Improving Health While Reducing Costs of Care: Analytics for Disease Management and Wellness

In 2007, Healthstat, Inc., a leading provider of on-site primary care, high health risk intervention and disease management services, was looking for both actionable tools for their clinicians and a reporting system showing the impact of its services for employer clients.

Already ahead of the curve in its use of analytics and predictive modeling, the Charlotte, North Carolina-based company sought powerful solutions that would propel them even farther forward. That search ultimately led Healthstat to LexisNexis®, specifically its Population Health Monitor and Risk Navigator *Financial*® products.

A proven leader in medical predictive modeling and clinical decision support, LexisNexis® now provides Healthstat with the ability to accurately predict patients at risk and forecast future health plan costs. This allows Healthstat to better identify cost drivers for high-risk populations and proactively create programs that manage and alleviate health conditions before they become a strain on health care costs.

The strategic partnership was designed to integrate the patient's health records into Healthstat's electronic medical record, providing the information needed to ensure the correct interventions were initiated at the right time. Patient data, such as medical and pharmacy claims, health risk assessments, biometrics and other information are combined for analysis. With this analytical data, predictions can then be made on the health risks of the employee population and concomitant impact on health care costs. In addition, gaps in care can be identified quickly.

The Tools

Population Health Monitor is a predictive modeling solution and reporting tool developed to forecast cost, inpatient stays, emergency room visits, prescription costs and savings utilizing medical and pharmacy claims, demographics, lab results and health risk assessments. Individual predictions per member are made using a combination of clinical factors, including disease episodes, drug categories, age, sex, insurance type and other risk markers such as timing and frequency of treatment or diagnosis. Population Health Monitor utilizes two years of data to construct, refine and test models. Gathered and validated data are run through LexisNexis' prediction engine, Multiple Intelligent Tasking Computer Heuristics, which incorporates linear and nonlinear technologies.

Risk Navigator *Financial* is a Web-based module that leverages clinical risk information and cost predictions to help financial and risk assessment teams be more efficient in forecasting costs and setting rates during the next benefit cycle.

With quick and easy access to historical trends in cost, utilization and predicted risk by group and renewal date, Risk Navigator *Financial* enables payers to recommend programs and services to mitigate any potential premium increases due to high risk and utilization, ultimately controlling costs and improving outcomes.

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As stated by Healthstat President and CEO Crockett Dale, "LexisNexis' solutions offer the superior predictive accuracy necessary to accomplish our goals along with critical information related to gaps in care. Population Health Monitor and Navigator *Financial* together will enhance our overall health risk management offerings by addressing high-risk member identification, medical guideline gaps information, actuarial and underwriting reporting, cost predictions and modeling flexibility."

To date, according to Healthstat Vice President of Client Services Luck Keomanivong, the company has concentrated primarily on maximizing its use of Population Health Monitor, a solution chosen for its high R-squared value – that is, the relative predictive power of its model – as compared to its competitors.

The Backdrop

U.S. Department of Health and Human Services statistics show that 75 percent of health care dollars are spent on chronic conditions such as diabetes, cardiovascular disease, obesity and asthma.

Healthstat's mission is to reverse this trend by identifying and managing risk and improving the health of a client's workforce.

Basically, Keomanivong explained, "we predict health care costs, then work to reduce them."

Healthstat starts this work with early detection through a health risk assessment process followed by proactive, focused, on-site intervention with its clinics, if on-site clinics are desired by the employer. That way, according to Healthstat, "whether it's simply routine wellness, high-risk intervention or just treating an every day illness, the clinical practitioner is there to help gain control."

That said, Healthstat's three-tier approach – on-site care, preventative care and continued wellness – allows it to customize programs for its clients, letting them choose one or all aspects of care.

