MANIFEST MEDEX:
Cutting Through the Noise to Deliver Insights

Claudia Williams opened up *More Signal, Less Noise*, an educational session presented at #HIMSS19 in Orlando, by offering the following observation: "Walking through the showcase floor, I see the language has shifted from electronic health records to population health. That represents a massive transition in our healthcare system to one that pays for value. Not just what happens in your clinic, but also what happens outside your clinic is your responsibility. In that context, gaps in data are gaps in insight. And gaps in insight literally can cause these [value-based] models to fail."

Manifest MedEx, California's nonprofit health data network where Williams serves as CEO, exists to help healthcare organizations avert such failure. "Our mission is to serve every provider across the state with the data and insight needed to improve care, reduce costs, and, in the end, improve health," Williams said.

To accomplish this, Manifest MedEx is "bringing together claims and clinical data and trying to make sense of it in a way that delivers value to healthcare providers," said Erica Galvez, the organization's Chief Strategy Officer. Available data include patient encounters and procedures, hospital admission and discharge information, care team, diagnoses, lab results, imaging reports, medications, and allergies.

Sifting through the 'noise' for actionable, timely data

The challenge is to take "large volumes of data, which often represent a lot of noise, and find signal in that noise so that providers can make use of it," said Galvez. When working with data, the signal carries the information of interest, while the remaining data acts as noise and detracts users from understanding the relevant information.

"If we can drill down to about five pieces of information for providers and deliver those five pieces of information in a timely manner, it enables them to take action that actually saves lives," Galvez said.

Indeed, medical providers don't want more data, according to Williams. "I can't tell you how many times I've talked to doctors, and they say, 'Don't give me more data. Whatever you do, don't give me more data. Give me an insight that I can take action on,'" she said.

A pediatric practice, for example, might not have much need to obtain information on hospital admissions and discharges. However, a significant number of the practice's asthmatic patients might visit the emergency room. So a signal indicating when patients wind up in the ER could help pediatricians work more closely with patients who need to better control their asthma, thereby reducing the number of ER visits.

Integrated data leads to better care

Creating meaningful signals often requires relying on integrated data. For example, when pharmacy-claims information is combined with clinical information, Manifest MedEx is able "to tell participants not only what medication was prescribed for a patient from the clinical data perspective, but also which prescriptions the patient filled," Galvez said. This signal could help healthcare providers "engage in a more robust medication reconciliation process" and also "follow up with patients proactively for medication compliance."

MX data are helping one of their ACO participants provide better care for its patients and succeed in reducing readmissions and total cost of care. The provider organization relies on MX real-time hospital event notifications to identify when a patient has been hospitalized and then drills down into information in the patient's longitudinal health records to uncover patterns and causes. When a care manager in the network discovers that a patient is being admitted to the hospital repeatedly because of falls, she can ensure that the patient has a walker when he or she arrives at home. She can also deploy a caregiver who can "make sure the patient knows how to use the walker, understands the discharge instructions, and understands what medications are supposed to be taken," Galvez said.

Analytics can help "ask questions of the data and find signals that we didn't even know we should be looking for," Galvez said. "We are leveraging this massive volume of information to predict things such as: What's the likelihood that your patient will be readmitted or admitted? What's the likelihood that the cost for this patient will increase over the course of the year?" With this type of analysis, according to Galvez, care managers can "transform the discharge planning process to make sure that each patient comes out of the hospital thinking about all of those risk points and making sure *that* person has the resources needed as he or she goes home."

Ironically, though, to arrive at these "narrow slices of insight," Galvez noted, "we have to have massive volumes of data. We have to suffer through a lot of noise."

Building the foundation

To successfully work with all this data, the health data network has established an infrastructure that makes it possible to aggregate more than four years of data from about eight million lives and then "find the needle in the haystack, if you will, across all that information and glean those insights that live within data," said David Kates, the Manifest MedEx CTO. To create this infrastructure, the company is relying on a data warehouse and clinical data repository from InterSystems, as well as an interface engine from Rhapsody and an enterprise master-patient index from NextGate.

The infrastructure makes it possible to not only aggregate data, but also to "rationalize it, make sense of the different terminology...and create consistency around that data so you can make decisions and apply analytics in order to derive insights," said Kates.

What's more, Manifest MedEx is leveraging FHIR-based APIs that make it possible to deliver the information within the workflow of healthcare organizations' care management or EHR systems. "The definition of success for us would be not that [an organization] is logging in to our portal," Kates said, "but that they're delivering better patient care more efficiently within the workflow that they're using to care for their patients."

The infrastructure is also making it possible for Manifest MedEx to grow. In fact, the nonprofit will soon add additional payer data covering an estimated 15 million lives. "We're massively expanding the scope," Kates said, "not only adding this claims data, but also going out and adding more provider organizations and more extended care, long-term care, skilled nursing facilities, and palliative care."

To encourage more organizations to join, Manifest MedEx will continue to focus on results. Unlike other states, there is no universal mandate in California requiring "providers or health plans to participate in our organization," Galvez said. "By and large, the decision to engage in our network is voluntary. So we have to deliver value to our customers in order for them to say, 'I want to be part of this. I want to put data into it, and I want to take data out.'"

In the final analysis, by providing this value to healthcare organizations, Manifest MedEx is looking to make good on its promise to provide every healthcare organization across the state of California with the information that it needs to improve care and ultimately succeed under value-based care models.

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