More data can mean better outcomes, more engaged patients, and more revenue—if it's smart

In every industry, data insights are helping organizations better understand their customers, serve their needs, and deliver better products and services, while also lowering the cost of doing business. Data analytics tools are becoming a top priority in the healthcare industry as well, so we spoke with two Mastercard executives with deep experience in data and healthcare.

Optimizing claims with artificial intelligence

Employing artificial intelligence (AI) is one of the first and best uses of data analytics. AI's ability to easily and quickly uncover data patterns and anomalies, for example, makes it a powerful tool for claims optimization. The need is obvious: Hospitals alone lose around $262 billion annually on claims that are denied by payers.[1]

"Beyond the initial lost revenue," adds Beth Griffin, a Vice President with Mastercard Cyber & Intelligence Solutions, "30 percent of those denied claims are never resubmitted—that's reimbursement revenue lost for good."[2] Trying to rework those claims is costly, too: roughly $118 per claim.[1] "These challenges are escalating now in the face of COVID," explains Griffin, "with huge spikes in telehealth claims, coupled with the relaxing of penalties for noncompliance with the regulatory requirements under the HIPAA rules.[3] Griffin recommends providers employ AI to better understand, anticipate, and curtail denials. She explains Mastercard's approach to solving this pain point:

- **Prevent** denials even before submitting your claims by processing them through Mastercard AI models to identify errors or potential fraud. The models look for missing or inaccurate data the payer requires, medical necessity, timeliness, recent ICD-10 coding requirements, and other parameters. Leveraging fraudulent claims data, Mastercard AI can also identify claims with high potential for fraud from a specific doctor or clinic within your system.

- **Update** the claim so that it is cleaner and more likely to be approved when processed by the payer.

- **Learn** from errors uncovered by AI. As missing or suspicious data and trends are discovered, AI continuously adapts to new actions and changing billing patterns to identify and correct the errors so that new claims are automatically corrected before filing.

"We have been leveraging artificial intelligence to prevent transaction fraud for over 15 years," says Griffin. "By applying these same tools to medical claims, we can help providers submit clean claims, substantially reduce the number of denied claims, while also enhancing the patient experience because outstanding patient balances will likely be more accurate."

Improve patient outcomes and engagement, while also capturing more revenue

While the healthcare industry continually seeks out innovations to improve health outcomes, enhance the patient experience, and optimize revenue, we struggle to understand the impact of these initiatives. Advanced data and analytics tools can help healthcare leaders make better decisions. As Fope Agbedia, Vice President of Business Development for Healthcare at Mastercard, explains, "predictive analytics platforms, like Mastercard Test and Learn,™ enable organizations to test different initiatives and discover which will drive the greatest impact."

In the value-based care space, for example, providers constantly strive to improve clinical outcomes and reduce the cost of delivering high-quality care. "With Test & Learn," Agbedia says, "providers can evaluate different treatment protocols and rigorously measure the outcomes before implementing the new protocol system-wide."

Another challenge that providers can solve with analytics like Test & Learn is that patients face greater responsibility for their medical expenses but are increasingly challenged to make payments without tailored options. As healthcare costs keep rising, and patients' out-of-pocket (OOP) rises with them, 68 percent of patients with bills of less than $500 fail to pay their hospital bills in full.[4] Yet "many of these patients would pay more, if given a chance," says Agbedia. "Patients vary greatly in their ability and willingness to pay," she continues. "And with Test & Learn, we can identify how to prioritize and effectively engage with a provider's patients." While providers may offer price variation or payment plans to help patients pay more of what they owe, "these approaches often leave 'money on the table,' as they are not tailored to the individual patient's circumstances and ability to pay," she says. She mentions a $4 billion regional hospital system that turned to Mastercard to recover more revenue. "We offered varying levels of pricing to patients," she explains, "and then evaluated their behaviors across 50 attributes to determine what most influenced their decision to pay more of their outstanding balance." From those results, Test & Learn created a predictive model to determine which patients would be most responsive to discount offers and at what level. "We identified an additional $25 million in patient payments the health system could capture if they employed our models," says Agbedia.

In this time of COVID, healthcare providers also need to rethink the way they engage with patients. Providers' marketing departments can test the effectiveness of different marketing messages on different patient segments, then analyze this data against actual visits to providers. "Test & Learn can help identify communication strategies (like emails or direct outreach), for example, that bring patients back for necessary care," says Agbedia.

Data analytics tools like AI and predictive analytics can help providers optimize their investments and revenue across every dimension of healthcare operations, from marketing to value-based care to revenue management.

1. Data captured by Change Healthcare Analysis: An Estimated $262 Billion in Healthcare Claims Initially Denied in 2016.
2. *Becker's Hospital Review*, "RCM tip of the day: Improve your clean claim rates," Dec. 18, 2017.
3. hhs.gov: Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency
4. TransUnion Healthcare analysis, 2017.

Contact **healthcaresolutions@mastercard.com to learn how Mastercard is bringing its data analytics expertise to healthcare, or visit mastercard.us/healthcare-solutions**