

## Measuring the Real Impact of Clinical Documentation Improvement On Value-based Reimbursement

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## TABLE OF CONTENTS

1. Executive Summary
2. The Emergence of Value-based Healthcare Models
3. Market Dynamics Driving Participation in Value-based Models
4. Proving, Improving and Measuring Quality in Value-based Care
5. Incomplete or Inaccurate Patient Charts Compromise Value-based Reimbursement
6. CareChex®: A More Reliable Measure of Quality
7. Transparency of Quality Accelerates Value-based Contracting Models
8. Recommendations and Call-to-Action



The U.S. healthcare industry is rapidly evolving toward a new value-based business model that rewards quality care at the lowest possible cost, while penalizing providers for care that is inefficient, of poor quality, or not safe. In this new environment, the delivery of quality care is a continuous challenge, particularly with changing rules and expectations in terms of how to document, measure and follow best practices in care.

**As public and private payers begin to link payments to quality, outcomes and costs, physicians and hospitals must prove that they are meeting or exceeding quality standards, achieving better clinical outcomes and controlling costs. In this value-based healthcare economy, accurate clinical documentation and a reliable method for measuring quality care become even more necessary.**

## **Study Confirms Value of Clinically-focused Clinical Documentation Improvement**




A study conducted in 2015 by [Nuance Communications, Inc.](#) and [Quantros, Inc.](#) evaluated the quality performance of hospitals using the Nuance Clinical Documentation Improvement (CDI) program against other hospitals. Results show that hospitals with a clinically-focused Clinical Documentation Improvement (CDI) program consistently outperform benchmarks for Hospital Care Quality standards by more than 2 times the national average.

### **Methodology**

More than 300 hospitals were included in the measurement during the full federal fiscal year from 2011 to 2014 looking at quality ratings as represented in the [Quantros CareChex®](#) national database -- an innovative medical quality rating system designed to assist providers and purchasers in evaluating the quality of inpatient care. This was done using pre- and post-implementation outcomes for overall Mortality, Inpatient Quality Indicators from AHRQ, and Expected Mortality. Additionally to review for bias the pre-implementation overall quality rating was measured for FFY 12, 13, and 14. The CareChex® Quality Rating System was developed by Comparion Medical Analytics, recently acquired by Quantros.

## Study Findings

The study showed that hospitals using Nuance's CDI program outperformed other peer hospitals at greater rates in quality overall and specific categories where clinical documentation improvement programs could make the greatest impact including:

-  93 percent of Nuance clients are in the top 50 percent of CareChex quality ratings of U.S. hospitals, and exceeded national benchmarks for inpatient mortality outcomes measures.
-  36 percent of Nuance CDI clients are in the top 10 percent of hospitals in the nation according to quality ratings.
-  Hospitals that deploy Nuance's CDI program see significant improvement in quality ratings post implementation, including up to two times improvement on mortality ratings, and up to seven times improvement on expected mortality ratings.

## THE EMERGENCE OF VALUE-BASED HEALTHCARE MODELS

The U.S. healthcare industry is rapidly evolving toward a new value-based business model that rewards providing quality care at the lowest possible cost and which penalizes providers for care that is inefficient, of poor quality, or not safe.

In value-based healthcare models, payments and reimbursement are inextricably linked to patient outcomes tied to an episode of care, a disease state, or an entire patient population.

To optimize their clinical and financial performance in value-based care models, physicians and hospitals must **prove** that they are meeting or exceeding quality standards, achieving better clinical outcomes and controlling costs. Beyond the growing influence on the revenue cycle and impacts on market share for hospitals and health systems, accuracy of source data and stronger transparency in clinical documentation are essential for **proving** quality to external stakeholders, **sustaining** high quality and **advancing** performance improvement in emerging value-based healthcare models.

With financial pressures growing and the focus on quality outcomes, alternatives to traditional fee-for-service (FFS) reimbursement are gaining in popularity. With this focus on cost-effective, efficient and quality services, new payment methods such as bundled payments, patient-centered medical homes, centers of excellence, employer sponsored narrow networks and Accountable Care Organizations (ACO) are becoming more prevalent. These models of care emphasize elimination of wasteful spending, better health information management and improved clinical outcomes.

