Transforming Health Care and Life Sciences Organizations With Analytics

Insights from the 11th annual SAS Health Analytics Executive Conference

Featuring

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Health care and life sciences organizations are proving that with a little ingenuity, the data they already have can be working much harder to improve patient care, while improving the health of the organization as well. And big data technologies lift the limits on the universe of new data sources that can be fed into analysis to create even broader and deeper insights.

At the May 2014 SAS Health Analytics Executive Conference, industry leaders from Kaiser Permanente, WellPoint and Janssen Pharmaceuticals discussed how analytics is transforming health care at their organizations – how they got started, what worked, and how analytic expertise is developed and structured. Several themes emerged from the discussion.

Put the patient at the center.

Face-to-face health care delivery represents just a fraction of the opportunity for improving health and wellness; 90 percent or more of a person’s health care status is determined by what happens outside the health care facility. So we need to start thinking about how to establish an “always-on” health care system – one that gives individuals convenient access to a seamless blend of online and face-to-face care services – in the same way that they expect service from any other consumer-centric organization.

Start to think beyond the static patient portal as the only way to extend interaction beyond the walls of your organization, and think about how to create mass personalization by using data to understand patients as unique individuals.

Kaiser Permanente is already doing this and seeing the benefits. The company’s KP HealthConnect™ (electronic health record) and My Health Manager (patient portal) initiatives “have really helped catalyze our use of data in the organization,” said Terhilda Garrido, Vice President of Health IT Transformation and Analytics. “It has been quite impressive how it has changed our relationship with our patients and transformed care.”

Kaiser Permanente is in a unique position in being both payer and provider – and a data pack rat as well, according to Garrido. “We don’t throw anything away. We have about 10 petabytes of data.” Exploring that data led to discoveries that headed off high-risk surgeries that have high mortality rates. For instance, patients with abdominal aortic aneurysms were identified – sometimes from data buried in progress notes and history. Cross-checking against utilization revealed cases where these patients hadn’t had an ultrasound in two years, or where the ultrasound showed that the aneurysm had expanded to the size that called for referral to a vascular surgeon.

“Initially, we incur more cost with this effort, because we’re paying for the ultrasound, but ultimately we increase affordability, because that ultrasound will be much, much cheaper than having a high-risk emergency surgery for a ruptured aneurysm,” said Garrido.

Collaborate.

The health care and life sciences industry must be more collaborative in taking responsibility for health care costs and outcomes, our panelists agreed. There is a growing realization that collaborations are required to gain a comprehensive understanding of individual patients as well as populations of patients.

“The components of the health care system are starting to converge,” said Patrick McIntyre, Senior Vice President of Health Care Analytics at WellPoint. “We’ve got to solve this together. The organizations that don’t find a way to reach out and engage collaboratively are missing out on a big opportunity.”

Providers, health plans and big pharma have started to form strategic alliances that, over time, can contribute to a 360-degree view of the patient: something that would be impossible for any single organization to develop in isolation. This holistic perspective holds the promise of:

- More rapid and targeted drug development.
- Greater ability to predict which patients are at higher risk and could benefit from earlier intervention.
- Development of win-win, risk-sharing arrangements.
- Control of spiraling health care costs.

Cross-pollinate.

All too often, there are multiple groups in an enterprise, each tackling the same types of challenges. If the organization has isolated pockets of analytics, there’s a lot to be gained by looking beyond silos and one-off projects, said Sai Venkat, Senior Director of Enterprise Architecture at Janssen Pharmaceuticals, a division of Johnson & Johnson. There might be patterns in R&D that are useful on the commercial side, or insights from the pharma division that have value for the medical devices or consumer groups. “It’s very valuable for consumers, health care professionals, for everybody who can leverage this information.”
Our panelists’ organizations are pooling expertise or sharing best practices across the enterprise. For some this means developing a formal analytics center of excellence. For others it means establishing routine mechanisms for analytic teams to collaborate across traditional departmental boundaries. Whichever approach is taken, it is essential for IT, analytics and business leadership to remain tightly aligned to ensure that analytics initiatives deliver maximum business benefit.

