

Unlocking Potential:

Harnessing Analytics Tools for Federal Health Data



Megan Vaughan-Albert

Traditional government contractors can play a critical role in shaping how health data is harnessed to optimize health outcomes and contain costs. The time is ripe for contractors to engage in healthcare's data-driven revolution.

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I. The promise of health data analytics collides with reality

Data-driven quality improvement is at the heart of the American healthcare system's ongoing information-technology and patient-care transformation. Healthcare data analytics are key to this process. Despite this axiom, health analysts, policy makers, providers, and payers currently spend a majority of their time managing health data rather than solving problems and improving patient care.¹ Data analytics holds plenty of promise to address many of healthcare's thorniest problems, but only if it does not lead to more complications for providers, payers, and patients.

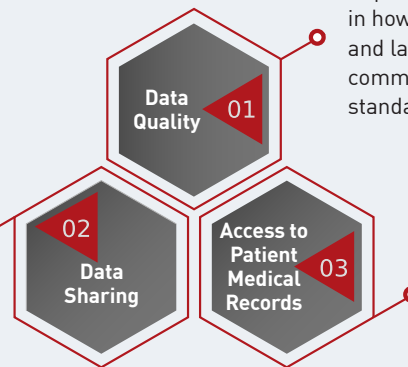
Rising healthcare costs and demographic pressures, increasing EHR adoption, and providers' interest in targeting at-risk patient communities using population health data are driving analytics adoption. Consumers' demand for healthcare quality and transparency given increased cost sharing and the emergence of enabling technologies like social media is creating additional pressure. Payers' movement from a fee-for-service to a value-based care model is another key driver. There is a growing sense of urgency in employing data analytics as the central tool in addressing these challenges, which is reflected in the Department of Health and Human Services (HHS) and Department of Veterans Affairs' (VA's) fiscal year (FY) 2017 Information Technology budget requests. Nearly \$1B of the combined budget request focuses on analytics-enabling processes such as meta data management, data warehouses, and data mining, as well as analytics-driven population health management.

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However, the possibilities of healthcare data-driven innovation are currently bounded by technical and policy limitations. In 2010, the federal government's Health Data Initiative granted public access to significant amounts of government health data with the intention of empowering entrepreneurs, researchers, and policy makers to develop innovations that would lead to better health outcomes.

The initiative's potential remains unrealized, however, owing to persistent stumbling blocks that prevent us from fully leveraging healthcare data analytics:

Private companies and researchers must be incentivized to more widely share silo-ed data across the healthcare community; shared data must be interoperable



Improvements in data standardization in how data is collected, processed, and labeled and universal use of common, federally recognized national standards is still required

Patients and researchers often encounter difficulty gathering comprehensive records, especially when they move across provider or payer networks.²

II. Reaching for real change with federal healthcare analytics

Meaningful examples of health data being used to address social and public challenges abound. For example, CMS is mapping opioid prescription data to show localities and providers that are likely overprescribing; Massachusetts, for instance, has a relatively low level of opioid abuse, but data allowed authorities to identify outliers—one nurse practitioner accounted for almost 50% of opioid prescriptions.³ HHS' Office of Inspector General has used pharmacy-billing data as a key part of its fight against fraud in Medicare Part D, flagging pharmacies with suspicious billing patterns, such as larger-than-average opioid sales or dispensing to patients with four listed prescribers when the national average is two.⁴ CMS' Fraud Prevention System is being used to employ predictive analytics to further prevent inappropriate Medicare billing—the tool prevented or identified \$820 million in improper payments in FY15, representing a \$10 to \$1 return on investment. This marks a significant shift from CMS' previous "pay and chase" model to a data-based prevention approach.⁵

Other evolving areas of interest include connected healthcare and patient monitoring, population health applications, and chronic disease management. Identifying and quantifying geographical demand for services and siting new health facilities and treatment options, tracking the long-term effectiveness of new treatments, reducing readmission rates and geographic disparities, and managing bed availability can all be improved through data analytics methods. These efforts will significantly increase efficiency expectations and accountability of federally administered and private care network operations.

III. Seizing opportunities requires overcoming challenges for industry

Traditional government contractors will play a critical role in shaping how health data is harnessed to optimize health outcomes and contain costs. Currently, there are two general types of solutions in the market: data agnostic tools that pull in disparate datasets to visualize, analyze, and share existing data (e.g., Tableau, ESRI, Socrata), and proprietary data sources and services that can be combined with open source data for actionable insights (e.g., IMS Health, LexisNexis). Both can require third-party integration and analysis.

When systems integrators tackle large IT modernization projects at government customers, it will be critical to:

- ✓ Collaborate on health data standardization efforts
- ✓ Ensure that data contained within target systems are discoverable, comprehensible for users at varying sophistication levels, and rapidly shareable
- ✓ Build standardized data warehouses
- ✓ Develop IT frameworks that are not dependent on the implementation contractor
- ✓ Incorporate identity management tools that ensure patient privacy, protect personally identifiable information, and grant appropriate access given applicable legal frameworks.

Ongoing cyber vulnerabilities and recent government breaches add another layer of complexity to this process. Demonstrating an understanding of these dynamics in technical bid proposals can help provide a competitive edge over competitors with limited understanding of customer bureaucracy and legal restrictions.