In delivering on its goals, Healthstat relies on the comprehensiveness of data provided by Risk Navigator *Clinical*, the only predictive tool that provides a true 360-degree view of a member population, using it to proactively select high-risk individuals for interventions such as care management and coordination. The LexisNexis tool uses multiple risk assessments and predictions to identify and stratify members, rather than a single "risk score," providing greater flexibility for targeting members or populations based on established and custom filters.

Healthstat clinicians, Keomanivong noted, rely on the depth of data to get a complete picture of the "whole patient," not just the aspect the employees have come to them about.

Reporting, too, is a key function, she continued. "We need to report with as much specificity as possible" what savings were achieved where, with highly detailed information on participants and their care initiatives. For instance, she said, in the case of diabetics, this data can shed light on factors such as the impact of screenings and their correlation with predicted and actual health care costs.

"With Population Health Monitor," Keomanivong said, "all the reports are available. It's just a matter of finding the reports with the information [clients and clinicians] need." Clients, she continued, find the reports "great for planning purposes; it gives them the edge as to what to do regarding benefit plan changes and budgeting."

Outcomes

With a model specifically designed to reduce health care claims costs and absenteeism and to improve productivity, Healthstat has leveraged LexisNexis analytics to help them deliver impressive results.

For example, according to Healthstat information, on-site clinics specializing in disease management, primary care and episodic care have demonstrated a significant impact on reducing health care costs, with data that shows:

Inpatient hospital costs	⬇	5-8 %
Outpatient hospital costs	⬇	8-11%
Emergency room costs	⬇	16-20%
Specialty physician care costs	⬇	10-14%
Prescription drug costs	⬇	8-12%

The impact of clinics on risk factors of Healthstat clients' participants is significant, as well, indicating:

A 44% reduction in risk of death due to heart disease related to blood pressure.

A 64% reduction in risk of death due to heart disease related to LDL cholesterol levels and a 36-percent reduction related after total cholesterol.

A nearly 10% reduction in risk of having a heart attack related to blood glucose.

Going Forward

Healthstat expects to expand both its usage and number of Risk Navigator tools, Keomanivong said. "With sky-high costs and reform pressures, clients are wanting more and more detail on where savings were achieved," she explained. As a result, she and her team are working closely with their designated customer service representative to make sure Population Health Monitor is delivering the degrees and types of reporting their clients need.

Healthstat also is seeking to maximize its use of Risk Navigator *Financial*, integrating it more fully in their technology, Keomanivong continued. And, based on its experience with Risk Navigator products, she added, Healthstat is looking to add LexisNexis® Provider Performance Monitor to its technology toolkit to track and measure physician and facility performance.

The Web-based Provider Performance Monitor module incorporates clinically- and severity-adjusted performance metrics to deliver an accurate picture of providers' care patterns and patient populations and define opportunities for improved clinical and financial outcomes.

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Call 800.869.0751 or visit
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About LexisNexis® Risk Solutions

LexisNexis Risk Solutions (www.lexisnexis.com/risk/) is a leader in providing essential information that helps customers across industries and government predict, assess and manage risk. Combining cutting-edge technology, unique data and advanced analytics, Risk Solutions provides products and services that address evolving client needs in the risk sector while upholding the highest standards of security and privacy. LexisNexis Risk Solutions is part of Reed Elsevier, a leading global provider of professional information solutions across a number of sectors.

Our health care solutions assist payers, providers and integrators with ensuring appropriate access to health care data and programs, enhancing disease management contact ratios, improving operational processes, and proactively combating fraud, waste and abuse across the continuum.

About Healthstat Inc.

Healthstat is a leading provider of on-site primary care, high health risk intervention and disease management services. Its goal is to alleviate a corporation's rising cost of health care by improving the health of their employees. With the utmost discretion, it identifies chronic health risks and works with those employees to manage their conditions before they require more serious treatment. Healthstat accomplishes this through the implimentattion of on-site clinics, preventative care and wellness programs, serving in excess of 200,000 employees at more than 100 companies and staffing over 300 clinics nationwide. For more information, visity www.healthstatinc.com.

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