AHRMM
Association for Healthcare Resource & Materials Management
Advancing the Healthcare Supply Chain
A personal membership group of the
American Hospital Association

Cost, Quality, and Outcomes: The Future of Healthcare Supply Chain

CQO Movement Sponsored By:

VHA™
Expertise for your every day™

COOK® MEDICAL

Copyright © 2014
Association for Healthcare Resource & Materials Management.
All Rights Reserved.

The Association for Healthcare Resource & Materials Management (AHRMM) of the American Hospital Association (AHA) is the leading professional organization for the health care supply chain. Founded in 1951, AHRMM supports its membership's development through leadership, education, networking, resources, and advocacy. AHRMM is committed to keeping its members ahead of the learning curve, so they "work smarter" in the field and remain prepared for future career opportunities.

The AHRMM Mission

AHRMM strives to advance health care through supply chain excellence by providing education, leadership, and advocacy to professionals in hospitals, health systems, and related organizations that are accountable to the community and committed to health improvement.

The AHRMM Vision

To advance health care supply chain excellence though the provision of education, the sharing and cultivation of knowledge, and continuous advocacy for the profession.

AHRMM Values

- Vision
- Integrity
- Excellence
- Risk Taking
- Strategic Partnering

CQO in Action

Industry Engagement

The Association for Healthcare Resource & Materials Management (AHRMM), a personal membership group of the American Hospital Association (AHA), held the first Thought Leader Summit, focused on discussing its Cost, Quality and Outcomes (CQO) Movement, on August 4, 2014 during the AHRMM14 Annual Conference in Orlando, Florida.

Mike Schiller, Director of Supply Chain, AHRMM, welcomed participants to the Thought Leader Summit and outlined the event's objective—to work collectively to extend CQO's provider level success outward and identify mutual areas of collaboration across the healthcare field.

CQO isn't a supply chain issue. It's a healthcare issue.

Greeting participants, Christopher O'Connor, AHRMM Board Chair, observed that the Thought Leader Summit was perhaps the most important meeting being held by AHRMM in 2014. When CQO was launched by AHRMM in 2013 as a new way to approach supply chain management, AHRMM's focus was internal, educating its membership on the role, purpose and importance of the CQO strategy. Under CQO, supply chain can no longer focus exclusively on price, but must expand to include a combination

Christopher O'Connor

Contents

CQO in Action: Industry Engagement....2
CQO: Collaboration at an Industry Level....4
CQO: Leveraging Technology....11
Breakout Session Discussion Themes....17
VHA Sponsorship Acknowledgement....29

A Call for Industry-Wide Engagement

- Communicate and build understanding of the CQO concept
- Forge new relationships

- Work together to support the transition to value-based models, using CQO as a framework for strategic decision-making

- Drive the healthcare agenda forward

of product cost, quality of care and the outcomes that will support reimbursement in a value-based healthcare payment system. A year later, AHRMM is extending its focus. O'Connor called attention to the fact that healthcare payment strategies and reimbursements are changing radically, and healthcare costs as a whole must be reduced. He noted that the supply chain touches every component of healthcare and as a result is in a position to help drive cost reduction strategies. O'Connor reviewed the definition of CQO as encompassing the following:

Costs: All costs associated with delivering patient care and supporting the care environment. The definition includes aspects not only within supply chain control, but also some of those outside its control.

Quality: Quality is about the patient and their experience, it is patient-centered care aimed at achieving the best possible clinical outcomes.

Outcomes: Outcomes include both the clinical outcomes as well as the financial outcomes driven by outstanding clinician care at the appropriate cost.

O'Connor noted that hospitals have begun to work differently, embracing the principles of CQO within their institutions (see Figure 1). These are already fielding results. AHRMM too, has been working with providers and its membership to advance CQO, but has recognized the imperative to broaden the CQO constituency and collaborate with others in the healthcare field. O'Connor observed that Thought Leader Summit participants represent many of the key industry stakeholders AHRMM would like to engage in CQO efforts. These stakeholders include: group purchasing organizations (GPOs), suppliers / manufacturers, distributors, health insurance companies, solution providers and government agencies.

