Achieving clinical excellence with QlikView

Better insight for improved patient outcomes in healthcare
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Toward clinical excellence in care delivery

Clinical excellence is the ability to deliver care that leads to the best possible patient outcomes on a consistent and predictable basis. Every healthcare delivery organization strives for it – and your physicians, nurses, and other clinical staff consider it a critical component for doing what matters most: helping people get healthy and stay that way as long as possible.

While clinical excellence is a laudable objective, persistent obstacles often stand in the way. These include increased healthcare complexity and a system-wide incentive structure that emphasizes procedure volume over health outcomes.

The reforms now coming online as part of the Affordable Care Act (ACA) of 2010 seek to remedy this situation. Meaningful use requirements for electronic health records (EHR), for example, aim to standardize patient medical information. While much of the benefit for EHRs originally focused on instantaneous access to patient information, healthcare organizations now see tremendous value in EHRs as a data set as well. EHR information can be mined to yield valuable insight that can help you identify trends, highlight best practices, and improve clinical decision making.

Accountable care organizations (ACOs) represent another important aspect of the ACA reforms. ACOs seek to remodel healthcare delivery – moving it away from fee-for-service toward the effective management of population pools for better health outcomes. Critical to the success of the ACO model is the ability of your clinical staff to work effectively in team structures across multiple healthcare providers to coordinate end-to-end care as a patient moves through the system.
Improved information visibility and better collaboration

Whether it’s EHRs, ACOs, or any other three letter acronym that impacts the way you work, change is now the new normal for healthcare organizations everywhere in the United States. To achieve and maintain clinical excellence in this constantly changing healthcare environment, organizations like yours are now focusing on two primary themes: improving health information visibility and empowering clinical staff to collaborate more effectively. This is where QlikView can help.

Think of QlikView as a clinical discovery platform. It delivers true self-service clinical analysis and insight to your physicians, nurses, and other clinical staff – enabling all of them to make better decisions that improve care delivery. It also makes collaboration easier and more effective by giving your clinicians the tools they need to share insight and interact from anywhere for improved patient outcomes and satisfaction.

What’s more, QlikView makes it easier to report to the regulatory authorities that are driving healthcare reform today and to coordinate with the wide range of new stakeholders with which every healthcare organization must now work. All of this enables you to meet the challenges of a constantly changing, increasingly complex healthcare delivery landscape and realize clinical excellence across all of the facilities in your network.
The evidence-based road to clinical excellence

But where does the rubber hit the road? How exactly does QlikView help you improve clinical excellence? The answer lies in the ability of QlikView to support an evidence-based approach to healthcare delivery.

Take, for example, the stage I meaningful use requirement for recoding the smoking status of patients in EHRs. According to the Office of the National Coordinator for Health Information Technology (ONC), certified EHRs will include as structured data the smoking status of “more than 50 percent of all unique patients 13 years old or older seen by the eligible professional.”

For an effective smoking cessation program, this data is great to have in your EHRs. But the bigger question is what can you do with the data once you’ve captured it? Using QlikView, your physicians can analyze all health records to benchmark your patient population regarding smoking status and evaluate demographic sub-segments to see where you need to focus your smoking cessation efforts and resources. You can also compare your patient population to larger populations to see where you stand nationally – giving your organization an idea of the scope of the problem. In the end, you have solid data on which your physicians and nurses can base their medical decisions. This evidence-based approach helps you improve on your clinical excellence objectives and improve care delivery for the patients you serve.

The Integrated Healthcare Organization

This, of course, is just one of the many clinical areas in which QlikView yields the insight you need to run your healthcare organization more effectively. It lets clinical staff fully explore your data to find the meaning locked inside – all based on a single version of truth accessible to all. From the physicians who make treatment decisions and the nurses who directly deliver care to the pharmacists who dole out medication, and everyone else involved in the health delivery value chain – QlikView helps drive clinical excellence so that you keep more patients healthy and satisfied.

The diagram below, gives you a more detailed overview on how you can apply QlikView to various operational areas within your healthcare organization.
Make bold, new clinical discoveries

QlikView connects your people with your clinical data – across your physician suite, your hospital, or your entire healthcare network.

Figure 1. Using QlikView to achieve clinical excellence in healthcare

<table>
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<th>Population management</th>
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<td>• Hygiene monitoring &amp; reporting</td>
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<td>• Preventive measures analysis</td>
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<td>• Financial assessment &amp; reporting</td>
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For you and your colleagues on the frontlines of healthcare delivery, making the right connections at the right time can make all the difference in the world when it comes to achieving your clinical excellence objectives. QlikView can help your healthcare teams spot trends, discover more effective treatment strategies, and find even more ways to improve patient outcomes. A leading information platform, QlikView makes the latest clinical data securely available to those who need it – on virtually any device, whether it’s a desktop computer on the hospital floor or a tablet computer in a physician’s hands. No matter how small or large your healthcare organization, QlikView empowers your people to make new clinical discoveries and deliver even better care.

