CASE STUDY

Improved health risk modeling—improved member engagement results

" The results confirm that financial, environmental and legal data can be added to traditional data sources to paint a more complete picture of a member's health. **"**

Russell Benaroya
Co-founder & CEO
EveryMove

EveryMove tests predictive accuracy of LexisNexis® socioeconomic health risk model

In the face of rising medical claims costs, payers are looking to improve member engagement in their own health and minimize unnecessary utilization of the health care system. However, the Affordable Care Act (ACA) and the creation of Health Insurance Exchanges have led to millions of consumers accessing health benefits for the first time and possessing little or no historical, clinical or claims data. The lack of medical history makes risk modeling and effective member engagement particularly difficult. This Case Study seeks to answer the question, "Can socioeconomic data be used to help predict member health risk and inform improved member engagement strategies?"

EveryMove—the member engagement specialists

Founded in 2011, EveryMove offers strategies, products and services designed to get people to take the right actions for their heath and—in a win-win for patients and health plans—spend less time in the health care system. EveryMove is a leader in tailoring the way health care payers engage members on an individual level to increase retention, minimize clinical and financial risk and improve member satisfaction.

Traditional data just isn't enough

EveryMove (and their payer clients) need a comprehensive picture to determine population health risk and the ability to precisely target high-risk members with the appropriate engagement incentives. Always seeking to optimize the timing and accuracy of its member interventions, EveryMove places an extremely high value on predictive intelligence that provides insight into the health status and potential health risks of individuals. With so many new consumers lacking traditional data, like claims and clinical records, EveryMove chose to test and measure the ability of non-medical, socioeconomic data to fill in major gaps in member health profiles, and to accurately predict health risks.

Finding the right data partner

EveryMove began the search for a data partner with the understanding that some supplemental data providers are less reliable than others. Data that is limited in scope, incomplete, outdated and/or inaccurate offers limited potential for improving model accuracy or identifying additional costs and risks.

> It's not simply a matter of adding more data. Distilling the right, high quality data to a single socioeconomic risk score provides greater confidence that we can engage the right people.
>
> Russell Benaroya
> Co-founder & CEO
> EveryMove

EveryMove taps LexisNexis® for socioeconomic data and analytics

The key to effectively integrating socioeconomic data to aid in predicting health outcomes is knowing which datasets enhance a model—and which simply add noise. That's the expertise-and-experience sweet spot that LexisNexis® alone occupies.

LexisNexis data scientists have examined a vast inventory of socioeconomic indicators to ascertain the potential each has to impact member health. After a thorough testing and refining process, their team has developed sophisticated prediction techniques that are independent of traditional health care data, and capable of revealing a picture of future risk that would otherwise go undiscovered.

Here's how it works:

The LexisNexis Socioeconomic Health Score combines hundreds of data attributes into key categories that have been tested and shown to correlate to health outcomes. Examples include:

Personal finances. Income level, income reductions, bankruptcies and applications for high-interest loans indicate an individual's financial circumstances, which is often linked to health.

Education. Lower levels of education may be linked to higher levels of risk.

Voter registration. Individuals who engage in their communities may be more likely to engage in their own health.

Law enforcement. Records pertaining to accident investigations may indicate future medical issues.

Derogatory records. Liens, evictions and felonies indicate that individual health may not be a priority.

LexisNexis simply runs a health plan's member file against the model to receive a score delivered at the individual member level. That score indicates the level of health risk that member poses over the next 12 months—and it can be used alone or in conjunction with other modeling or population platforms to identify candidates for proactive intervention, such as wellness programs and case management.

Socioeconomic data takes predictive modeling to a new level, allowing more meaningful analysis of hospitalizations, emergency visits, pharmacy costs, medication adherence and other aspects of a member's interaction with the health care system—as well as careful examination of conditions and behaviors that depend on a person's socioeconomic environment, such as nutritional disorders, depression, anxiety, substance abuse and unnecessary admissions.

Today, LexisNexis maintains the industry's most comprehensive and accurate collection of socioeconomic determinants of health branded as Socioeconomic Health Attributes—which is why EveryMove turned to them to support their research.

LexisNexis socioeconomic models are already being used
Early adopter health plans already use the Socioeconomic Health Attributes LexisNexis has identified and validated to:

- Build custom models to predict factors, such as future costs, hospitalizations and ER visits

- Produce a risk score based on total costs in the next 12 months—even when the new enrollees have no medical history

The test

Facing an environment in which health plan members may not have detailed medical histories, EveryMove wanted to see if new members could be accurately and profitably risk-adjusted without any claims data at all. More specifically, EveryMove sought to validate that the LexisNexis Socioeconomic Health Score—alone, with no claims data—could predict the percentage of members with pre-selected health conditions or in pre-selected categories, including:

- Diabetes
- End-stage renal disease
- Cancer
- Cardiology
- Musculoskeletal
- Gastroenterology
- Respiratory

To find out, EveryMove launched an observational study involving the following steps:

- LexisNexis was provided with a file of 5,000 live member records reported by a major commercial payer
- LexisNexis data scientists ran the numbers through the Socioeconomic Health Score model created for commercial populations
- The model generated a socioeconomic index and a socioeconomic rank for each member
- EveryMove performed a thorough analysis to see if the LexisNexis model could predict the incidence of 10 disease conditions in the absence of historical medical records
- EveryMove reported model performance

The result

When EveryMove ran the numbers to see if the Socioeconomic Health Score could guide member intervention efforts at the micro level, what the company discovered was remarkable. The score predicts risk exactly the way LexisNexis data scientists designed it to work.

FOR OVERALL RISK

Defined as: members who had any of the conditions or whose condition fell into any of the categories

EVERYMOVE REPORTED:

- Members in the top 10% (according to LexisNexis) had significantly higher risk than average

- Members in the bottom 10% (according to LexisNexis) had significantly lower risk than average

As a result, EveryMove has implemented a new strategy that blends the Socioeconomic Health Score with other unique data sets to create the best modeling possible to power its Tandem member engagement product. Ultimately, the test proved that LexisNexis Socioeconomic Health Scores could help EveryMove to achieve their primary goal: better-tailored suggested interventions for Tandem users.

Conclusion

The results are clear. Socioeconomic data added to existing stores of member identity details can, when properly analyzed and turned into information, do even more than facilitate stronger provider networks, improve population health management initiatives and ensure compliance with the miasma of regulations health care payers face. In the right hands—that is, in a competent data partner's hands, one like LexisNexis Risk Solutions—data can power member engagement tools that improve patients' health and drive stronger health plan performance.

> Socioeconomic intelligence is proving to be a valuable indicator of future health-related costs especially when detailed claims history is not available.
>
> Russell Benaroya
> Co-founder & CEO
> EveryMove

For more information, call 866.396.7703 or visit lexisnexis.com/risk/health-care

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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 all industries and government assess, predict and manage risk. Combining cutting-edge technology, unique data and advanced analytics, LexisNexis 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 RELX Group plc, a world-leading provider of information solutions for professional customers across industries.

Our health care solutions combine proprietary analytics, science and technology with the industry's leading sources of provider, member, claims and public records information to improve cost savings, health outcomes, data quality, compliance and exposure to fraud, waste and abuse.