Various types of alternative payment and innovation models are changing how the government, commercial risk-bearers, plan sponsors and consumers contract and pay for healthcare services that are delivered across the continuum of care:



Source: Centers for Medicare and Medicaid Services

One of the key drivers of the industry's transformation to value-based care is the mandate from Health and Human Services (HHS) tying thirty percent of traditional Medicare payments to quality or value by the end of 2016, and fifty percent in 2018.

- **The Hospital Value-Based Purchasing Program (VBP)** changes how the Centers for Medicare and Medicaid Services (CMS) make value-based incentive payments to acute care hospitals, based either on how well the hospitals perform or improve on certain quality measures from their performance during a baseline period. In VBP, the higher a hospital's performance or improvement during the performance period for a fiscal year, the higher the hospital's value-based incentive payment for the fiscal year would be.

- **Bundled Payments:** In these models, single payments are rendered to providers for all services rendered for a specific condition or procedure on a prospective or retrospective basis. All of the providers that participate in a patient's "episode" of care assume financial risk for the cost of services related to the index condition or procedure, and the costs associated with preventable complications.
  - As of April 1, 2016, the Bundled Payments for Care Improvement initiative (BPCI) has 1522 participants in Phase 2 comprised of 321 Awardees and 1201 Episode Initiators<sup>1</sup>.
  - Although bundled payments models are mostly voluntary, as of January 1, 2016, CMS began requiring mandatory participation in the Comprehensive Care for Joint Replacement (CCJR) bundled payment model.
- **Pay-for-Performance Models:** In these models, payers link a portion of a provider's revenue to certain performance criteria. Physicians and hospitals can earn a bonus or an increase in future earnings based on their performance on quality measures but can also be penalized for not meeting the criteria for such quality measures.

Emerging value-based payment and reimbursement models require comprehensive approaches for tracking and measuring the quality of care. Model design ranges from a narrow focus on specific care interventions, episodes of care and adverse events to strategies for evaluating the full impact of care on patients and costs



For hospitals and health systems, value-based payment and reimbursement models raise the stakes for demonstrating and achieving sustainable quality improvement. At the intersection of quality improvement and reimbursement lies clinical documentation improvement (CDI) and composite quality measurement. When converged in practice, these provide a more accurate reflection of quality, and therefore value, and are the impetus for looking beyond Case Mix Index (CMI) as the sole arbiter for measuring the impact of CDI.

Traditionally, the market has been conditioned to assume that gains in coding improvement are manifested solely in CMI, which is commonly used by hospital chief financial officers, executives and legal departments in assessing financial performance. However, as the market moves towards value-based care models, CMI provides too narrow of a performance measure to be the predominant assessment of CDI success.

**As CMI only reflects the increase in a higher relative weight, based on the presence of a CC or MCC in the CMS MS-DRG taxonomy, it lacks visibility into dimensions of quality and safety performance required for these emerging reimbursement models. Therefore, it cannot provide a relevant assessment with how care is currently being delivered with a vision to how providers will be reimbursed in the future, i.e. admissions, mortality, patient safety outcomes, and so on. Providers require better direction in quality and safety outcomes for the emerging models of value-based purchasing.**

Quality outcomes metrics for reimbursement are already being tied to more refined measures of performance dependent upon more comprehensive documentation and coding than what drives MS-DRGs or severity of illness.



CareChex® provides a multi-dimensional, integrated, analysis of risk adjusted provider quality across 38 clinical categories. Unlike other publicly available provider assessment approaches, CareChex® provides a composite evaluation of all components of medical quality, including process of care, outcomes of care and patient experiences -- consolidating multiple quality measures into a single percentile score at both the state and national level to assess hospital and physician performance.

**By comparing actual and expected rates of mortality, complications, readmissions and patient safety events, CareChex® risk-adjustment method enables providers to identify both favorable and adverse outcomes performance.**

## A Closer Look at the CareChex Methodology

CareChex® incorporates seven peer-reviewed methodologies that address key components of the quality of inpatient care, and encompasses quality measures that have been adopted by the Hospital Quality Alliance (HQA) and AHRQ for public reporting. Patient level binary logistic regression as a more precise way to assess quality performance.

