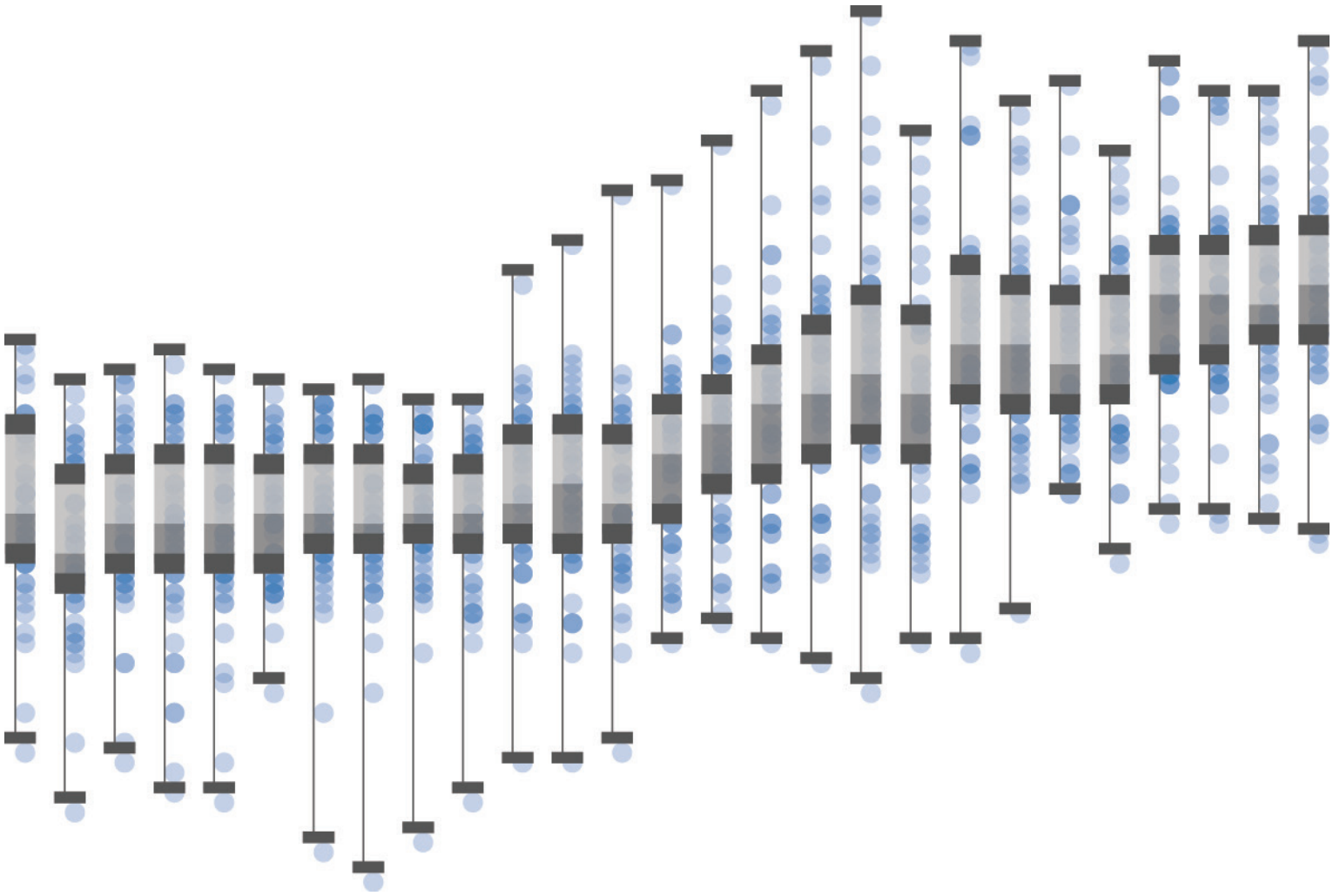


Andy De, Director of Healthcare and Life Sciences solutions, Tableau Software

Five Best Practices to Enable Population Health Management

Healthcare reform is fueling a shift away from a fee-for-service model toward a pay-for-performance, value-based care paradigm. And the implications for existing healthcare delivery systems are far-reaching all within an increasingly complex technology environment.

