

“Big Data” Impact on Healthcare Regulation and Reimbursement

The first two installments of this four part HC Topics Series: “*Big Data*” discussed the history and evolution of big data in healthcare, and the implications of big data for healthcare privacy and accountability rules within the context of the Healthcare Insurance Portability and Accountability Act (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH). The current installment will examine the use of, and opportunities for, the use of big data in the healthcare regulatory and reimbursement environment, including federal data initiatives, and use within the context of healthcare reform.

“*Big data*” has been successfully utilized in many industries to improve efficiency and quality of processes and work. The Obama administration also jumped on the “big data bandwagon”, announcing the funding of the Big Data Research and Development Initiative in partnership with six federal programs in March 2012, funded with over \$200 million federal dollars with aims to develop technology needed for big data and adapt them for use in various industries, as well as increasing the workforce with appropriate training to continue developing and utilizing big data.¹ In addition, as part of the U.S. National Action Plan, published in September 2011, the U.S. government made big data of its own available for public consumption, including public access to over 390,000 agency data sets on various industries, publicizing compliance data by federal enforcement agencies, and creating data communities for various sectors of American industry to promote innovation, among other uses.²

In comparison to these other industries, the healthcare delivery system has been relatively slow to utilize big data to their benefit. In 2010, the Institute of Medicine (IOM) and the U.S. Department of Health and Human Services (HHS) initiated *The Health Data Initiative (HDI)*, fka the Community Health Data Initiative, with the purpose of making more health data available and user-friendly so it may be employed to better guide efforts in disease prevention, improving and measuring healthcare quality and outcomes.³ Stakeholders of this initiative have gathered each year since the project’s inception to revise, expand, and, facilitate the continued application of big data for healthcare, with the goal of disseminating applications driven by big data that will assist healthcare consumers, providers, and other stakeholders in “*health assessment, planning, and action*”.⁴ The data gathered by this initiative is available

at HealthData.gov, which was launched by the initiative in February 2013.⁵

Under the influence of healthcare reform, the healthcare regulatory and reimbursement environments have undergone, and will continue to experience, a multitude of changes. This includes increasing resources dedicated to the detection and prosecution of healthcare fraud and abuse, as well as the implementation of hospital value-based purchasing (VBP) programs and integration of various evaluation metrics into reimbursement determination. Many of these changes under healthcare reform have required the harnessing of big data and stakeholders are struggling to analyze the vast amount of information that has rapidly flooded the healthcare delivery system with advancing technology and electronic use in the delivery of care. With the advent of hospital VBP, the Centers for Medicare and Medicaid services (CMS) and the Health Services Advisory Group recently announced a partnership with GNS Healthcare to use a big data analytics platform; this platform and cloud-based “supercomputing” will analyze the vast amount of data encompassed by VBP and outcome indicators to determine whether the chosen quality indicators have any causal relationship with improved patient outcomes.⁶ This application could be useful in determining evidenced-based quality and clinical practice improvement metrics that will impact the newly proposed physician reimbursement incentive program.⁷

In the regulatory realm, there is vast potential for big data utility. It has been estimated that only three to five percent of all healthcare fraud is actually detected; big data analytic techniques can be used to create predictive models of common fraudulent scenarios, useful both for identifying fraud more quickly and informing policy to help engineer better high level barriers to prevent system abuse.⁸ In 2011, CMS had already begun constructing several algorithms with the intent of targeting providers at high risk for defrauding Medicare.⁹ Despite this progress, there are many other areas for which big data would be useful in enhancing current regulatory and auditing programs, e.g., improving the Recovery Audit Contractors (RAC) program to prevent claims-based fraud; preventing over-utilization of medical services; or, preventing fraudulent enrollment in Medicare.¹⁰

The opportunities for the utility of big data in healthcare regulatory and reimbursement markets are virtually limitless. With the continuing digitization of healthcare and advancing technology, it is likely that big data analytics will also become more important, not only for the enhancement of regulatory projects and evaluation of reimbursement programs and metrics, but in several levels of healthcare delivery, from informing high level policy-makers, to daily use by providers and consumers. The last installment of this series of articles on big data will explore the potential impact of big data on healthcare stakeholders and the delivery of patient care.