**CareChex® risk adjustment models are uniquely sensitive to improvements in documentation given the independent variables used in the regression models, providing the truest picture of how coding document improvements impact the quality, risk, reimbursement and performance profile.**

State Scorecard - Composite Quality Rating

Hospital	Rating	Score	State Rank
Regional Medical Center	✓++	97.1	2
St. Luke's Medical Center	✓	44.4	71
Methodist Hospital	✓	65.4	52
Suburban Medical Center	✓-	13.9	88
General Hospital	✓	57.5	63
Doctor's Hospital	✓--	6.7	9

✓++ ≥ 90 <sup>th</sup> Percentile	✓ 26 <sup>th</sup> - 74 <sup>th</sup> Percentile	✓- 11 <sup>th</sup> - 25 <sup>th</sup> Percentile
✓ 75 <sup>th</sup> - 89 <sup>th</sup> Percentile	-- No Data / Not Eligible	✓-- ≤ 10 <sup>th</sup> Percentile

### Clinical Category: Overall Hospital Care

The state scorecard above indicates Regional Medical Center's clinical quality rating for "Overall Hospital Care" is among the best in the state (✓++). Their percentile score of 97.1 places them in the top 5% of hospitals and ranks them 2nd in the state. Additionally, further analysis identified Regional's quality performance in Orthopedic Care to be the best in the nation. Regional's superior quality ratings provide them with the opportunity to promote their medical excellence to consumers, payers, and employers using Comparison's Media CareKit™.



# A MORE RELIABLE MEASURE OF QUALITY

Cardiac care, joint replacement and bariatric surgery, for example, are discrete clinical categories comprised of multiple diagnosis and procedure codes. Comprehensive documentation of the patient's attributes are required for precise risk adjustment and accurate outcomes measurement across providers.

CareChex® uniquely considers all indicators measurable for specific clinical categories to insure relevance in quality assessment. This insures that overall level outcomes are not imputed for specific clinical areas misinforming stakeholders about performance.

All measurement in CareChex® is based on discharge data and not self-reported by providers via surveys or perceived reputation. This enables consumer, plan sponsors and payers to gain insights into healthcare quality from a clinical point of view to answer such questions as:

- Is brand equity reflective of higher quality care?
- Or, is high utilization driving cost without demonstrating better quality outcomes?

**CareChex® Composite Scores and Quality Ratings™** rely on both public and proprietary measures of performance when comparing the quality of hospital and physician care to national and state standards using a variety of clinical indicators. Specifically these include risk-adjusted indices of mortality, complications, unanticipated readmissions, AHRQ patient safety events, and AHRQ inpatient quality indicators, as well as The Joint Commission process of care indicators and Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient satisfaction scores.

National Scorecard - Composite Quality Rating

PHYSICIAN	COMPOSITE QUALITY			CATEGORY SUMMARY				
	RATING	SCORE	PEER RANK	MORTALITY OVERALL	COMPLICATIONS OVERALL	READMISSIONS OVERALL	INPATIENT QUALITY	PATIENT SAFETY
000349	✓	61.4	14	✓++	✓++	✓--	✓++	✓
000917	✓++	93.2	2	✓++	✓+	✓++	✓++	✓++
000475	✓	89.3	5	✓	✓	✓++	✓	✓
000867	✓	85.3	8	✓++	✓++	✓	✓	✓++
000681	✓	82.1	12	✓	✓	✓	✓	✓
000327	✓-	16.2	16	✓-	✓++	✓	✓-	✓
000667	✓	84.0	11	✓	✓	✓	✓	✓
000199	✓--	8.5	19	✓	✓++	✓--	✓	✓
000572	✓	55.2	15	✓	✓	✓	✓	✓
000453	✓++	97.8	1	✓++	✓++	✓	✓++	✓++

LEGEND:

- ✓++ ≥ 90<sup>th</sup> Percentile
- ✓+ 75<sup>th</sup> - 89<sup>th</sup> Percentile
- ✓ 26<sup>th</sup> - 74<sup>th</sup> Percentile
- No Data / Not Eligible
- ✓- 11<sup>th</sup> - 25<sup>th</sup> Percentile
- ✓-- ≤ 10<sup>th</sup> Percentile

**Clinical Category: Stroke Care**

The national scorecard above indicates that MD 000917's and MD 000453's composite quality ratings for stroke care are in the top 10% nationally (✓++). The scorecard further identifies how physicians perform on the specific sub-components of quality such as mortality, complications, unanticipated readmissions, inpatient quality, and patient safety which affect their overall composite performance.

