

INGENIX[®]

Ingenix Prediction Market:

Linking Science and Psychology to Maximize Health Management

Accurate information—the power of knowing what you'll do before you do it.

The Ingenix Prediction Market provides a platform for understanding the psychology that drives people's actions.

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Executive Summary

If your organization offers health care benefits, understanding members' health conditions and hidden risks is fundamental to eliminating excess spending. But you also need to know who will respond to your messages, what actions they'll take based on the options you provide, and the timing of those actions:

Clinical Data (A) + Predicted Actions (B) = Elimination of Excess Spending

Many organizations offer clinical data. Where do you obtain the knowledge needed to predict human behavior? Organizational decision makers in every market need to understand the psychology of their members in order to predict their actions. In the changing landscape of health care—with historical data offering few clues to the future—predicting behaviors related to health care options is the crucial challenge.

Knowledge, attitudes, and beliefs are directly related to behaviors. Understanding these factors is an issue for health care providers, researchers, insurers, pharmaceutical companies, businesses that offer health care benefits, and the employees who use health care. Fortunately, we need look no further than this diverse set of individuals to overcome the obstacles and get a clear vision of the future.

Retail organizations have successfully harnessed prediction markets to quantify the actions their customers will take and improve revenue forecasting as much as 70 percent over traditional forecasting methods.¹ Best Buy, General Electric, and Hewlett-Packard—to name a few corporations that use prediction markets—have discovered a way to understand the behavior of their customers. This allows the companies to not only reduce the risk of bad decisions, but to accelerate innovation.

Now, the Ingenix Prediction Market brings this unique and reliable forecasting method to the health care sector, at exactly the moment when predicting reactions and driving innovation are desperately needed.

A More Accurate Approach to Research

A prediction market improves on traditional research methods by:

- ← Providing a quantitative method to capture the attitudes and beliefs that influence behavior
- ← Adjusting for respondents' confidence and historical accuracy
- ← Incentivizing respondents to reveal what they will do
- ← Focusing on what groups of respondents will do rather than what an individual thinks

Predicting an Uncertain Future

A prediction market, also called a "decision market," poses questions to a group of stakeholders, who respond with their opinion as to how communities feel and will react to the information presented. Unlike a traditional survey, a prediction market allows greater influence from participants who are more confident in their opinions and from those who have made accurate predictions in the past. This can be done anonymously to ensure a candid response. Within a company, this means executive decision makers have access to opinions from the entire workforce, who otherwise might be reluctant or unable to share what they know. These features contribute to a more accurate forecast than traditional methods can provide.

"The overarching problem every company faces is uncertainty," says Ron Hoffner, Ingenix associate, "and they try a variety of ways to decrease that uncertainty." The traditional approach is market research, using historical data, surveys, focus groups, and polls. "Each one of these methods has problems," says Hoffner, "and the problems are accelerated in the rapidly changing world of health care. Using historical data is especially risky because the fundamental assumption is that the past will predict the future. In light of changing legislation, for instance, we cannot make that assumption."

Focus groups, surveys, and polls present challenges, particularly within organizations, where individuals are not rewarded for delivering bad news. Multiple layers separate

¹ Consensus Point Blog, April 9, 2008. Accessed July 30, 2009. Available at: www.consensuspoint.com/prediction-markets-blog/betting-to-improve-the-odds.

the people who have good information from the decision makers. A prediction market improves communication flow—within an organization or across an entire market.

Unlike polling and surveying, prediction markets are designed to predict the actions a population will take and illuminate the attitudes driving this behavior. Questions are designed in such a way that participants' answers predict behavior; and participants are incentivized by earning points for disclosing the true attitudes of the population toward the topic. According to Hoffner, "When you want a way to summarize multiple points of view into actionable metrics, the appropriate question can gather those views and predict the likeliest outcome."

Rev Up Your Research Engine

If you've done a Google search, you've participated in a prediction market. Based on a search of three billion possibilities, the Google search engine quickly predicts what webpages will be most useful to you. Google continuously improves its accuracy by calculating which sites are chosen most often.

Internally, Google uses prediction markets to determine whether or not product launch dates will be hit, new office openings, and other strategically important events.² The Iowa Electronics Market (IEM) is a prediction market that was founded in 1988 as a way of predicting the outcome of political elections as measured by how individuals would vote. The IEM has proven more reliable than major national polls, even months in advance of an election. Similar markets have been created for other fields. The film industry has the Hollywood Stock Exchange, to predict Oscar winners and box-office results.

Until the Ingenix Prediction Market was unveiled, there were relatively few applications of this nature in health care. Pharmaceutical companies use them to improve awareness of project performance and for marketing. The Iowa Health Prediction Market calls on health care workers to help predict the spread of infectious diseases, such as the H1N1 flu. And now, in collaboration with Consensus Point, a leading provider of enterprise prediction markets, Ingenix has created a prediction market for the health care sector.