Bring in novel data sources.

Our panelists talked about the opportunities associated with bringing EMR and claims data together to build a broad and deep view of the patient. They also described initiatives underway for enriching existing data with novel big data sources.

All organizations should consider the potential value of using socioeconomic, consumer, geographic and social media data, while also keeping an eye on a wave of data emerging from mobile apps, wearable devices and other sensor technology. While blending data in this way requires careful attention to patient privacy, it’s worth taking advantage of this wave of health care big data to improve the health and quality of care for patients.

Kaiser Permanente has the advantage of having provider and payer data under one roof, which makes this data sharing easier. “It’s a wonderful sandbox to be playing in as an analyst,” said Garrido, whose team is on the quest for an even broader perspective. “The future for us is collaborating out to the patient. It’s not just the clinical outcome data from an episode of care, but patient-reported data at every touch point. Social media, patient satisfaction information, data from remote monitors such as all those FitBits – getting the patient’s perspective represents the next wave of the continuum for us.”

Think business, not analytics.

The most dazzling analytics endeavors won’t make a difference if they don’t change or improve something in the real world. Make sure the analytics you conduct is carefully prioritized, aligns with key business strategies and has a clear mechanism to effect change, rather than simply delivering reports or risk scores.

“The last thing you need to do is just create more data,” said McIntyre. “There is the opportunity for absolute information overload. We’re very big on making sure that we’re building analytics to drive the business needs of the organization. In our opinion, that means getting consumers to engage in taking care of their own health care, and collaborating with providers and creating incentives that are aligned to support the highest quality and affordable health care.”

Venkat agreed: “It’s about making sure the knowledge you’re gaining out of all this is meaningful, can be incorporated into workflow and process, and is being used in something that’s going to yield a result.”

In this age of health care transformation, what will the leaders do differently?

“The winners will be the ones who realize the world has changed, that consumers are going to be driving health care in our country,” said McIntyre. Currently, patients don’t necessarily know what to ask for or where to look for it, but they want a lot more information to better manage their own care. We need to provide easy access to the information that allows people to make the right decisions at the right time to get the right care.

“Organizations that can harness the data available to them and use it to foster meaningful, lasting relationships with members and providers – those are the organizations that are going to be the winners. For that, analytics will be the great differentiator.”

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Patrick McIntyre, Senior Vice President of Health Care Analytics at WellPoint
Where is the necessary analytic talent coming from?

The surge in demand for analytic expertise is huge, causing some insiders to quip that data science is the new sexiest profession. “It’s an exciting time to be in the analytics space,” said McIntyre. “Many business leaders used to avoid having conversations with anyone in analytics, but in the last six months, we’ve had quite a few senior leaders express interest, tell us we’ve been doing some exciting things, and that this sounds like fun.” WellPoint has added 250 new analytic specialists this year but there is still more interest—and need. A few weeks after the conference, WellPoint’s career page showed 77 job openings in the “metrics and data” category.

Major talent gaps will persist even at large and well-funded organizations. Skilled data scientists are in short supply. Rarer still are those with a hybrid background in analytics as well as health care and life sciences. “It’s not just about having the [data and analytics] tools and skills, but knowing the right questions to ask, finding the folks who can bridge to operations,” said Garrido. Organizations are investing to develop internal talent by advancing the skills of existing data users and luring new people from the business side.

Success will depend on using those data science resources wisely, noted Graham Hughes, Chief Medical Officer of the SAS Center for Health Analytics and Insights. “We’re all familiar with cases where increasingly scarce analytic talent isn’t used as effectively as possible or is working in a reactive mode rather than in a proactive, strategic fashion. Analytic maturity means being joined at the hip with the front-line needs of the business.”

In the past, Janssen Pharmaceuticals has turned to outside sources to gain some complementary skills, said Venkat. “There are a lot of boutique houses that will do the analysis for you. You just give them the data, and they give you the answers. We are trying to pull some of that back, because we need the integrated view across multiple domains and areas, and we need more than the ability to ask questions in a narrow spectrum.” A question will yield an answer, but it should also lead to the next question and the next, and the next, in an interactive exploration.

