

Predictive Modeling

NEWS

Locator System Helps Hospitals Predict and Plan for Resource Use

Optimizing time for better intervals of care

by Russell A. Jackson

The Versus Advantages Real-Time Locating System is back in place at Columbus (IN) Regional Hospital, the technology company reports, following severe flooding in June 2008. "Once relied upon for automation and communication" a statement from Traverse City, MI-based Versus Technology Inc. (PINKSHEETS:VSTI) points out, "the system was missed after servers and data collection points became damaged." In addition, Versus notes, since 2003, Avera McKennan University Hospital has utilized the RTLS to track more than 1,500 assets for real-time equipment management. "The Versus solution also integrates with the hospital's nurse call system from Rauland-Borg, which allows Avera's nurses to automatically register responses to patient calls and report that they are with a patient just by virtue of their presence," a statement adds. "Now, Avera is expanding the Versus solution to its new comprehensive surgery center."

In both cases, the data the locator company provides allow hospital users to make better-informed predictions about patient flow and resources use. In addition, Versus is looking into integrating its information gathering software with pure predictive analytics products to provide institutional clients with an even clearer view of future resource needs. "Versus provides accurate data for clients to make predictions, modify processes and test results," explains Miranda J. Hahn, communications coordinator there. "Versus does not make projections, except in a few Dashboard elements."

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Predicting Participation and Savings: Using PM to Identify Patients for Disease Management

Who is likely to join your program? And who will actually change their behavior?

by Ksenia Draaghtel, Associate Actuary, Milliman Inc.

Disease management effectiveness can be significantly improved by targeting the patients who are likely to participate and are likely to produce meaningful savings. Predictive modeling can help predict both types of patients. The biggest obstacle in DM acceptance has been the difficulty in measuring or even identifying the cost savings associated with the implementation of such programs. A 2004 Congressional Budget Office analysis concluded that published studies to date "did not provide a firm basis for concluding that disease management programs generally reduce total costs." Issues such as selection bias, regression to the mean and presence of confounding factors complicate the analysis and should be carefully considered.

In DM programs, predictive modeling can help to improve staff efficiency, reduce administrative costs, focus patient counseling and education efforts and improve financial and health outcomes. The most widely used data sources in the healthcare industry for DM-related predictive models are medical and pharmaceutical claims. The next-most-popular data source that is readily available is member demographic and eligibility information. A well-populated health risk assessment questionnaire also offers a multitude of insights into a member's overall health status as well as behavior. Those health assessment tools are extremely powerful, but they're difficult to implement and encourage participation in due to their voluntary nature. The final data source candidate that is gaining momentum in the healthcare industry is publicly available consumer data from data aggregators.

There are a number of consumer reporting agencies in the industry -- and the competition is fierce. Such agencies buy and sell consumer information that ranges from heavily regulated types of data -- such as credit histories -- to non-regulated information that includes lifestyle data, demographics and purchasing behavior.

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