A number of established government contractors have developed their own internal analytics offerings that can pull disparate data sets from within government organizations and make them searchable, understandable, and sharable. Others may still be looking for specialized partners to help differentiate their offerings. Finding commercial partners that can better manage large datasets by utilizing software frameworks such as Hadoop or Spark, exploit progressing machine learning or cognitive computing technologies to enable predictive analytics, or better visualize data will strengthen a contractor's technical proposals.

Customer understanding of these technologies remains at a nascent stage, necessitating dedicated direct education and marketing efforts. Traditional federal health contractors can use existing relationships with key customers at CMS, the Centers for Disease Control and Prevention, the Food and Drug Administration, the VA, and others to initiate these conversations. Government customers are exploring the idea of harnessing their data for new uses, but cultural and legal barriers remain that commercially-focused technology firms may not understand. This is where government contractors with deep customer and mission systems familiarity can articulate the power of data analytics in language that will hasten

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Approaching Government Analytics Customers

Seizing opportunities at key government customers will require strategic dialogue with federal regulators and influential stakeholders as well as dedicated end customer outreach to shape demand.

REGULATORS / INFLUENCERS	END CUSTOMER BUYERS
<p>APPROACH</p> <ul style="list-style-type: none"> Engage in high level dialogue engagement, standards development, and technology demonstrations to influence requirements 	<p>Refine end customer understanding through stakeholder outreach to improve proposal and contract pursuit</p>
<p>KEY OFFICES</p>	
<ul style="list-style-type: none"> Department of Health and Human Services (HHS) <ul style="list-style-type: none"> Office of the National Coordinator for Health IT (ONC) Office of the Secretary Office of Inspector General Office of Care Transformation Ideas Lab Agency for Healthcare Research and Quality (AHRQ) Centers for Medicare and Medicaid Services (CMS) <ul style="list-style-type: none"> Center for Consumer Information and Insurance Oversight Qualified Entity Medicare Data Sharing Program Information Products Group Innovation Center Centers for Disease Control and Prevention (CDC) <ul style="list-style-type: none"> National Center for Health Statistics 	<ul style="list-style-type: none"> Centers for Medicare and Medicaid Services (CMS) <ul style="list-style-type: none"> Office of Enterprise Data and Analytics Center for Program Integrity Centers for Disease Control and Prevention (CDC) Food and Drug Administration (FDA) National Institutes of Health (NIH) Veterans Affairs (VA) <ul style="list-style-type: none"> Financial Service Center

customers to act. At the same time, many contract opportunities are likely to be relatively small when compared with larger systems integration programs of record, and will require intensive, proactive shaping. Therefore, contractors need to develop consistent but scalable campaigns that can be employed efficiently in a variety of situations.

IV. Moving beyond data management

The time is ripe to refine how existing customers harness the power of the petabytes of data held by government agencies. As commercial competitors continue to innovate, systems integrators and other established government contractors will need to keep up, either through their own differentiated offerings or partnerships with advanced technology providers. Companies that are willing to start dialogues with key stakeholders about data analytics will be among the best positioned for future opportunities at top health customers. Managing data is not the challenge ahead; rather, it is ensuring that health data is best leveraged to address some of healthcare's biggest dilemmas.

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Endnotes

- 1 <https://www.healthcatalyst.com/healthcare-analytics-best-practices>
- 2 Jessie Bur, "Biden Calls on Big Data for Cancer Moon Shot," *Meritalk*, May 9, 2016: <https://www.meritalk.com/articles/biden-calls-on-big-data-for-cancer-moon-shot/>.
- 3 Jessie Bur, "Big Data Could Help Cure the Opioid Addiction Epidemic," *Meritalk*, May 9, 2016: <https://www.meritalk.com/articles/big-data-could-help-cure-the-opioid-addiction-epidemic/>.
- 4 Ibid.
- 5 <http://www.hhs.gov/sites/default/files/fy2017-budget-in-brief.pdf>, p. 86.

About the Author

Megan Vaughan-Albert is a Consultant at Avascent, where she focuses on organic and inorganic growth strategy engagements for clients in government-driven markets. Over the course of 40+ engagements, Megan has supported first- and second-tier defense firms, private equity clients, and commercially-oriented firms seeking to better understand the federal opportunity space. Megan's subject matter interest primarily includes analytics/big data, geospatial imagery, healthcare technology, cybersecurity, intelligence, and mobility. Megan has functional experience in M&A strategy and due diligence, tactical capture support, adjacent go-to-market strategy development, and market and competitive analysis.

Prior to joining Avascent, Megan worked in international development, which included consulting work for TechnoServe, Innovations for Poverty Action, and the US Treasury Department. She was also an Associate Coordinator for the Center for Teaching and Learning in Shenzhen, China. Megan holds an MA in International Economics and Development from the Johns Hopkins School of Advanced International Studies (SAIS), an MA (with Distinction) in Economic Geography and China Development Studies from the University of Hong Kong, and is a graduate, Summa Cum Laude, from the University of Mary Washington. For more information, contact: mvaughan-albert@avascent.com.

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