Amid an array of raw data from electronic health records, financial files, and hospital information systems, there is an acute need for actionable analysis of individual patients and populations. Physicians, providers and payers all need better data insights in order to improve clinical, financial, and operational outcomes beyond incremental change.

A main driver of this change is the advent of the Accountable Care Organization (ACO), which is responsible for ensuring population health management (PHM). According to the Centers for Medicare and Medicaid Services (CMS), Accountable Care Organizations (ACOs) are groups of doctors, hospitals, and other healthcare providers, who work collaboratively and accept collective accountability for the cost and quality of care delivered to their population of patients.

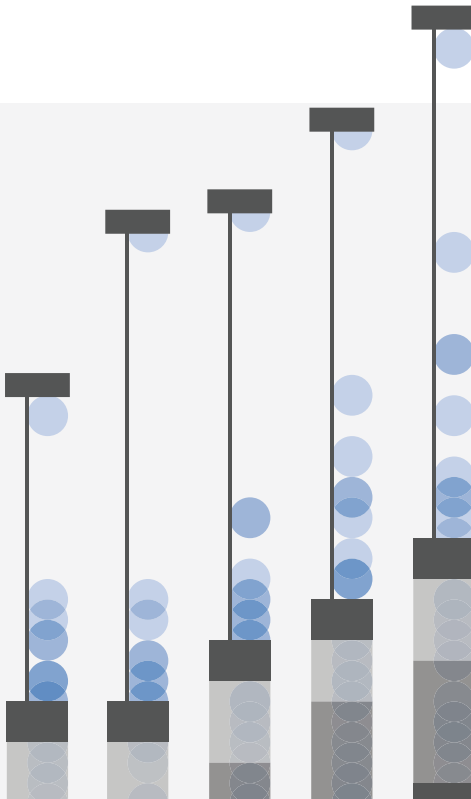
For most healthcare organizations, while the PHM concept of working together to improve care at the lowest cost is ideal, the new standards of operation are understandably daunting to execute.

In this new territory, many healthcare organizations struggle to understand just how to improve their care gaps. How do they work with providers to deliver preventative and cost-effective care? How do they collaboratively assess risk and analyze expenditures? How do they stay connected to discharged patients? How do they deploy care managers to prevent future hospitalizations? How do they monitor and treat chronic diseases?

If your organization is looking to embrace a value-based care model and integrate population health management into process, work culture, and technology systems, you must start with data.

The five best practices for enabling population health management with data:

1. Enable Self-Service Analytics
2. Aggregate and Segment Your Population Data
3. Coordinate Care Across the Continuum with Visualization
4. Understand Your Risks
5. Proactively Manage Patient Relationships



1.

Enable Self-Service Analytics

"If our doctors don't have the data, how are they going to change things? They need to know what patients need to be screened. We started out by showing them the metrics, and then they wanted more. We can give them patient detail reporting for every physician who wants to look. That was the first time that our team got emotional. We are actually really saving lives by what we do with visual analytics."

— Meghan Brandabur, Program Administrator for Health Intelligence, Providence Health and Services

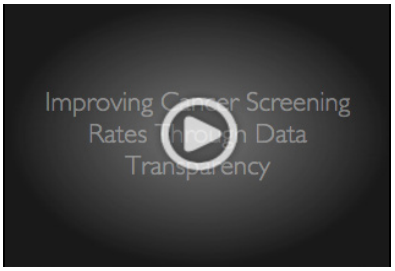
In an era of big data, old healthcare analytics systems have created inefficient report factories that simply don't meet today's needs. A new generation of technologists hope to evolve beyond this status quo by empowering individuals to explore their own data. Not only is this yielding faster, more insightful decisions, it's also allowing IT leaders to return their focus to their central task of maintaining a secure and reliable data infrastructure. Self-service analytics yield huge dividends for individual doctors and business analysts, and also provide a single source of truth throughout the entire organization.

