Changing Culture: Analytics as a Collaboration Platform

Session 3: The Qlik Academic Program

MA Health Data Consortium
September 2016
Recap: Qlik MHDC Series

Changing the Way Care Is Delivered
Session 1 - May 17

Individual provider organizations are realizing significant gains by aligning departmentally and at the organization level through a common analytics platform. And in turn, they are changing the way their organizations deliver and manage patient care.

A Visual Analytics Platform without Walls
Session 2 - September 14

Visual analytics and reporting are only as good as the accuracy and the speed with which decision makers can move.
We believe that through leveraging our people, products, and culture we have the power to make the world a better place. Our innovative CSR program – Change Our World – aspires to push the boundaries governing what people think business is capable of.
Recap: Qlik MHDC Series
Qlik
& Qlik in Healthcare
Healthcare is Unwell

High Spend

11% of global GDP

$7.5 trillion in 2013

$9.3 trillion by 2018¹

High Waste

~$1 trillion—
a year wasted in US alone from high prices, missed prevention opportunities, fraud, and inefficiencies²

Code Red

99% of healthcare leaders think general practice is in crisis or in need of reform³
The value agenda shifts focus from:

- Fee-for-service
- Supply-driven
-Disconnected delivery

TO

- Outcome-based
- Value-based reimbursement
- Connected care
Transformation Leads to a High Level of Disruption

Political

Economic

Social

Technology
Opportunities for those that embrace the Disruption

The Analytics Opportunity: Unite & Transform

“Siloed IT systems make cost and outcomes measurement virtually impossible.”

- Michael Porter & Thomas H Lee

Issues in Healthcare Analytics

Less than half of health organizations have a clear, integrated analytics strategy
More than 4 in 5 identified value-based care as a key analytics driver

42% End-user adoption  41% Data quality  29% Limited clinical workflow integration
Common Healthcare Analytic Issues

- **Multiple data sources:** EMRs, financial, operational data
- **Uncontrolled data governance**
- **Poor end user adoption**
- **Lengthy installations**
- **No insight** into current operations or conditions
- **Need data** to drive decision making
- **Data is stale, no longer current**
Qlik’s Analytics Platform

One common platform that ties together uses cases...
But what else is needed?
The Qlik Academic Program

For qualified university professors, students and researchers

Free software
- Valid for one year
- Qlik Sense

Free learning resources
- Data Analytics curriculum
- Qlik Continuous Classroom
- Qlik Community
- Qoncierge support

55+ Countries
500+ Universities
Program Benefits

**Students:** Prepare yourself for data-driven economy
- Go beyond theory
- Benefit from a dedicated program
- Increase your marketability

**Professors:** Enhance your course experience
- Get access to leading data discovery products
- Drive creative thinking
- Leverage free resources

**Universities:** Improve the value of your programs
- Enhance your programs
- Gain academic recognition
- Stay competitive against other universities
Healthcare System **Benefits**

**Your Healthcare Org:**
Hire and prepare skilled individuals

- Strengthen in your hiring pool in data literacy
- Strengthen your current staff
Qlik Community

Access resources, collaborate and share

- For professors and students
- Data Analytics Curriculum
- Announcements
- Open discussions
- Learning resources
- Qlik textbooks
- Data
How will *Data Science* change?

Many people do not realize just how much data affects their lives. From Amazon to Uber, data management is everywhere and the demand for Data Scientists to manage all the data is growing at a rapid pace.

More and more science graduates are now turning towards pursuing a career in data analytics with its increased scope and also due to the rise in big data. Unconventional streams previously not as much attracted towards data analytics such as Physics and Chemistry are also witnessing a rising shift in this direction.

Know more about this trend and its impact: Science graduates trump engineers as data analytics gains currency - The Economic Times
Organizations are facing a challenge to bridge the skills gap in big data with the amount of data being generated. One of the ways they are turning to, to resolve this issue is through online training to not only train new resources but also to equip old workers towards reducing the gap.

Read more on this: Can online training bridge the big data skills gap? | CIO
Data Analytics Curriculum

Easy adoptable university-level curriculum
• Includes lecture notes, activities and assignments
• Modular format to easily extend existing courses
• Perfect for novice and experienced professors

Supports well-rounded education
• Content can be certified by accreditation board
• Content not Qlik-specific
• Exercises utilize Qlik software

Modernize traditional instruction delivery
• Combines business and computer science
• Blended learning experience
• Innovative tools and technology

For each course:
• Instructor and student materials
• Approximately 25 hours of instructor-led content
  + 15 hours in-class student activities
  + 10 hours of student homework
• Exercises reinforce Data Analytics concepts leveraging Qlik
• Qlik applications and data sets
QCC Business analyst pathway

