics. The Optum EDW team and OMPP developed a Quality Measures Data Mart, which is designed to quickly respond to agency requests for quality measurement and performance measurement results.

The data mart includes more than 670 quality measures that affect access to care, quality of care and program performance. These include areas such as: follow-up appointments for patients hospitalized for mental illness; adult access to preventive care; inpatient utilizations; and care and treatment for chronic disease (for example, the number of diabetes patients who had an HbA1c test in the last 12 months, by MCE).



The rate of rejected pharmacy claims dropped from **18 percent to less than one percent.**

In addition to faster turnaround time for ad hoc and customized queries, the data mart provides graphical representations of quality measures that allow for easy tracking and trending over time. The tool also enables users to easily filter data by variables — geography, gender, age, ethnicity, program and MCE — for more sophisticated analysis. The data mart's flexibility enables the addition of new metrics and modification of existing metrics according to OMPP's needs.

Future growth plans for the data mart include quality metrics data from the Department of Child Services, FSSA Aging, FSSA Division of Mental Health and Addiction, and FSSA Financial information — all with a goal of providing “one-stop-shopping” for assessing and reporting quality measures, and tracking performance measurement across the health and human services enterprise.

De-identifying medicaid data for public use

With the EDW as the single source of truth, and working with the State's Management Performance Hub (MPH), FSSA is on the verge of making de-identified Medicaid transactional data available to the public to support better decisions in health care. The State plans to consolidate the data into three general groupings: provider/supplier (in 2016, more than 32,000 providers and suppliers submitted claims under one of Indiana's Medicaid programs); member (aggregate information on Indiana's 1.4 million Medicaid members); and claims (in 2016, nearly 47 million claims were filed and paid on behalf of Indiana's Medicaid members).

Collaboration between MPH and participating organizations should result in continuous improvement of data, but more important to citizens, FSSA firmly believes providing data to organizations outside of state government opens up the possibilities of deeper analysis, which could lead to solutions and improvements throughout the health care delivery system in Indiana.

One example of how this process may work: the Central Indiana Regional Transportation Authority, which provides transportation services for Medicaid members, will be able to access data and develop visual maps of emergency medical technician (EMT) transportation service costs by location, provider, demographic and geography. This is just one example of how processes and delivery can be improved by providing data access to organizations that work with FSSA and Indiana Medicaid, and encouraging collaboration throughout Indiana's health care ecosystem.

The State is making the HIPAA-compliant, de-identified data — necessary to protect the security and privacy of members — available through a Medicaid Open Door Portal to which organizations can have access upon State approval.



With the capabilities of the EDW, **Indiana can aggregate and share de-identified Medicaid data** to help other outside agencies find greater program efficiencies, like EMT transportation.

Fighting against the opioid epidemic

Like most states, Indiana has not been immune to the opioid epidemic. From Fort Wayne in the northeast corner, to Indianapolis in the center, to Evansville perched on the southwest border near Illinois and Kentucky, drug addiction and overdoses have ravaged the Hoosier State.

A 2016 report by the Fairbanks School of Public Health at Indiana University pointed out that the number of deaths from drug overdoses has increased by more than 500 percent since 1999. Overall, the state ranks 15th in the nation in overdose deaths, and the State Department of Health reported that emergency room visits for non-fatal drug overdoses increased by nearly 60 percent between 2011 and 2015.

Governor Eric Holcomb views the problem as so acute that he listed “attacking the drug epidemic” as one of five priorities for his legislative agenda. His administration has outlined an aggressive multi-pronged approach focusing on prevention, treatment and enforcement. OMPP and FSSA help manage Medicaid recipients with opioid issues in a variety of ways, including overseeing payments to the providers and plans that treat them, providing the data and analytics needed to offer a clear, accurate picture of the problem, and measure the progress the State is making in the opioid fight. FSSA and OMPP will rely on the EDW to provide officials with the capability to identify, track and trend opioid utilization metrics.

Future plans; Integration of the Social Services Data Warehouse and adding episode groupers

FSSA’s EDW roadmap includes further integration of the Social Services Data Warehouse (SSDW) as a way to provide unified analytical capabilities across the health and human services spectrum, a process that began in 2016 with migration of the Division of Family Resources (DFR) data to the EDW. DFR administers the State’s SNAP (food assistance) and TANF (cash assistance) programs, among other responsibilities.

The EDW roadmap also envisions Optum and FSSA collaborating to add Symmetry Episode Risk Groups (ERG) to the EDW, a risk assessment solution that predicts current and future health care usage for individuals and groups. ERGs create individual risk measures that incorporate episodes-of-care methodology, medical pharmacy claims information and demographic variables.

ERGs will support FSSA's data-driven culture by providing:



Predictive risk assessments



Clinical information to offer users a better understanding of patient conditions and overall level of risk



A better understanding of variations in medical costs, clinical practices and how they relate to differences in health risk



Retrospective, prospective and actuarial/underwriting risk models



A single comprehensive solution for health risk assessments and episode-of-care methodologies

Summary

The FSSA EDW has experienced extraordinary growth since its inception in October 2013, both in number of users and in quantity of data elements that are part of the agency's analytical process — growth that is showing no signs of abating, as Indiana continues to press ahead with its data-driven approach to improving outcomes, establishing policy and making decisions.

The growth and critical role of the EDW to support Indiana's health care needs and goals has occurred thanks to a strong collaboration between FSSA, OMPP, Optum and the agency's partners, including Indiana's MCEs and PBMs. In the years to come, that collaboration will further promote the use of the EDW to, in the words of the FSSA 2016 EDW Annual Report, "Bolster health care delivery and coordination, reduce disparities, fuel research and innovation, and spur advancements in healthy outcomes for the individuals of the State of Indiana."

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