¹ “Obama Administration Unveils ‘Big Data’ Initiative: Announces \$200 Million in New R&D Investments”, Executive Office of the President, March 29, 2012, p. 1

² “The Open Government Partnership: National Action Plan for the United States of America”, The White House, September 20, 2011, p. 2

³ “Health Data Initiative”, The U.S. Department of Health and Human Services”, www.hhs.gov/open/initiatives/hdi/index.html (Accessed July 25, 2013)

⁴ “The Health Data Initiative: Activity Description”, Institute of Medicine, www.iom.edu/Activities/PublicHealth/HealthData.aspx (Accessed July 25, 2013)

⁵ “Unleashing the Power of Data and Innovation to Improve Health”, managed by the U.S. Department of Health and Human Services, www.healthdata.gov/unleashing-power-data-and-innovation-improve-health (Accessed July 25, 2013)

⁶ “GNS Applying Big Data Analytics with CMS and HSAG to Assess Impact of Healthcare Reform Quality Measures”, GNS Healthcare, April 18, 2013, <http://www.gnshealthcare.com/news-and-events/gns-applying-big-data-analytics-with-cms-and-hsag-to-assess-impact-of-healthcare-reform-quality-measures/> (Accessed July 25, 2013)

⁷ “Reforming SGR: Prioritizing Quality in a Modernized Physician Payment System”, Energy and Commerce Committee, July 22, 2013, <http://energycommerce.house.gov/fact-sheet/reforming-sgr-prioritizing-quality-modernized-physician-payment-system> (Accessed July 25, 2013)

⁸ “Top 9 Fraud and Abuse Areas Big Data Tools Can Target”, by Roger Foster, Government Health IT, www.govhealthit.com/print/14796 (Accessed July 25, 2013)

⁹ *Ibid*

¹⁰ *Ibid*; “Transforming Health Care Through Big Data: Strategies for Leveraging Big Data in the Health Care Industry”, Institute for Health Technology Transformation, 2013, p. 7



(800) FYI - VALU

*Providing Solutions
in the Era of
Healthcare Reform*

Founded in 1993, HCC is a
nationally recognized healthcare
economic financial consulting firm

- [HCC Home](#)
- [Firm Profile](#)
- [HCC Services](#)
- [HCC Experts](#)
- [Clients Projects](#)
- [HCC News](#)
- [Upcoming Events](#)
- [Contact Us](#)
- [Email Us](#)

HEALTH CAPITAL

CONSULTANTS (HCC) is an established, nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, Missouri, with regional personnel nationwide. Founded in 1993, HCC has served clients in over 45 states, in providing services including: valuation in all healthcare sectors; financial analysis, including the development of forecasts, budgets and income distribution plans; healthcare provider related intermediary services, including integration, affiliation, acquisition and divestiture; Certificate of Need (CON) and regulatory consulting; litigation support and expert witness services; and, industry research services for healthcare providers and their advisors. HCC's accredited professionals are supported by an experienced research and library support staff to maintain a thorough and extensive knowledge of the healthcare reimbursement, regulatory, technological and competitive environment.



Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, serves as Chief Executive Officer of **HEALTH CAPITAL CONSULTANTS (HCC)**, a nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, MO, serving clients in 49 states since 1993. Mr. Cimasi has over thirty years of experience in serving clients, with a professional focus on the financial and economic aspects of healthcare service sector entities including: valuation consulting and capital formation services; healthcare industry transactions including joint ventures, mergers, acquisitions, and divestitures; litigation support & expert testimony; and, certificate-of-need and other regulatory and policy planning consulting.