Figure 1: Hospitals Have Embraced CQO Within Their Institutions

- Improving the patient experience
- The effect of coordinated care models on current processes
- Analyzing disease states
- Reducing never-events
- Clinical variation and its effect on costs
- Deciphering and leveraging complex analytics
- Organization-wide technology optimization
- Reduction in pressure ulcers
- Reduction in ventilator-associated pneumonia
- Hospital-acquired urinary tract infections
- Use of ultraviolet light on near patient surfaces to prevent hospital-acquired infections
- Radiofrequency detectable sponges for use during surgical cases
- Investing in operating room robotic systems
- Catheter-associated urinary tract infection prevention
- Infection prevention policies
- Deep vein thrombosis
- Swab caps
- Reprocessing injectable contrast media
- Reduction in clostridium difficile infection
- Reduction in surgical site infections
- Intravascular ultrasound devises
- Use of orthobiologics
- MedSnap drug identification application
- EarlySense non-invasive monitoring
- Home monitoring applications

Join the CQO movement and help transform patient care.
ahrmm.org/cqo

CQO Collaboration at an Industry Level

Eugene S. Schneller, Ph.D.
W.P. Carey School of Business
Arizona State University

Brent Johnson
Vice President, Supply Chain and Support Services
Intermountain Healthcare

Brent Petty, Moderator
AHRMM Chair-Elect
System Vice President, Supply Chain
Wellmont Health System

Matt Rowan
President and CEO
Health Industry Distributors Association (HIDA)

Todd Nelson
Director, Healthcare Finance Policy Operational Initiatives
Healthcare Financial Management Association (HFMA)

Brent Petty, AHRMM Chair-Elect and System Vice President, Supply Chain at Wellmont Health System served as moderator for the Thought Leader Summit discussions. Petty characterized the Thought Leader Summit as groundbreaking and commented on the diverse industries and perspectives represented by both the panelists and audience. Petty encouraged robust and participatory discussion by everyone.

The four panelists for the first Thought Leader Summit discussion, *CQO Collaboration at an Industry Level*, included:

Dr. Eugene Schneller: A Ph.D. from New York University, Dr. Eugene Schneller holds an Honorary Physician's Associate Degree from Duke University. He is a Professor of Supply Team Management at the College of Business at Arizona State University, and a former Director for the Division of Healthcare Administration and Policy at Arizona College of Public Health.

Todd Nelson: Todd Nelson is the Director of Healthcare Finance Policy, Operational Initiative in Healthcare Finance Practices Group at Healthcare Financial Management Association (HFMA). He is responsible for creating content in areas of leadership, senior financial executives in accounting and serves as staff to the Principles and Practices Board of HFMA.

Matthew Rowan: Matthew Rowan has been the President of the Health Industry Distributors Association (HIDA) since 2000, positioning HIDA as a leading advocate for the medical products device industry before Congress and other federal agencies. Rowan has been responsible for developing new member services in areas like market intelligence, data analytics and more.

Brent Johnson: Brent Johnson, prominent in the healthcare supply chain field, is the Vice President of Supply Chain and Support Services, and Chief Purchasing Officer at Intermountain Healthcare. Johnson is responsible for a $1.5 billion non-labor budget. Johnson supports 23 hospitals and 160 clinics. Directing more than 600 employees, Johnson is responsible for warehousing, strategic sourcing, purchasing management systems, couriers, travel services and more. Johnson also serves on the AHRMM Board of Directors.

Discussion Point #1: What steps can be taken to create a culture of collaboration?

To create cultures of collaboration, Rowan recommended all parties focus on their common interest, which is reforming and transforming the current system. He called attention to two perennial problem areas. The first is contract administration. Rowan noted that pricing accuracy today requires a four-way match of group purchasing organizations, distributors, manufacturers and providers – if any of these four parties' pricing information fails to match, costly rework is required. He recommended that parties must ask themselves, knowing what they do about healthcare and changing reimbursements, "is the current process a sustainable, useful contracting system that will serve well into the future?" The other problematic area is value analytics. Leaders must consider how the combined knowledge of the four entities might be filtered for bias, but used to help the provider make the best decisions possible.