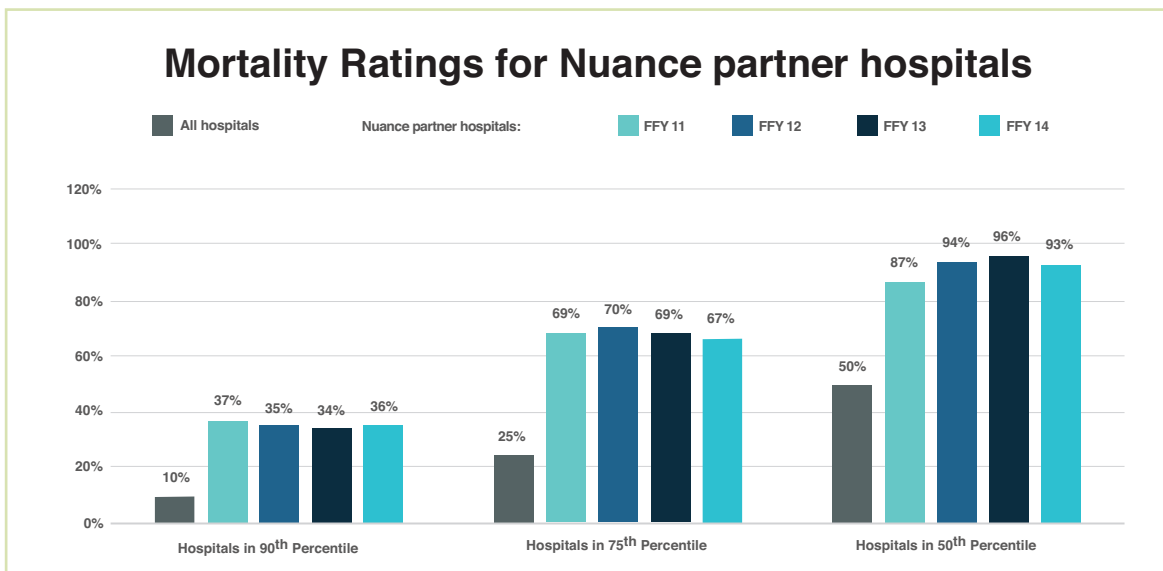
# INCOMPLETE OR INACCURATE PATIENT CHARTS COMPROMISE VALUE-BASED REIMBURSEMENT

A recent CDI Quality Impact study conducted in 2015 by Nuance and Quantros proves that every correction in clinical documentation provides a more accurate view of patient severity, intensity, complexity and risk while also improving revenue.

Using Quantros' CareChex® quality rating methodology, the Quality Impact study evaluated the Overall Mortality Ranking Performance of 300 hospitals with an active Nuance CDI program for the full federal fiscal year from 2011 to 2014.

The study specifically focused on mortality ratings which demonstrate the influence of proper identification of a patient's principal diagnosis and patient severity changes in clinical documentation on key quality and performance ratings.