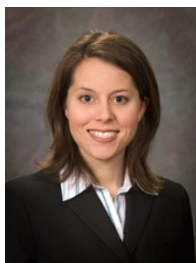
Mr. Cimasi holds a Masters in Health Administration from the University of Maryland, as well as several professional designations: Accredited Senior Appraiser (ASA – American Society of Appraisers); Fellow Royal Intuition of Chartered Surveyors (FRICS – Royal Institute of Chartered Surveyors); Master Certified Business Appraiser (MCBA – Institute of Business Appraisers); Accredited Valuation Analyst (AVA – National Association of Certified Valuators and Analysts); and, Certified Merger & Acquisition Advisor (CM&AA – Alliance of Merger & Acquisition Advisors). He has served as an expert witness on cases in numerous courts, and has provided testimony before federal and state legislative committees. He is a nationally known speaker on healthcare industry topics, the author of several books, the latest of which include: *“Accountable Care Organizations: Value Metrics and Capital Formation”* [2013 - Taylor & Francis, a division of CRC Press], *“The Adviser’s Guide to Healthcare”* – Vols. I, II & III [2010 – AICPA], and *“The U.S. Healthcare Certificate of Need Sourcebook”* [2005 - Beard Books]. His most recent book, entitled *“Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services”* will be published by John Wiley & Sons in the Fall of 2013.

Mr. Cimasi is the author of numerous additional chapters in anthologies; books, and legal treatises; published articles in peer reviewed and industry trade journals; research papers and case studies; and, is often quoted by healthcare industry press. In 2006, Mr. Cimasi was honored with the prestigious *“Shannon Pratt Award in Business Valuation”* conferred by the Institute of Business Appraisers. Mr. Cimasi serves on the Editorial Board of the Business Appraisals Practice of the Institute of Business Appraisers, of which he is a member of the College of Fellows. In 2011, he was named a Fellow of the Royal Institution of Chartered Surveyors (RICS).



Todd A. Zigrang, MBA, MHA, ASA, FACHE, is the President of **HEALTH CAPITAL CONSULTANTS (HCC)**, where he focuses on the areas valuation and financial analysis for hospitals and other healthcare enterprises. Mr. Zigrang has significant physician integration and financial analysis experience, and has participated in the development of a physician-owned multi-specialty MSO and networks involving a wide range of specialties; physician-owned hospitals, as well as several limited liability companies for the purpose of acquiring acute care and specialty hospitals, ASCs and other ancillary facilities; participated in the evaluation and negotiation of managed care contracts, performed and assisted in the valuation of various healthcare entities and related litigation support engagements; created pro-forma financials; written business plans; conducted a range of industry research; completed due diligence practice analysis; overseen the selection process for vendors, contractors, and architects; and, worked on the arrangement of financing.

Mr. Zigrang holds a Master of Science in Health Administration and a Masters in Business Administration from the University of Missouri at Columbia. He is a Fellow of the American College of Healthcare Executives, and serves as President of the St. Louis Chapter of the American Society of Appraisers (ASA). He has co-authored *“Research and Financial Benchmarking in the Healthcare Industry”* (STP Financial Management) and *“Healthcare Industry Research and its Application in Financial Consulting”* (Aspen Publishers). He has additionally taught before the Institute of Business Appraisers and CPA Leadership Institute, and has presented healthcare industry valuation related research papers before the Healthcare Financial Management Association; the National CPA Health Care Adviser’s Association; Association for Corporate Growth; Infocast Executive Education Series; the St. Louis Business Valuation Roundtable; and, Physician Hospitals of America.



Anne P. Sharamitaro, Esq., is the Executive Vice President & General Counsel of **HEALTH CAPITAL CONSULTANTS (HCC)**, where she focuses on the areas of Certificate of Need (CON); regulatory compliance, managed care, and antitrust consulting. Ms. Sharamitaro is a member of the Missouri Bar and holds a J.D. and Health Law Certificate from Saint Louis University School of Law, where she served as an editor for the Journal of Health Law, published by the American Health Lawyers Association. Ms. Sharamitaro has presented healthcare industry related research papers before Physician Hospitals of America and the National Association of Certified Valuation Analysts and co-authored chapters in *“Healthcare Organizations: Financial Management Strategies,”* published in 2008.