Because the best analytics implementations are user-created dashboards running on top of IT-managed infrastructure, optimization for self-service is essential.

Providence Health, the second largest healthcare system in the US, implemented and launched a self-service analytics program called Vantage for better operational reporting. Vantage is a series of dashboards built with data from EPIC, Lawson, Press Ganey, and other hospital systems. It includes 40 visual and interactive reports that serve more than 20,000 self-service users.

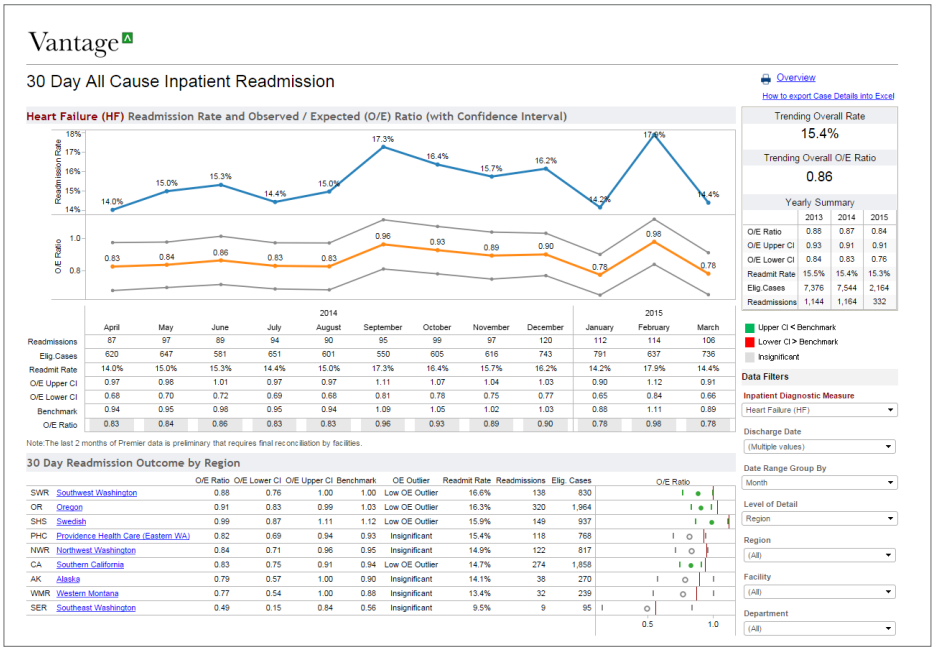
These reports are standardized across financial, operational, supply chain, and clinical functions (including physician scorecards), allowing executives to monitor the financial health of the enterprise, operational supply chain efficiencies, and benchmark physician utilization and performance.

Because Vantage is a self-service model, Providence Health users adopted the platform quickly and increased physician productivity by 8 percent in 12 months. With this implementation, Providence Health also saw a sharp increase in life-saving cancer screenings and a significant decrease in 30-day patient readmission rates.



- *Watch to learn how Swedish Medical Group, which recently merged with Providence Health, used self-service analytics to dramatically improve cancer-screening metrics.*

The best way to build adoption is to make the transition easy for users. Make the most of a self-service analytics strategy by giving users easy access to data, and the ability to ask and answer their own questions without the support of IT.



In this dashboard, Providence Health users can see and understand the 30-day readmission rates for their population health management. They can also drill down into the data to find root cause analysis at the hospital level.

2.

Segment Your Population Data

"Having an agreed upon set of metrics can galvanize partners to work together to improve community health."