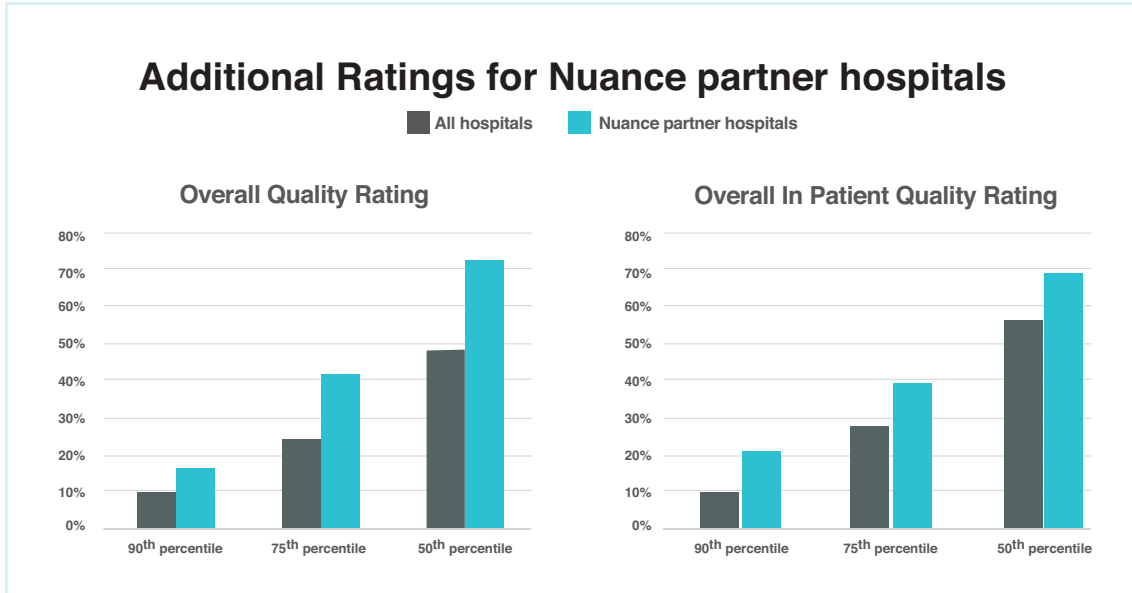
**CareChex® uniquely considers all indicators measurable for specific clinical categories to insure relevance in quality assesment. This ensures that overall level outcomes are not inmuted for specific clinical areas misinforming stakeholders about performance.**



As evidenced in the study findings, Nuance CDI clients outperformed the expected distribution of the CareChex database at all percentile levels in Overall Mortality ratings.

# INCOMPLETE OR INACCURATE PATIENT CHARTS COMPROMISE VALUE-BASED REIMBURSEMENT

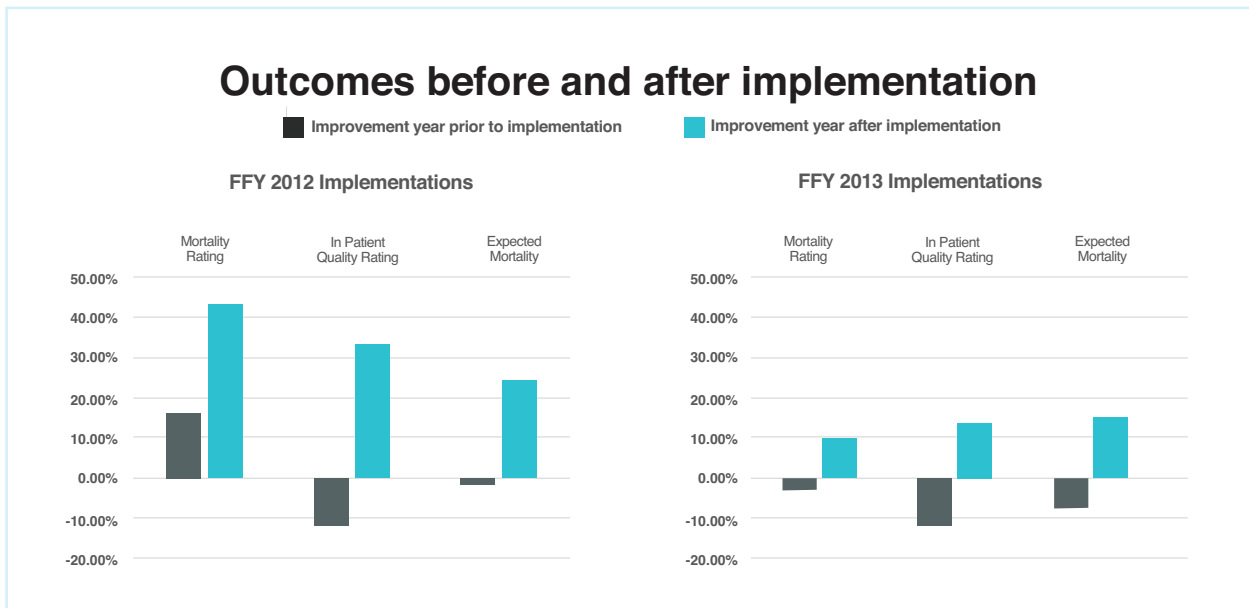
The CDI Quality Impact study also revealed Nuance CDI clients outperform the expected distribution of the CareChex database in all percentiles for Overall Quality, Overall Mortality and Overall Inpatient Quality.