QlikView provides clear, highly visual clinical information and insight through a huge variety of charts and display options that clinicians themselves create. It is intuitive, simple to use, and visually appealing.

A simple click or tap can transform clinical data into fresh and clear analysis. You can discover new clinical paths and new ways to visualize patient and other critical data.

Physicians, nurses, and other healthcare team members interact with all of their clinical data through QlikView Apps. These apps let them securely share and exchange clinical data and analysis on the device of their choice. They can explore all of the information contained in the app, including summary data visualized in a performance metric – and then drill down into underlying clinical details behind the metric. Your clinical staff can also make modifications, additions and/or create new apps without requiring complex training or ramp-up time.

Empower clinical staff like never before

Clinical discovery is based on the belief that information can transform healthcare delivery for the better – and that the clinical staff on the ground and closest to the patient contributes to that transformation. With QlikView’s clinical discovery capabilities, everyone can easily analyze data and experience that “a-ha” moment of discovery.

Clinical discovery is a whole new way of doing things that puts your clinical staff in control. Unlike traditional analytical solutions, where just a few people are involved in insight creation, clinical discovery enables everyone to create insight. It’s about individual physicians, entire healthcare units, and even coordinated care teams having access to the data they need to make better healthcare decisions. With QlikView, you can take insight to the edges of your organization, enabling every clinical user to do their jobs smarter and faster than ever by accessing tailored insights that meet their unique needs as well as the timelines of your organization.
Effective healthcare team collaboration

It’s obvious. The best patient care requires collaboration. And today, that collaboration has to occur wherever your patients need care – whether it’s a rehab facility down the road or an imaging facility on the other side of the country. With QlikView-powered collaborative sessions securely accessed through the Web, all of the healthcare providers in your network can operate more effectively as a team – without the need for participants to purchase software.

Coordinate end-to-end patient care

With QlikView, a clinical team can share and interact with EHR data, charts, and other medical information in real time through live collaborative sessions – connecting online via desktop, tablet or other mobile device. From diagnosis and treatment options to pre-op, post-op, or recovery and rehabilitation – your healthcare delivery team can ensure the full coordination of a patient’s care from end to end.

For example, if your primary care team is transferring a patient who requires specialized follow-up care by an external care facility, you can have an online collaborative session with the receiving care team to review the transition of care (or discharge) summary document. Everyone can view the document, get questions answered on specific results and diagnoses, make additional notations, and add more information as necessary. It’s the kind of collaboration that not only ensures consistency and continuity of care, but also helps you expand your clinical care network. This is just one way that QlikView enables you to track patients and improve care beyond the confines of your own healthcare facility.

Find and share clinical evidence to improve quality

With QlikView, your clinical teams have the tools they need to fully collaborate even without live online sessions. For example, a primary care physician (PCP) can ask a specialist to analyze a patient’s EHR to determine the best treatment choices. The specialist can use QlikView to analyze similar diagnosis data among larger patient populations within the healthcare network and beyond. This helps highlight the clinical factors that ensure the best outcome for the patient.

In addition, specialists can annotate patient data and charts describing their recommendations and even bookmarking relevant populations and EHR data to support the analysis. Once the PCP logs back into QlikView, all of that information from the specialist is available for review and follow-up.

Your clinical team can also analyze critical data and share it with everyone to improve quality measures. Let’s say a member of the oncology team notices that a particular patient’s cancer is progressing slower than expected. Upon investigation, she notices that the patient’s treatment deviated from usual treatment plans due to unique nutritional requirements and an intolerance for medications typically prescribed. She can then annotate the patient’s record with links to specific data points and share it all with the clinical team. From there, the clinical team can analyze the underlying data using QlikView and determine what critical factors are at play.

How does Qlikview help you improve patient outcomes?