According to Robin Hanson, chief scientist for Consensus Point, prediction markets eliminate information bias by tapping diverse minds. Even intelligent individuals, says

Hanson, are subject to the groupthink of peers. "Because we often disagree with other groups, we band together and end up agreeing too much with our own teams. No single leader can overcome such biases and data gaps to predict with certainty whether an action will succeed or fail." Prediction markets produce forecasts that incorporate more information, run continuously, and tap the minds of those who otherwise would not provide opinions.

Collective intelligence is more reliable than any individual expert opinion. Expert or not, an individual can be wrong. In a prediction market, however, when all the responses are collected, the correct answer is remarkably close to the average of the responses. This has proven true in case after case, giving prediction markets a strong advantage over other forecasting tools.

How can a group of people have the right answer even when many individuals in the group are incorrect? In his book *The Wisdom of Crowds*, James Surowiecki explains: "If you ask a large enough group of diverse, independent people to make a prediction or estimate a probability and then average those estimates, the errors each of them makes in coming up with an answer will cancel each other out. Each person's guess, you might say, has two components: information and error. Subtract the error, and you're left with information."

The Power of the Ingenix Prediction Market

The Ingenix Prediction Market is the first comprehensive market focused on health care. Ingenix's strategic partner, Consensus Point, has helped a diverse array of clients improve their ability to make market-based predictions. Best Buy, CNBC, General Electric, General Mills, Motorola, and the Department of Defense have benefited from Consensus Point prediction markets that are tailored to their needs, utilizing the vast intellectual capital of employees and other stakeholders. The Ingenix Prediction Market is available online, with members of the health care sector participating and paying close attention to this constantly updated source of information. Ingenix can further customize this model to enable an organization to make market-based predictions about the actions of its unique member population.

² Cowgill, Bo, project manager, "Putting crowd wisdom to work," Official Google Blog, posted September 21, 2005. Accessed July 30, 2009. Available at <http://googleblog.blogspot.com/2005/09/putting-crowd-wisdom-to-work.html>.



Says Hoffner, “The Ingenix Prediction Market is a valuable source of information on pending health care legislation, its impact, and what our colleagues are thinking of doing. It’s a collaborative market research site that allows us to share our views and access others’ insights in a single, actionable, and easy-to-understand metric.” Participants answer questions that are tied to health care events and programs that may or may not be implemented. The resulting value is a real-time indicator of the attitudes of a population, the actions they will take, and what is driving those decisions.

Employers Use Prediction Market to Take Swift Action

Q: How will employees respond to a new health care payer?

A large research organization is switching to a new health care payer. Management needs to predict enrollment in each of the three new plans and to gauge members’ satisfaction with the new payer. Historical data and surveys can’t predict enrollment in new plans. Traditional methods take too much time, restricting the organization’s ability to take corrective action to resolve member satisfaction issues.

A: By using a customized Ingenix Prediction Market, management is able to obtain an early and accurate forecast of benefit plan enrollment numbers, and get a real-time read of employee satisfaction with the new plan.

Q: What can be done now to improve employees’ health and cut costs?

An employer needs an in-depth analysis of employees’ health needs, but also to identify what actions employees would be willing to take immediately regarding health issues such as obesity, alcohol use, and smoking.

A: Ingenix pairs a traditional survey with a Prediction Market. In four months, the survey provides an in-depth analysis of employees’ attitudes and health needs. However, in just two weeks, the Prediction Market reveals what actions employees are willing to take today to improve their health—allowing a potentially life-saving three-month jump on better health and lower costs.

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Conclusion

While no one can be certain what the future of health care will look like, the need for strategic planning and sound decision making remains. The valuable information provided by Ingenix Prediction Market allows for innovative and proactive planning by policymakers, researchers, health care providers, and any organization whose business operations are affected by the issue of health care.

“Everyone benefits by participating and sharing information,” says Hoffner. In addition to weighing in with opinions and gathering accurate, real-time information, participants in the Ingenix Prediction Market can pose their own questions. To explore how the Prediction Market works, visit www.ingenixpm.com and become a participant. If you’re interested in creating a customized prediction market for your organization, call 800-765-6089.

About the Company

Ingenix is a global health care information, technology and consulting leader. We serve a diverse customer base within the health care community, including payers, physicians and hospitals, employers, pharmaceutical companies, consumers, property and casualty insurers, and government agencies. The number of ways that we improve health care is growing every day. Many of the most impactful innovations in health care are taking shape at Ingenix. We are applying the power of information to make the future healthier for everyone.

Resources

www.consensuspoint.com

Kunz, Ben, “Prediction Markets Meet Wall Street,” *BusinessWeek*, Oct. 14, 2008. Available at www.businessweek.com/technology/content/oct2008/tc20081013_033687.htm.

Surowiecki, James, *The Wisdom of Crowds*, New York: Random House, 2005.