According to the 2015 CDI Quality Impact study, on average, hospitals that deploy Nuance’s CDI program see significant improvement in quality ratings post implementation, including up to two times improvement on mortality ratings, and up to seven times improvement on expected mortality ratings. These improvements are significant considering 80% of hospitals in the nation already have some form of CDI program in place.

**Pre-and post-implementation outcomes for Overall Mortality, Inpatient Quality Indicators from AHRQ, and Expected Mortality reveal that significant improvements were achieved in these critical measures of quality.**

# INCOMPLETE OR INACCURATE PATIENT CHARTS COMPROMISE VALUE-BASED REIMBURSEMENT



**The physician's role in accurately documenting the patient story is critical, particularly as the adoption of value-based models continues to scale in the increasingly value-based marketplace.**

Collaboration between the clinical CDI team, physicians and professional coders creates the strongest, most precise and accurate final coding through clinical validation by the RN CDI specialists and collaborative DRG reconciliation. Coding accuracy and the implementation of clinically-focused clinical documentation improvement from the start is critical as outcomes become more visible and directly impact reputations, market share and hospital finances.

**Furthermore, accurate data enables hospitals to perform better against peer organizations on hospital rankings, which are essential in an age when patients can easily access hospital and physician performance online and choose providers based on ratings and rankings.**

## TRANSPARENCY OF QUALITY ACCELERATES VALUE-BASED CONTRACTING MODELS

In the wake of the Affordable Care Act, most employers are projecting a 6 percent increase in their benefits costs in 2016—a full percentage point higher than general inflation. Although the recent federal appropriations bill pushed back implementation of the “Cadillac Tax” on higher-priced benefit plans until at least 2020, the excise tax could affect as many as 50 percent of large employers’ most popular benefit plans by that date. Projections indicate the tax could shave about half a percentage point per year off of corporate profits— an estimated \$10.9 billion per year over the next decade<sup>2</sup>.

### **Transparency Enables Narrow Networks and Informs Direct Contracting**

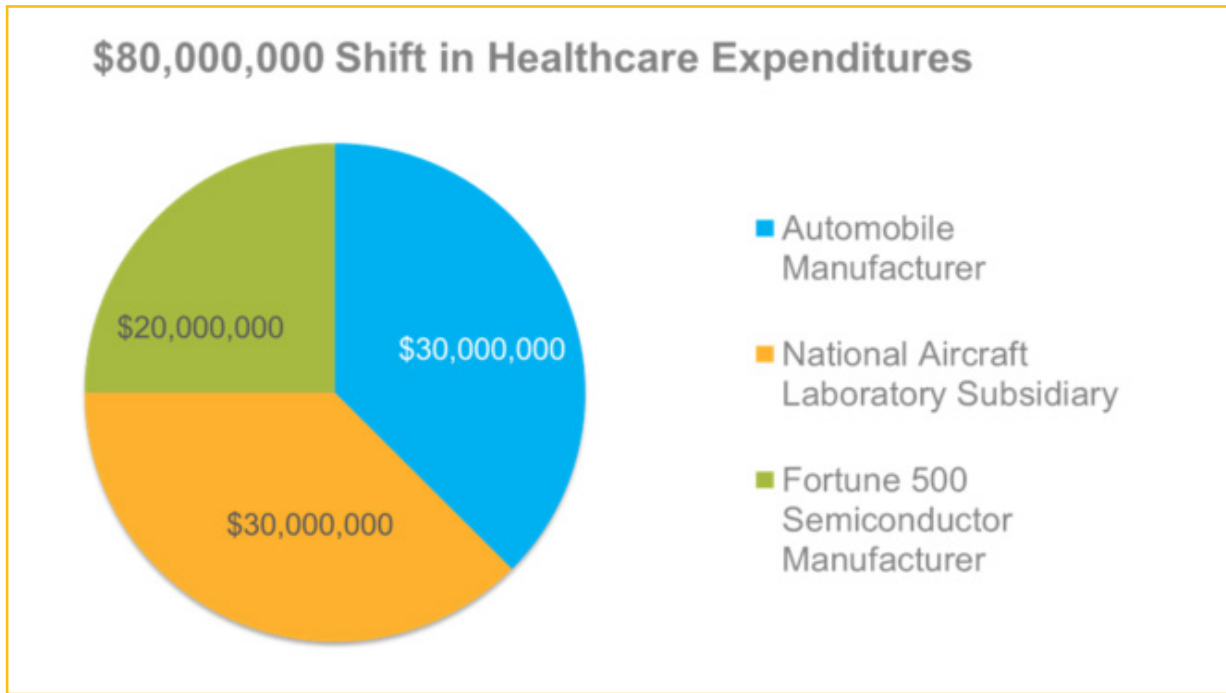
Increased transparency and comprehensiveness in quality performance assessment are enabling plan sponsors and commercial payers to establish narrow networks that include only those providers who are perceived as “high value” and offer a high quality of care at reduced costs.