- **Effective healthcare team collaboration** - Share input and data and leverage expertise from around the corner or around the country.
- **Evidence-based clinical insight** – Find new connections using all of your clinical data no matter where it’s located to uncover and exploit hidden opportunities to improve care.
- **Real-time mobile access for physicians and clinical teams** – Get the latest clinical insight securely on iPads and other mobile devices.
- **Cost-effective, self-service clinical insight that deploys fast** – Use and configure QlikView so that clinical teams can quickly design the interfaces they want and need without a lot of ongoing involvement by IT.
Fast, evidence-based clinical insight

QlikView is a different kind of clinical analysis tool. For one, it can search and analyze your clinical data much faster because all of the computing happens within active memory. By contrast, traditional tools depend on data stored on hard disk, which slows analysis dramatically. To get around this, such tools will often select a subset of the total available data, which enables faster analysis. This approach, however, comes at the expense of the precision and accuracy that can only be achieved when working with complete data sets. The best option to ensure comprehensive analysis at real-time speed is to maintain all the data in active memory – which is what QlikView does.
Find hidden connections in EHR and historic data

Even more important than speed and accuracy is the fact that QlikView empowers your clinical team to make spontaneous connections between and among data points that may not be strictly related to a particular search or query. This is known as the “power of the gray” – where clinical staff can freely associate with the data, yielding unexpected insights that can lead to breakthroughs and drive clinical excellence.

Take the case of a nursing team member searching for patterns in post-operative complications. A typical search in such a scenario might return information that shows higher rates of post-operative complications in patient populations 75 and over. However, in returning this patient data, QlikView can also reveal missing information that’s still relevant, such as EHR data for outpatient care that was not included in the original search. Exploring this data, the nurse might find new correlations such as high levels of post-operative complications in a younger demographic for a specific outpatient surgical procedure. This is insight the nurse can share with the entire clinical team to develop proactive measures that prevent future complications. It’s also the kind of insight ACOs can use to improve clinical quality measures across their network.

Build powerful clinical dashboards that improve care delivery

With access to real-time health data, QlikView also empowers your clinical staff to evaluate their performance – according to internal benchmarks or in comparison to their peers across the region or the country. This can be achieved with clear, highly visual physician-performance dashboards that provide the latest quality measure information gleaned from terabytes of EHR data. Dashboards can indicate how physicians are performing along patient outcome benchmarks that you define.

For example, physicians can open up a QlikView app in their iPad to track the performance of their own patient readmission reduction measures. They can look at and click on custom-built dashboard metrics to view and analyze underlying patient data around disease states, medications, care plans, patient demographics, and more. All of this can help physicians better calculate each patient’s risk of readmission and understand what preventive measures should be taken.
Real-time mobile access for physicians and clinical teams

When it comes to using mobile devices to get the job done, physicians are leading the way. From finding out about the latest diagnostic and treatment developments to reading the latest medical literature and blogs, doctors, nurses and other clinical teams are relying on their tablets and other mobile devices to stay informed.

This is why QlikView is designed to bring all of the critical information in your healthcare network to whatever devices your clinical team members are using right now. With just a few clicks or taps, physicians, physician assistants, nursing staff, administrators, and executives can get immediate answers from data in all your clinical systems.

Give teams reliable and actionable patient care metrics

QlikView has the speed and analytical power to turn terabytes of clinical data into real-time KPIs and other benchmark reporting. You can fully record and analyze the patient experience, and even measure patient response to treatments. For example, QlikView can help you monitor and minimize nosocomial infections such as methicillin-resistant Staphylococcus aureus (MRSA) and other bacterial and fungal infections.

To this end, QlikView can aggregate data from a wide range of systems and records including EHRs, laboratory and surgical systems, and prescription data. You can then map the spread of infection across your healthcare facilities and even entire geographical regions. QlikView lets you collect and analyze all of this infection data and more to uncover trends, identify best practices, and implement improvements to drive down infection rates. In this and many other ways, QlikView helps you identify just the kind of meaningful use improvements you need to improve care delivery for all your patients now, and in the future.

Better visibility to ensure the right level of care

QlikView gives clinical teams the visibility they need to improve care. Team leaders can view patient dashboards tracking patient workloads in real time. This helps you know when a particular department is getting overburdened and marshal additional resources to ensure timely and consistent care. You can also analyze the data over time to ensure more proactive management around physician and department workloads. You can even build patient experience dashboards that pull real-time data from Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys and instantly analyze the survey data with other KPIs to improve care delivery.
Cost-effective, self-service clinical insight that deploys fast

QlikView is a truly self-service model where anyone in your healthcare organization can get the information they need. By deploying it, your IT organization empowers your clinical staff like never before – positioning itself as a key enabler of clinical analysis and performance improvement. What’s more, QlikView helps IT maximize the ROI on existing investment in healthcare technology such as EHRs and other systems – increasing their value by leveraging the data they produce to drive clinical excellence. IT, meanwhile, maintains firm control over information security and benefits from a simplified information infrastructure that requires less resources and less cost than traditional solutions. All of this helps IT clearly demonstrate its centrality in helping the organization execute on its clinical excellence objectives.
Case study: Sibley Heart Center Cardiology

Background:
Sibley Heart Center Cardiology, a subsidiary of Children’s Healthcare of Atlanta, is the largest pediatric cardiology practice in Georgia. Its staff maintains privileges at 40 hospitals throughout Georgia – and Sibley itself manages 18 locations that serve more than 30,000 patients annually.

