

How Payers Transform Volumes of Data into Actionable Information

Converting large amounts of data into actionable interventions requires high-quality data analytics to inform effective decision-making. By integrating multiple datasets, payers are able to create a holistic view of their members that can drive action.

In a recent [HealthPayerIntelligence.com webcast](#), Blue Cross Blue Shield of Texas (BCBSTX) Executive Director of Data Science Leanne Metcalfe, PhD, outlined the payer's strategies for transforming disparate data into targeted interventions.

Metcalfe leads a decision intelligence team that collaborates internally and externally with providers, academic research institutions, local startups, and national professional entities to develop strategies aimed at improving wellness programs, healthcare value, and inpatient quality of life. The team itself comprises members with backgrounds in data science, machine learning, and clinical research.

One example of actionable analytics at BCBSTX is the Healthy Kids, Healthy Families program, which aims to improve the health and wellness of children in three main areas: disease prevention and management, nutrition, and physical activity and supporting safe environments. Healthy Kids, Healthy Families has helped over three million children by bringing together individuals from all areas of BCBSTX and the community to solve the problem.

Previous work had shown mixed results on the effectiveness of disease management programs. Whereas some research found the programs to be ineffective, others indicated that the programs helped people become more physically active and adherent to their medications.

The mixed results prompted BCBSTX to conduct their own analysis to understand their population.

"That disconnect is one of the reasons we need our data, and why we had to sit down and really look through what was happening," Metcalfe explained.

BCBSTX has access to rich claims data as a result of covering more than one million lives. The payer integrates this data with publicly available data

sets (e.g., pharmacy, dental, disability) to compile a complete picture of their member population.

"We use whatever healthcare data we can so that we can get the complete picture of our members in order to understand results," said Metcalfe.

Metcalfe and her team used the Blue Cross and Blue Shield Health Index to understand the overall health of the state. The index quantifies over 200 diseases and conditions to determine the health of a population. The team found that Texas was healthier than the United States on average.

Next, the team set out to determine whether to invest in high-prevalence, low-spend conditions or low-prevalence, high-spend conditions to optimize their investment. Team members analyzed spending and disease prevalence in various locations across the state.

The team found that chronic kidney disease (CKD) and chronic obstructive pulmonary disease (COPD) increased across the state from year to year while the rates appeared to plateau in other states. This insight served as justification for focusing strategies on CKD and COPD.

After identifying targeted diseases, the team needed to get to the root cause of this disparity.

"Why are we reaching out to people? Why are they doing what they're doing? Why are we getting the results that we are getting?" questioned Metcalfe.

The team created a model to understand the drivers of CKD and COPD. Team members sought feedback from subject-matter experts such as community partners and providers, which allowed BCBSTX to recognize and interpret patterns and trends.

"Not all data is great data," said Metcalfe. And not all data is utilized to the best of its abilities. So, we recognize, especially with our team, and as we said before, we're partnering with providers. We're partnering with startups. We recognize that there are SMEs internally and externally to us that can really help us make sense of the data."

Ultimately, the team was able to direct investments to a small, targeted group of individuals. This provider and community investment showed a six-to-one return on investment. Metcalfe estimated savings between \$5.8 and \$12.6 million.

These successful data-driven approaches have helped BCBSTX understand the health impacts of natural disasters such as Hurricane Harvey and community-level factors such as neighborhood violence.

To address the latter, Metcalfe said teams need to set aside egos and focus on what is actually happening in the community based on what the data is telling them.

“They say that health is local. And we really wanted to take that local approach,” Metcalfe said. “So, we had to stop and really think about, who do we need in that room? And what is the data telling us to do?”

The BCBSTX team combined data from multiple sources and created a model to understand the drivers of disease in their member population. They then took this information to inform community investment and were able to see a positive return on investment. Data-drive strategies like this can be used by other payers to drive successful community investment programs.

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