Acknowledging that supply chain has historically been engaged in the cost equation, but not in quality and outcomes, Brent Johnson indicated that some might

question whether supply chain is the right leader for CQO. In response, Johnson questioned who would step up to leadership if not supply chain. Supporting the supply chain's leadership role, Johnson called attention to its business and management expertise and understanding of costs. He commented on the need to collaborate with the partners represented in the room, and with clinicians, to gain a better understanding of quality and outcomes.

An audience thought leader observed that the development of service lines is encouraging greater collaboration. Responsible for patient care, quality outcomes and the bottom line, service lines are assessing processes, supplies, best practices and best products. Service lines are also identifying the clinical standards that need to be developed and the technologies needed to support the standards. Dr. Schneller commented that until now there have been no robust metrics that reflect service line outcomes for supply chain contribution. He underscored the importance of understanding supply chain contribution in terms of the episode of care. Using bundled payments and readmissions as examples, the supply chain may extend beyond the hospital doors, but quality and outcomes may be more greatly affected by patient compliance and environment.

Commenting that getting the right people in a room is the first step in creating a collaborative culture, Todd Nelson observed that the right stakeholders were present at the Thought Leader Summit. He recommended that AHRMM develop common definitions for the issues that must be addressed to identify common ground. Acknowledging that people will have differing ideas and perspectives, Nelson recommended maintaining focus on the patient to avoid divisiveness and maintain a collaborative spirit.

A thought leader from the audience identified exclusionary vendor policies as a critical barrier to collaborative success. It was commented that the lack of an open door policy, coupled with gatekeepers making clinically-based decisions about technology (particularly new technology) is a detriment to facilities. It was observed that there is both a clinical sale and a cost sale. Specific clinical and patient outcomes data is discussed with clinical staff while financial data, hard and soft costs, etc., is discussed with supply chain staff. The two must converge in CQO, which is accomplished through the value proposition. If done correctly, everybody wins. It was also observed that this cannot be accomplished if the support or agreement of some facilities to the transparency needed is not acted upon.

Another thought leader commented on the importance of identifying an organization's partners and not just its customers. Those partners include suppliers and physicians. To make the partnership work, it was suggested that metrics must be developed by which the partners can measure the organization and vice versa. Cultural transformation and decision-making can be advanced when the needs of the partnership can be measured.

Audience members observed that while some vendors are great partners, others are unwilling to work in partnership with the hospital, and use physicians as a wedge to get their products into hospitals.

Discussion Point #2: What are perceived and actual hurdles to achieving CQO?

Expanding on the subject of hurdles, Dr. Schneller observed that a lack of trust is a critical issue in healthcare, particularly when he compares it to supply chain experiences in other fields. A key aspect of trust is the ability, as a supplier, to embed a resource within an organization that wants to use the product as an asset in obtaining the best possible outcome. Yet in healthcare, physicians and suppliers often fail to recognize one another's "pain points." Dr. Schneller posed the analogy of Toyota developing a new car but telling a manufacturer of disc brakes that they can't change the break types, which can help make the car stop more quickly. Toyota recognizes the value that all parties bring to the goal of high quality at low cost.

Johnson pointed out that a critical problem has been the inability for suppliers and integrated delivery networks to understand each other's key performance indicators.

Johnson also identified knowledge and understanding of "pain points" as a problem area. Using readmissions and infection rate penalties as an example, CEOs will want to know the impact of a product on that pain point. Johnson commented that comparative effectiveness research in the materials environment is lacking. He observed that while side-by-side valuation occurs in pharmacy, it has not been conducted for materials management.

Dr. Schneller advised that value analyses must be conducted collaboratively by national value analysis teams to obtain consensus on superior product(s) and standard(s) of practice.

An audience thought leader identified the need to think more broadly than as a triad among physicians, hospitals and manufacturers, and begin to think of supply chain as a system operating within the bigger healthcare system in which all parties have an understanding of each other's pain points. Referring back to the Toyota example, the automobile industry's partnership success was credited to all parties' understanding of the system and its attributes, such as continual quality.

Dr. Schneller shared with the audience the concept of a Fully Integrated Supply Chain Company (FISCC) and noted that a paper is being produced on the topic. The objective is to reduce system complexity through integration that includes not only integration of patient care, but also the supply chain key functions of strategic sourcing, contracting and distribution.