—The Center for Disease Control and Prevention

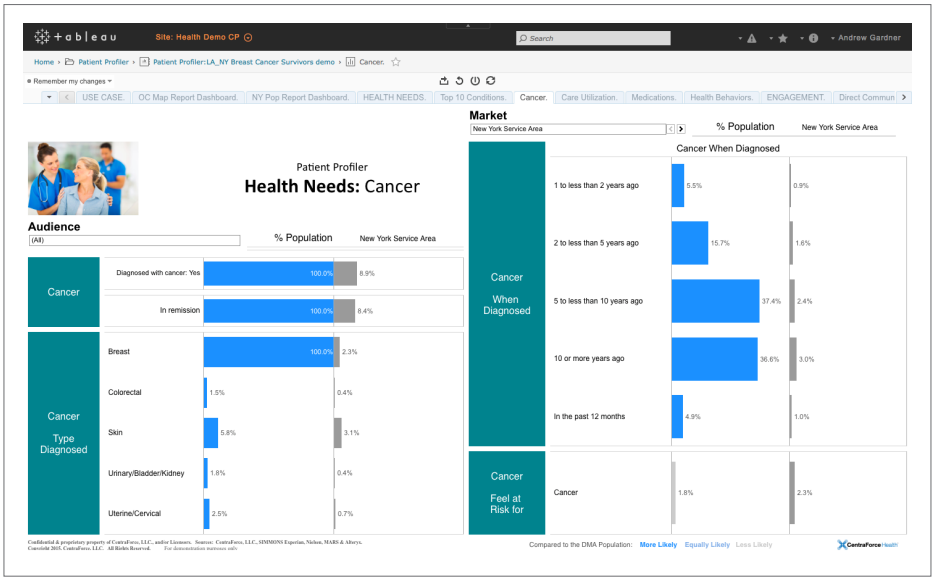
Most healthcare providers are mandated by the Accountable Care Act to carry out a community risk assessment once every three years. Executing a Community Health Needs Assessment (CHNA) gives providers a complete view of their population in terms of risks and the associated costs.

The Center for Disease Control (CDC) identifies and recommends analyzing population health with 42 specific metrics in order to depict an accurate blueprint of the population or community being served.

Segmenting your data across these 42 factors will enable understanding of your organization's population health based on risks and the associated costs. The findings can help organizations deliver the highest quality of care at the lowest cost.

Centra Force, an organization specializing in population health intelligence and community health assessments, uses data segmentation and visualization to quantify populations by categories like disease types and payer types.

Providers and payers can use this segmented data to discover deep insights on specific populations of interest including behavioral, attitudinal, demographic, geographical, diseases, conditions, and healthcare provider data.



This dashboard is an example of a community health needs assessment. The data is segmented to identify female patients at risk for breast cancer within a certain population, and is used to monitor the need for proactive intervention.

Centers for Disease Control and Prevention
National Center for Health Statistics

▶ *Read the Center for Disease Control and Prevention's report on community health assessment and population health improvement for more information about segmenting your data and metrics with the most frequently recommended determinants.*

3.

Coordinate Care Across the Continuum with Visualization

"The ability to aggregate data from all of these multiple sources leveraging our self-service data discovery and visual analytics platform truly enabled us to empower our care coordinators with the actionable insights needed, to segment and identify the patients most at risk, for proactive intervention and delivery of high-quality care."

—Michael Zuschin,
Director of Business Intelligence,
the Cleveland Clinic

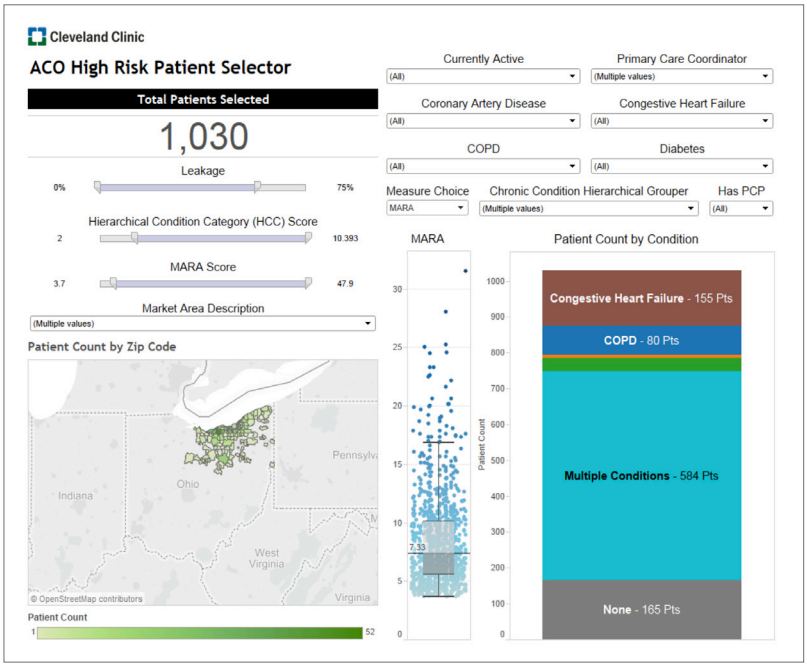
Coordinating care across teams, providers and outpatient services can prove challenging. Because many healthcare providers still use spreadsheets as their primary tool of analysis, they are probably only answering a small portion of the many questions they have.