In addition, several of the nation’s largest employers are leveraging their purchasing power and executing direct contracting agreements with healthcare providers through a center of excellence strategy in order to lower costs and provide the highest quality medical care for their employees.

Under the direct-contracting model, employers with a concentrated workforce hope to institute a more efficient and effective approach that ensures employees have a high-quality healthcare experience, where optimal personal health and behavior is expected, supported, and rewarded. Compensation for providers is tied to value with the aim of reducing overall costs while improving the quality of care and the overall healthcare experience.

Through its collaboration with value-based purchasing partners over the past 12-18 months, Quantros has supported a shift of \$80 million in healthcare-related expenditures to high-quality CareChex® hospitals.

# TRANSPARENCY OF QUALITY ACCELERATES VALUE-BASED CONTRACTING MODELS



For all stakeholders participating in value-based care models and sharing risk, advancements in sophisticated quality data analysis is necessary in order to identify and measure providers with best practices, achieve better outcomes, and to establish efficient cost controls.

**Data for tracking patient experiences, measuring satisfaction levels and improving services is necessary for measuring and monitoring service quality.**

Business-oriented Use Cases for Clinical Documentation Improvement	Value-based Insights and Benefits
<ul style="list-style-type: none"><li>Narrow Network Design</li><li>Provider Credentialing and Selection</li></ul>	<ul style="list-style-type: none"><li>Claims, prescription and clinical data in clinically adjusted episodes of care to identify physicians who tend to order more tests, prescribe more brand-name drugs, or use more expensive services to treat their patients.</li><li>This is paired with quality outcomes data to identify and select the optimal providers for the network.</li></ul>

# TRANSPARENCY OF QUALITY ACCELERATES VALUE-BASED CONTRACTING MODELS

Business-oriented Use Cases for Clinical Documentation Improvement	Value-based Insights and Benefits
<ul style="list-style-type: none"> <li>Population-based Risk Adjustment</li> <li>Optimizing Incentives</li> </ul>	<ul style="list-style-type: none"> <li>Ensure providers capture all the relevant secondary diagnosis codes in all care delivery settings to prevent underreporting the illness burden of patients, and to more accurately predict the potential resources consumed for the coming plan year.</li> </ul> <div style="background-color: #92d050; padding: 10px; text-align: center;"> <p><b>*This need becomes paramount as more lives are managed in risk-based incentive models compounding the impact of deficient coding.</b></p> </div>
<ul style="list-style-type: none"> <li>Evidence-based Quality Improvement</li> </ul>	<ul style="list-style-type: none"> <li>Capture all the relevant secondary diagnosis codes in all care delivery settings</li> <li>Achieve performance improvement using evidence-based guidelines providing feedback on practice pattern variation.</li> </ul>
<ul style="list-style-type: none"> <li>Profiling Risks and Liabilities</li> </ul>	<ul style="list-style-type: none"> <li>Reinsurance carriers can more intelligently adjust premiums for stop-loss insurance based on cost and quality performance, which, in turn affects reinsurance rates. As providers assume more risk, the financial burden of these policies is relevant to their ongoing viability.</li> <li>Medical malpractice insurers are also being engaged about the relationship of quality and safety performance with the prevalence of both the size and frequency of liability claims.</li> <li>Historically, there has been little assessment of provider performance in the underwriting of risk. As the opportunity for arbitrage becomes more compelling, these stakeholders are moving towards more refined analytics to assess risk.</li> </ul>