Johnson observed that system complexity is compounded by the composition of the healthcare field. While other industries might have seven or eight key suppliers, healthcare has three or four hundred suppliers. Added to the number of suppliers are more than 5,000 hospitals. Exacerbating the situation is the outsourcing that has occurred, resulting in a lack of supply chain resources and talent required to develop relationships, new strategies and trust.

The shift in reimbursement was also recognized by the thought leader audience as exerting increasing pressure and time constraints on organizations. As a result, payers should be included with physicians, hospitals and manufacturers in supply chain thinking and considerations.

It was acknowledged that the supply chain culture must change; otherwise it has the potential to trump CQO efforts.

Discussion Point #3: Are metrics being aligned at the industry level?

To become a better customer, whether provider, supplier, consultant, payer or other stakeholder, requires measures and standards, just as cars must meet minimum standards before going on the road. When asked if the healthcare field is achieving alignment of metrics, thought leaders indicated that an AHRMM board committee had worked to identify a set of metrics. The committee conducted a comprehensive study of possible measures, which included review of material from Dartmouth, Truven, the Institute for Health Improvement (IHI), the National Medical Association (NMA) and others. They also considered cost per case mix index (CMI), Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measures and other outcomes metrics. Despite concentrated efforts, the committee found it difficult to determine standardized metrics. The challenges were illustrated by the fact that although CMI may be a good metric for inpatient acute care, most healthcare systems are receiving 40 to 60 percent of their revenue from non-acute care, which doesn't have associated case mix indexes.

It was observed that accountable care organizations (ACOs) require consideration of costs per life and per month (per member per month or PMPM) as a key indicator. Service lines were identified as the focus in an ACO environment, including the cost to provide care for a chronic condition rather than an incident of care.

Knowledge gaps were identified positively as opportunities for new partnerships through seeking out distributors, manufacturers and others who are active in a market and can act as a guide and strategic partner.

It was commented by an audience thought leader that the hardest metric to determine has been patient activity; adding that supply chain will be affected by declining revenues. As Medicare moves to measure cost per beneficiary, there was also a comment on the difficulty in getting one's arms around supply chain costs, clinical costs and total operating costs – achieving pricing transparency. Recognizing that although it might be too early in the process to fully determine a methodology, finding trade-offs in supply chain costs for total operating costs is where supply chain can take the greatest leadership role.

Noting that most measures used are internal, it was suggested that no one supplier represents all of an organization's costs and therefore offers little or no market information. To measure what is being accomplished today, leaders should consider national ranking among a limited number of industrialized nations and how to improve on that scale. Recognizing the value of collaboration, finding commonalities with physicians and learning how to focus and build consensus on what's important to them allows supply chain to be embedded into a collaborative decision-making process. General clinical and surgical pathways and the right ways to care for patients were observed to be important commonalities.

Noting the increase in the number of large health systems resulting from recent mergers and acquisitions, an audience thought leader predicted these systems will be seeking increased standardization to achieve the clinical metrics the organization is seeking. With value-based purchasing (VBP) as the source of payment, metrics associated

with VBP should be expected to serve as a sound starting point for many organizations. It was also predicted that large health systems will pursue derivatives of self-distribution. To achieve standardization and efficiency, many will partner with manufacturers from whom they can use a majority of product lines. However, it was also observed that if a health system and its distributor can align and successfully collaborate to drive costs out of the system, self-distribution wouldn't be necessary.

Thought leaders also observed that by aligning physician incentives with those of the organization, physicians themselves are responding by seeking better practice alternatives and reduced practice variations.

It was generally agreed by the thought leaders present that cost discussions must include payers, who are often missing from critical conversations.

When challenged by Petty to accomplish progress in establishing metrics, it was commented that to achieve cost, quality and outcomes, the supply chain must be able to determine what has been used, rather than what was purchased and might still be in inventory. Trustful collaboration is a key element to this. The ability to work with clinicians to know what is used, on whom it is used and how to assess clinical outcomes is key. Suppliers too, would like to have a better understanding of use, enabling them to better determine quantities that should be manufactured – leading to demand forecasting models. This is a critical element in finding cost savings.