However, forward-thinking healthcare providers are embracing interactive data visualization to equip their care managers with real-time insights needed to coordinate and manage care across the continuum.

The Cleveland Clinic, one of the largest nonprofit hospitals in the US, needed to proactively identify at-risk patients for heart disease and cancer. Their care coordination team was spending an overwhelming amount of time accessing their data in spreadsheets alone—an ACO membership list, 14 standard CMS reports, ad-hoc data from their EPIC electronic health record, and current patients in primary care coordination all in columns and rows.

The business intelligence team at the Cleveland Clinic harnessed data visualization tools to create dashboards for doctors to see and track high-risk patients. These dashboards allow care managers to hone in on individual patients from their attributed population of 54,000 patients.

With this interactive dashboard, care managers can drill down into the data using filters for geography and condition. This dashboard has already helped healthcare providers quickly identify over 1,000 local patients who are high-risk and not currently served by care coordination.



This dashboard used at the Cleveland Clinic allows care coordinators to proactively identify and engage with high-risk patients, set up appointments with physicians, monitor patient medication adherence and compliance, and reduce 30-day readmission rates.

4.

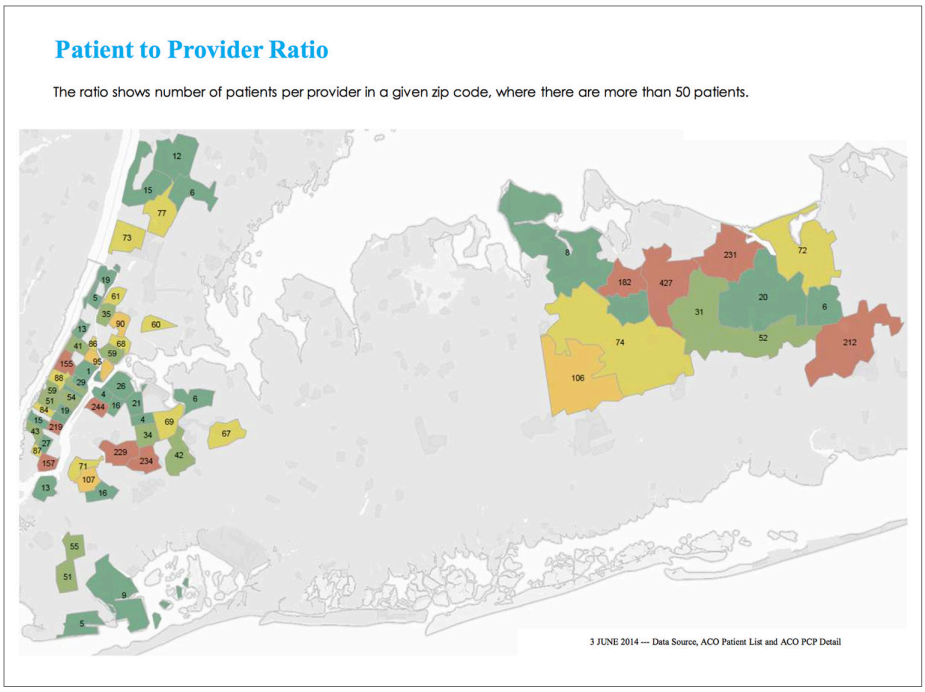
Understand Your Risks

Fundamental to enabling population health management is to have the ability to understand the risk profile of your population as a segment and on the individual level.