## RECOMMENDATIONS AND CALL-TO-ACTION

Hospital CEOs and administrators already recognize the new value-based healthcare economy, and understand how it has quickly transformed the way that healthcare is organized, delivered and measured.

To reach these complex goals, hospitals and health systems must focus on improving the integrity of their documentation and ensuring that information is as timely, thorough and accurate as possible. Physicians that deliver great care will be accurately measured and properly rewarded – a process that plays an important role in a health system’s publicly-reported outcomes.

**The accuracy and completeness of clinical documentation, as it translates into hospital and physician performance profiling, and reimbursement, is more critical than ever.**

**As public and private payers begin to link payments to quality, outcomes and costs, the relevance to providers and health systems is significant and far-reaching. In the increasingly value-based healthcare economy, only those organizations that can demonstrate positive clinical outcomes across episodes, while safely reducing costs, will prevail.**

Nuance CDI is a unique clinical program that enables physicians to document a more accurate and complete view of a patient’s true clinical story, and which helps ensure accuracy and completeness in clinical documentation. The physician-centric approach requires the clinical expertise and experience of nurses as clinical documentation improvement specialists to engage physicians in a clinical dialogue about each patient’s conditions and treatments to paint a detailed and accurate picture of their story. As a result, physician response and agreement with clinical clarifications improves while driving better clinical and financial outcomes and simultaneously helping physicians use the EHR more efficiently.

As part of Nuance’s technology-enhanced CDI approach, clients are also leveraging next-generation, computer-assisted physician documentation (CAPD) solutions to provide real-time CDI clarifications directly within their normal EHR-centric documentation workflows.

Quantros’ CareChex® offers an innovative medical quality rating system like no other on the market. It is designed to assist providers and purchasers in evaluating the quality of inpatient care using a patent pending quality scoring system that integrates the most reliable quality indicators available in the industry into a single, multi-dimensional, composite score and rating. Additional applications available through the Quantros [Enterprise Performance Analytics Solutions Suite](#) provide hospitals and health systems with a comprehensive, integrated view of their clinical and financial performance across inpatient and outpatient care settings.

Ultimately, as more hospital systems adopt more sophisticated software and services to advance healthcare quality and safety performance, patients will be the true beneficiaries. As they become savvier healthcare consumers, quality health grades gleaned at the survey level will no longer be an acceptable proxy for consumer choice.





### About Quantros

Quantros is a leading provider of software and services to advance healthcare quality and safety performance. Our Software-as-a-Service (SaaS)-based applications help thousands of hospitals, retail pharmacies and some of the nation's largest health systems to capture actionable intelligence they can use to improve outcomes, reduce risks and to reinforce their commitments to delivering safer, higher-quality value-based care. For more information, visit [www.quantros.com](http://www.quantros.com) or follow us on Twitter [@Quantros](https://twitter.com/Quantros).

### About Nuance Communications, Inc.

Nuance Communications, Inc. (NASDAQ: NUAN) is a leading provider of voice and language solutions for businesses and consumers around the world. Its technologies, applications and services make the user experience more compelling by transforming the way people interact with devices and systems. Every day, millions of users and thousands of businesses experience Nuance's proven applications. For more information, please visit [www.nuance.com/healthcare](http://www.nuance.com/healthcare). Connect with Nuance on social media through the healthcare blog, [What's next](#), as well as [LinkedIn](#), and [Twitter](#).

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1 Centers for Medicare and Medicaid Services

2 2016 Large Employers Health Plan Design Survey, National Business Group on Health, Aug. 15, 2015, and BDC Advisors' projections.