Challenge:
All of this means a lot of patient data. In fact, the practice’s patient management system houses records for more than 250,000 patients dating back to 1990. Despite this impressive volume, Sibley was continuously frustrated by an inability to access the data and generate meaningful insight to improve clinical practice. Its existing BI tool required expert report writers to query the data, which took time. Ad hoc requests for information from physicians took up to a week or more to fulfill. Faced with these limitations, staff seldom requested information at all.

Solution:
Coordinating with IPC Global, a business systems integrator, Sibley was able to connect QlikView to its database within a matter of minutes and write its first application that day. Within 30 days, it developed an application for deep analysis of diagnoses made over 20 years of patient records. QlikView enables the organization to drill down into the data and analyze past symptoms, diagnoses and outcomes to establish benchmarks, identify best practices, and develop much needed protocols that drive clinical excellence.

Benefits:
Using QlikView, Sibley is in a far better position to practice evidence-based medicine. With insight into past records, it has been able to highlight areas of needed improvement and make modifications to physician behaviors to drive better outcomes. What’s more, this evidence-based approach to medicine supported by unprecedented information access helps improve the organization’s ability to gain IRB (Institutional Review Board) approval for valuable research grants – which enables Sibley to remain on the cutting edge as one of the most important pediatric cardiology centers in the country.
Case study: Allina Health

Background:
Allina Health is dedicated to the prevention and treatment of illness and enhancing the greater health of individuals, families and communities throughout Minnesota and western Wisconsin. With nearly 24,000 employees, 5,000 associated and employed physicians, and 2,500 volunteers, Allina operates more than 90 clinics and 15 pharmacies and specialty medical services – including hospice care, oxygen and home medical equipment, and emergency medical transportation.

Challenge:
Allina runs one of the most comprehensive EHR systems in the nation, which helps the organization give patients seamless, coordinated, and more informed care. With a relentless commitment to quality care, Allina was selected to operate as a Pioneer ACO – a CMS Innovation Center initiative designed to support organizations in providing more coordinated care to beneficiaries at a lower cost to Medicare. But to better meet the requirements of the program, Allina wanted a more robust information infrastructure.

Solution:
By implementing QlikView, Allina is able to manage and visualize an enormous amount of data and report effectively to the government as part of its Pioneer ACO obligations. Bringing all of Allina’s medical and patient information together, QlikView puts raw data into the hands of clinical staff who can use it most effectively. Some of the dashboards Allina has implemented focus on patient census, patient experience, ambulatory care measures, and potentially preventable readmissions. The information provided enables Allina to evaluate how it is performing, identify areas for improvement, and discover ways for clinicians and care teams to deliver better care to patients.

Benefits:
In a new healthcare delivery world of constant measurement and continuous improvement, Allina now lives by the numbers – and QlikView has helped the organization improve those numbers for the better. Results have included:

- 40% increase in optimal stroke care
- 12% system-wide improvement in the overall patient experience rating
- 20% reduction in cardiovascular care length of stay
- 30% increase in depression care remission
- 80% increase in the use of Bivalirudin for percutaneous coronary intervention to better treat high-risk bleeding cases
Improving the health of healthcare delivery

Achieving clinical excellence is no easy undertaking. And at a time of increased complexity, changing healthcare delivery models, and mounting regulatory scrutiny, it’s only growing more challenging. QlikView provides you with an information infrastructure that empowers your clinical staff to meet these challenges head on. With QlikView, you’ll be able to:

• **Improve clinical care delivery and performance** – with an ability to focus on the numbers and metrics that matter most for improving performance and ensuring the best possible patient outcomes

• **Collaborate more effectively** – with powerful data-sharing capabilities that allow you to coordinate care with a wide array of clinical staff within the organization and beyond, which is critical for success under the new ACO model

• **Gain insight into care delivery metrics** – with unimpeded access to clinical information and the ability to freely associate with the data in a way that empowers your clinical staff to make new discoveries

• **Comply with regulations and report to stakeholders** – with vastly improved information transparency and the flexibility to zero in on whatever data may be relevant for existing and emerging reporting requirements

Learn more

To find out more about how QlikView can help your organization achieve your clinical excellence objectives, contact us at qlik.com/us/company/contact-us or visit us online at qlik.com/healthcare.
QlikView for healthcare

Better insight for improved patient outcomes in healthcare.

Qlik has offices worldwide with expert, friendly staff ready to help you drive smarter, faster decisions with QlikView.

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