### Course Structure

#### Activities
- Lesson 1: Introduction to data visualization
- Lesson 2: Dimensions, measures, aggregation, and visual encoding
- Lesson 3: Psychology of design
- Lesson 4: Problem solving and data storytelling
- Lesson 5: Advanced visualizations and new trends in data visualization

#### Lectures

#### Assignment
Gun deaths in Florida

Number of murders committed using firearms

Source: Florida Department of Law Enforcement
IF BUSH TAX CUTS EXPIRE

TOP TAX RATE

<table>
<thead>
<tr>
<th>NOW</th>
<th>JAN. 1, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>39.6%</td>
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OBAMACARE ENROLLMENT

<table>
<thead>
<tr>
<th>AS OF MARCH 27</th>
<th>MARCH 31 GOAL</th>
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</thead>
<tbody>
<tr>
<td>6,000,000</td>
<td>7,066,000</td>
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</tbody>
</table>

SOURCE: HHS
2012 PRESIDENTIAL RUN
GOP CANDIDATES

- Back Palin: 70%
- Back Huckabee: 63%
- Back Romney: 60%

SOURCE: OPINIONS DYNAMIC

9:17 PM FOX
Your Learning Journey

New user

“I need to fill my knowledge and skills gap”

“I need to be up and running quickly”

Existing user

“I need to get up-to-speed on using the new features”

“I need a knowledge refresh for an urgent project”
Introducing Qlik Continuous Classroom

Continuous learning, right at your fingertips

- Self-service online learning platform
- The learning content you need, right now
- Anytime, anywhere, always
Your Learning, Your Choice

Choose what you want to learn

• Based on your user role
• Based on your skills
• Advanced content search

Choose how you want to learn

• Based on your learning style
• Videos, exercises and quizzes
• Chat live with instructors

Choose when you want to learn

• Anytime, anywhere, always
• Start, stop, resume and go back
• Office hours and webinars
How We Do It
Learner-centric and just-in time

Role-based learning
Modular learning
Interactive learning
Role-based Learning

Subscription model
• Annual
• By role not product
• 24/7 access
• Free modules included
• Individual or corporate

Analytics content
• Teaching you the “why”
• Product agnostic topics
• Analytics and statistics
Modular Learning

Smart Video Search
Instantly find and fast-forward to any word spoken!

- Average 30 mins
- Hands-on demos
- Smart search
- Example files
- Self-paced practices
- Quick reference guides
- 5-question quiz
- Take as many times as you like

Video

Learning Aids

Test
Interactive Learning

- Discussion forums
- Live chats with instructors and students
- Webinars and instructor office hours
- Launch of new and updated modules
- Complete search of all platform content
- Smart video search

Office Hours

- Instructor-led
- Live
- 2 hours • 1 topic • Q&A
Try it: gcc.qlik.com
Let’s see it in action!
Examples of Innovation In Analytics
Leveraging across enterprise, multiple EMR’s, ancillary applications, and EDW
• Displacing all other reporting tools w/ Qlik
• Simultaneous Epic + Qlik implementation

Using Qlik across enterprise and in lieu of an EDW

Reduced Supply Chain Safety Events by 85%
• Alert Fatigue Solution: Reduced false positives by 90%

Leave No Data Behind!
Leave No Data Behind!

- Telemetry big data solution
- Reduced Newborn Recovery time by 50%
- Labor productivity solution
- Save $3M Per Year on Overtime
- Enterprise-wide deployment (120 apps)
- 70% Qlik adoption
- Over 25 Data sources
- .5 FTE for sys admin
- +$2M annual revenue impact
- Embedded in Epic workflows
$600K year savings on surgical glue
$2M savings per year with Labor Productivity Solution

$74M in cost savings
29% increase in capacity, 36% decrease in no-show rate
16% increase in internal referral rates
$4M cost savings on report building per year

$90M in procurement cost savings over 2 years
231 hours/month reduced to 54 hours for BI work
158 deaths per year have been avoided
• Near real-time MSSP Dashboard
• 23,000 more patients included
• 400% increase in fall risk screening
• 40% more cancer screenings
• 98.9% of eligible patients received clinical depression screening

• Integrated clinical and transactional data from 4 inpatient and 2 ambulatory EHRs
• Patient matching algorithms
• 70% improvement in operational efficiency

• Monitors ACO quality measures
• Blends multiple data sources, including EHR and HIE data in one integrated view, with patient matching
• Timely identification and ability to intervene in data quality issues
- Predictive solution for patients with ulcers
- $1M/year savings
- 400% ROI

- Launching Qlik from Cerner for actionable analytics
- Real-time data: Pulling Cerner data into Qlik every 5 minutes - 23 hours