Once hospital providers understand risk at the segment, they can proactively identify the most vulnerable patients. They can then direct resources to set up appointments and deliver the highest level of care while also managing the associated costs and risks.

With sophisticated machine learning, advanced predictive analytics software can visualize complex models to predict risk at an aggregate population level, and also at a discrete patient level.

Mount Sinai Medical Center in New York City manages risk by analyzing their patient-to-provider ratios as a basis for understanding the levels of service provided to their patient population.

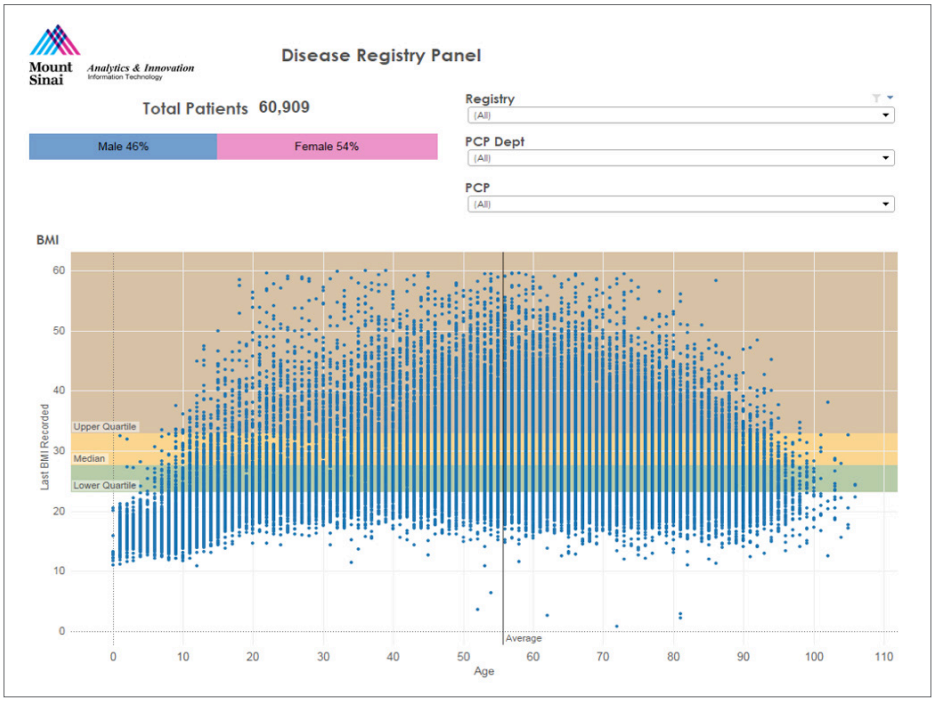


This dashboard is a patient-to-provider analysis used to identify the risk associated with underserved patient populations at Mount Sinai Medical Center. The user can identify physician practices for potential acquisition as well as locations for additional Mount Sinai facilities.

They also use data to identify primary care practices for potential acquisition as well as new locations to build out their next hospital facilities. To drive their strategy, they aggregate data from multiple healthcare IT (HIT) systems onto a single, interactive dashboard.

Mount Sinai also uses a data from its electronic health records system to visualize disease registries with the ability to monitor and track performance against metrics.

Using public data like blood pressure and BMI data, Mount Sinai can also craft predictive analytics algorithms to stratify patients based on their risk of specific diseases for care coordination and risk-driven intervention.



This dashboard harnesses standard disease registry data to track against PHM risk factors like body mass index and blood pressure.

5.

Proactively Manage Patient Relationships

▶ *Watch this webinar to learn how Blue Cross and Blue Shield deployed self-service visual analytics to proactively manage patient relationships and population health.*

For improved population health, care teams must build strong relationships with patients, both online and offline. These interactions can foster medication compliance and better preventive care.

