Managing High-Risk Patient Populations with Machine Learning

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The United States healthcare industry continues its consistent shift towards value-based care, a type of care and reimbursement system that values quality of care delivered over the quantity of services provided. Payers of healthcare, including the federal government, have begun instituting incentives and penalties related to value-based care to spur innovation around improving many related healthcare processes. One of the areas under scrutiny is 30-day readmissions, defined as a patient being readmitted to a hospital within 30 days of discharge from a prior inpatient stay.

Currently, penalties are imposed on health systems for 30-day readmissions, as advocates suggest that they can signal poor quality of care and are potentially avoidable with improved care quality and coordination. Many patients with chronic conditions such as diabetes, chronic obstructive pulmonary disease and congestive heart failure are at increased risk of readmission -- and although a key step in reducing readmissions involves identifying and delivering better care to these high-risk cohorts, managing these conditions is anything but straightforward.

(continued on page 2)