- Predictive integration with R to optimize LOS and reduce readmits
- 3% reduction in HF readmission rates
- 90 patient falls, 12 MDROs, and 25 C. diff infections avoided
- $13.4M in operating expense savings
- 26,000+ IP days decreased
- Bed availability for 5,000+ admissions created
• Public-facing Cancer Research website app
• Built with Qlik Analytics Platform (QAP)

• Research Data Browser
• Allows researchers broad access to de-identified patient and encounter-clinical data.
• Re-identifies PHI data when IRB is approved

• xG Health apps connect to SMART FHIR
• EnrG | Rheum app saves Geisinger ~$1M annually due to better management of biologic medications
## Innovation Examples

<table>
<thead>
<tr>
<th>Jefferson</th>
<th>UW Health</th>
<th>Johns Hopkins Medicine</th>
<th>UNM School of Medicine</th>
<th>Project ECHO</th>
</tr>
</thead>
</table>
| • Innovation & Research Dept  
  • Clinical Trials and Patient Engagement | • Academic Program  
  • All students & professors | • Academic Program  
  • Patient Safety and Analytics graduate course | • Telemedicine and education  
  • Hubs of AMCs and Community Health orgs |
# Innovation Examples

<table>
<thead>
<tr>
<th>Hackathon</th>
<th>Humanitarian Supply Chain</th>
<th>Hackathon</th>
<th>Hackathon</th>
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</thead>
<tbody>
<tr>
<td>Ebola outbreak</td>
<td>Water scarcity</td>
<td>Zika</td>
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**Ebola Outbreak Analysis**

[Medair](https://www.medair.org)
[Direct Relief](https://www.directrelief.org)
[circle of blue](https://www.circleblue.org)
[Cloudera](https://www.cloudera.com)
[UC Irvine](https://www.uci.edu)
[Qlik Healthcare](https://www.qlik.com)
Collaborative developer community for sharing and contributing to 300+ extensions (D3, Python, JS, etc.).

Follows the Open Source philosophy.

http://branch.qlik.com
Let’s see it in action!
The Qlik Academic Program

Current students and professors can enroll today:

qlik.com/us/company/academic-program
Contact: Joe.warbington@qlik.com
Data is everywhere!

From **discovery** through to **treatment**, data is providing Life Science and Healthcare organizations with the insights they need to improve our health and well-being.
Data is **growing** in size and variety

Data from IoT will **dwarf**
Data from Social

**Figure 3. Arc of the IoT**

-Millions of Units-

- **IoT devices generating data**
- **Human-centric devices generating data**

- IoT = Internet of Things

*Source: Gartner (February 2016)*

*Source: Gartner, Why the Internet of Things Will Dwarf Social (Big Data), Michael Patrick Moran, 5 February, 2016*
What are they **doing** with data?

- Using genomics data to inform physicians on care plans and identify drug candidates.
- Evaluating hospital and medical claims data to understand cost of care.
- Using demographic and medical claims data to identify opportunities.
- Using social media, survey and web traffic data to inform the next best action.
- Using RWE for comparative analysis and to negotiate prices with Payers and Suppliers.
- Using machine sensor data to predict issues and optimize care.
- Associating multiple systems of data to ensure quality.
- Associating wearables data to understand drug adherence, determine efficacy, and measures outcomes.
Cultural, System, and Process: the three forces of healthcare change

System change:
- New organizational models and funding designed to incentivize and support improved care. For example: value-based reimbursement, Accountable Care Organizations, integrated practice units, Patient Centered Medical Home

Cultural change:
- Changing roles and responsibilities, effective team work, staff and patient empowerment, greater transparency, and collaboration

Process change:
- Evidence-based redesign of core clinical, business, and other processes. It should incorporate user-centricity, innovation, and an outcomes-based approach.

All require more accurate, granular, and contextual intelligence
Organizations have different **strengths** and weaknesses

- No road to value generation
  - Sophisticated analytics and visualization, but little thought / process given to how the organization can actively extract value from the insights

- Cultural deficit
  - Healthy investment in data infrastructure and analytics technology, but lack of interest from workforce & poor adoption

- Data anarchy
  - Capable leadership with active culture of improvement. Held back by fragmented data environment and limited skills in, and access to, analytics

- Lack of leadership
  - Fragmented analytics environment and unclear strategy with little direction or involvement from clinical and business leaders
The Starting Point: Aligning The Organization And Intelligence Behind Healthcare Goals And Needs…

Data-driven decision-making
- Create a leadership culture of improvement
- Nurture a data-friendly and data adept culture
- Challenge, question, be curious

Business-aligned intelligence
- Evolve from reporting to discovery
- Simplify, standardize, liberate, encourage
- Educate users on the good and bad of data
Conceptual framework for value generation from healthcare analytics

- Core values & capabilities
- Enablers & execution
- Data & information
- Value generation