Playing Catch-Up in a Fast-Changing Environment

The health care industry lags financial services and retail in the ability to create a 360-degree view of the customer/patient/member and deliver the right insights at the right moment. Imagine the potential to deliver analytic results into the exam room while the provider is with the patient, making care decisions. Imagine the potential to adjust therapeutic approaches throughout the continuum of care based on a comprehensive understanding of not only a person’s medical history, but also personal preferences, family history and demonstrated behaviors—just to name a few.

Imagine the potential to get patients to take greater responsibility for their own wellness—encouraging health-inducing behaviors by customizing the information that is communicated to them, wherever they are, in an always-on health care system.

“The technology will continue to advance and more folks will get access to it,” said McIntyre. “Right now, 4 billion people on the planet don’t have access to a physician; 2 billion of them have access to a smart phone.” Collectively as an industry, we can put data where it is needed, to resolve the most meaningful customer service issue of them all: our health and lives.

“Organizations that embrace data to excel in customer experience while being able to measurably move the needle on the cost/quality equation will likely be around in 2020. Those that don’t probably won’t be.”

Graham Hughes, MD, Chief Medical Officer of SAS Center for Health Analytics and Insights
About the Panel Members

Terhilda Garrido, Vice President of Health IT Transformation and Analytics, Kaiser Permanente

Garrido leads efforts to understand, study, disseminate and maximize strategic value and patient safety from the company’s HealthConnect™ electronic health care initiative and My Health Manager patient portal. Garrido has published in this area and lends her expertise to various organizations within the health care industry, including the Institute of Medicine (IOM) Committee on Health IT and Patient Safety. Before joining Kaiser, Garrido did economic modeling for the European Economic Community and others.

Patrick McIntyre, Senior Vice President of Health Care Analytics, WellPoint

McIntyre oversees WellPoint’s enterprisewide analytics capabilities, including medical economics, restated financial reporting, network pricing, provider collaboration analytics, clinical informatics, client reporting, public and private exchange analytics, and analytic platforms. He leads a team of approximately 1,200 associates whose primary goal is enhancing WellPoint’s ability to analyze health care costs and develop meaningful cost management initiatives.

McIntyre joined WellPoint through the company’s acquisition of Amerigroup in December 2012. While at Amerigroup, he served as Senior Vice President of Health Care Economics and was responsible for companywide medical expense analytics, provider pricing, premium optimization, program integrity and analytic platforms.

Sai Venkat, Senior Director of Enterprise Architecture, Janssen Pharmaceuticals, Johnson & Johnson

Venkat is responsible for the strategic architecture of Janssen Pharmaceuticals IT, including its research, development, commercial and supply chain divisions. One of her primary responsibilities is to set the direction for information architecture, including the diversity of sources and analytics platforms required to address the needs of one of the fastest-growing pharma organizations.

Venkat started her career at Bell Labs on the Microprocessor and Computer-Aided Design R&D team. Venkat has a background in simulation and synthesis algorithms applied to shrink features and optimize circuits. She was Vice President of Engineering of a network optimization startup company before moving into the pharma industry.

Graham Hughes, MD, Chief Medical Officer of the SAS Center for Health Analytics and Insights

Hughes is responsible for identifying and developing opportunities to create novel analytics solutions that help health care organizations improve care quality, clinical operations and patient outcomes.

He has more than 20 years of experience developing and delivering innovative health care IT products and services, and is an expert on health care market dynamics, both in the United States and internationally. Before SAS, Hughes was Vice President of Product Strategy and Chief Medical Informatics Officer at GE Healthcare IT. In that role, he led a customer-facing advanced technologies innovation team and spearheaded the annual strategic planning process for GEHCIT’s enterprise portfolio of products.

For More Information

If you missed the 11th annual SAS Health Analytics Executive Conference, you can view the virtual conference on demand at sas.com/virtual14.

Read the SAS health care and life sciences blog, A Shot in the Arm: sas.com/hlsblog.

Learn more about SAS® for health analytics at sas.com/healthanalytics.
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