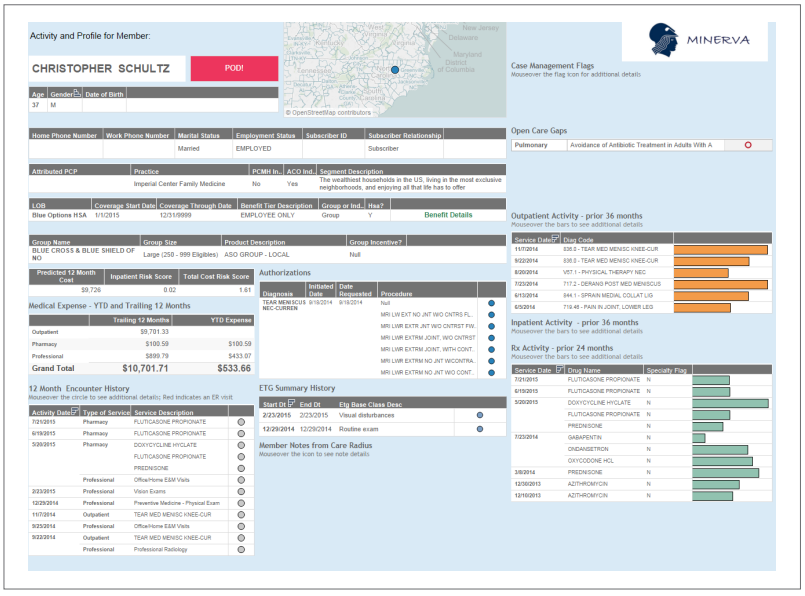
The members of these care teams—physicians, nurses, technicians, physician assistants, and social workers—must collaborate to optimize the quality and level of services offered.

A successful collaborative approach toward patient relationships will need to combine an electronic registry (drawing upon clinical data from EHRs and other clinical systems) and patient portals to ensure optimal patient engagement.

Data-driven triggers can automate various communications to patients like outbound calls, secure text messaging, and emails to ensure regular engagement with care teams and doctors.

Blue Cross and Blue Shield of North Carolina manages patient relationships by incorporating an all-inclusive view of the patient dashboard for case managers. The solution, aptly named Minerva, was built from prototype to productized solution in 90 days.

The Minerva dashboard, aggregates patient data with multiple metrics like demographics, benefits, risk information, claims history, program enrollments, and care gaps from 13 disparate data sources. The nurse case manager who previously invested 15 to 30 minutes to prepare for an initial call with a member can now access this data in seconds from the dashboard.



This dashboard, a sample from Blue Cross and Blue Shield's proto-type Minerva, offers specific details of patient records for better case management.

Conclusion:

Actionable insights in population data will not only improve cost and risk management, but they'll also provide better patient outcomes. The population health management care model is still very much in its infancy and demands radical rethinking of the status quo.

Self-service analytics and data visualization are the keys to unlocking this collaborative approach across the healthcare organization, culture, business models, people, processes and IT.

About the Author

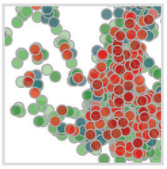
Andy Dé, Director of Healthcare and Life Sciences Solutions

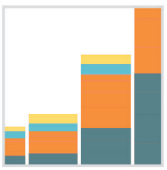
Andy Dé is the industry strategist and solutions leader for healthcare and life sciences at Tableau. He has over 20 years of enterprise software innovation strategy, portfolio management and go-to-market strategy, planning and execution experience at GE Healthcare, SAP Health-Sciences and i2.

Andy is passionate about Healthcare Innovation and authors a health sciences strategy blog and twitter feed (@HITstrategy) with a readership audience across 47 countries, that has been referenced by Harvard Medical School, HIMSS, Healthcare Informatics, Partners Healthcare and the Washington Post. You can read more about Andy and his healthcare expertise at www.andyde.com/.

About Tableau

Tableau offers a new approach to self-service data discovery for healthcare analytics. With easy-to-use, drag-and-drop technology, you'll quickly connect to, visualize, share, and report on all of your healthcare data, with a seamless experience from the PC to the iPad. Tableau solutions generate fast, visual, self-service dashboards with no programming skills required. See the impact Tableau can have on your organization by starting a free trial.





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