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Big Data Cuts Readmissions

Use of big data has helped University of Pittsburgh Medical Center (UPMC), the second largest integrated payer-provider network in the USA, reduce readmissions. The key was to combine data from both sides of the business — hospital and insurance, according to UPMC Chief Analytics Officer Pamela Peele.

“Providers are trained to manage disease, and insurers are trained to manage financial risk,” she said. “[Asking providers to manage risk] is like asking me to put a stent in you. We’re asking providers who are not trained to manage financial risk to manage financial risk, which is something insurers do extraordinarily well, which is another reason putting a payer and a provider together is so powerful.”

With access to both the payer and hospital big data, UPMC was able to cut readmissions from 16.5 percent in 2008 to 13 percent in 2015. The first round of modelling UPMC did utilised only the claims data in an attempt to build a profile of the patients most associated with readmissions. The hospital managed to reduce the likelihood of readmission by mandating that doctors follow up with patients within five days.

Afterwards, a similar modelling was conducted based on electronic health record data on indicators such as haemoglobin and sodium levels. Peele was surprised to see how claims data and EHR data could come to the same conclusions, starting from such different places.

“We’re predicting readmission before they’re ever admitted and this is predicting the readmission risk based on drastically different inputs while they’re in the hospital, yet the two models perform almost identically,” she said.

Further analysis of both claims data and EHR data revealed some disparity: there were a small number of patients that the claims data model said were at high risk for readmission but the hospital model pegged as low. Reconciling those differences, Peele said, was a matter of figuring out whether specificity (or the avoidance of false positives) or sensitivity (the avoidance of false negatives) was most important. They opted for the former in order to better manage resources and reduce costs.

Providers that decide to combine payer and care delivery operations have the choice between partnering with existing payers or creating their own plans, according to an article in the *New Yorker*. For example, Kaiser Permanente, the nation's largest integrated-care system, has found great success with the latter, consistently achieving high-quality scores thanks to its alignment of incentives.

Industry watchers say historical mutual distrust between providers and insurers remains an impediment to successful integration. Collaboration is important for this integrated-care model to succeed, according to the CEO of Blue Cross Blue Shield of Rhode Island.

Source: FierceHealthcare.com
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