Discussion Point #4: What are the risks and/or benefits of transforming from a volume-based system of payment to a value-based one?

Panelist Todd Nelson, Healthcare Financial Management Association (HFMA), initiated the discussion of risks and benefits by calling attention to the impact and effect the volume to value transformation is having on the focus and role of the Chief Financial Officer (CFO). The expertise of a hospital CFO is most typically accounting focused, not actuarially focused, which are distinctly different. The shift from a volume-based reimbursement system to a value-based one includes a shift in risk to the healthcare organization, and therefore moves the CFO out of their natural comfort zone. CFOs are trained as accountants to be conservative and risk adverse. As organizations accept more risk, CFOs are seeking the actuarial knowledge and experience needed to best manage risk, expertise that is found many times in payer organizations. This is leading some hospital organizations to consider partnership opportunities with payers and others with that expertise.

Nelson suggested that costs be considered in the same manner. CFOs have been reluctant to invest in cost areas, generally advising the supply chain to "just lower them." At the same time, many hospital organizations don't have analysts who understand the link between cost and clinical outcomes. Nelson further suggested that perhaps suppliers, who continually evaluate new technologies, might be knowledgeable and experienced partners for hospitals and health systems needing cost plus clinical outcome expertise.

Dr. Schneller concurred, observing that to really succeed; the supply chain must consider the changes in the risk paradigm and its approach to technology and relationships to determine how to drive outcomes, not costs. Outcomes will be the greater cost driver of the future, not supply costs.

In Summary…

Commenting that human resources had not been part of the discussions, Dr. Schneller observed that supply chain is finally beginning to see individuals ascend to vice presidencies and the executive suite. He questioned, however, if individuals fully understand how to interact at that level to influence the organization. Many of the preceding discussions dealt with the problems of integrating supply chain, which can be influenced by executive level supply chain leaders who drive supply chain collaboration.

Dr. Schneller emphasized to the audience that unlike other industries, healthcare does not think of supplies as assets, but rather as "stuff." Until that changes,

supply chain will face difficulties managing any differently than it does now. Comparative effectiveness research focusing on products is a key to achieving this goal. This will facilitated by the operationalization of unique device identification by suppliers and providers to track and trace supplies and their impact.

CQO and Leveraging Technology

Eric O'Daffer
Research Vice President
Gartner Supply Chain—Healthcare

Charles Elliott
Practice Leader, Operational & Financial Consulting
Truven Healthcare Analytics

Brent Petty, CMRP, Moderator
AHRMM Chair-Elect
System Vice President, Supply Chain
Wellmont Health System

Thomas Skorup
Vice President, Applied Solutions
ECRI Institute

John Daniels, CNM, FACHE, FHIMSS, CPHIMS
Vice President for Strategic Relations
Health Information and Management Systems Society (HIMSS)

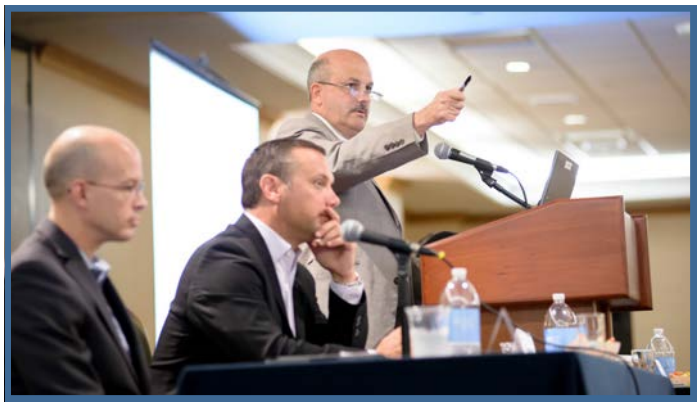
Reminding the audience that the day's objective was to spark new and different thinking, Brent Petty, panel moderator, opened the second panel discussion with introductions.

The four panelists for the second discussion, *CQO and Leveraging Technology*, included:

John Daniels, Vice President of Strategic Relations for the Health Information and Management Systems Society (HIMSS), a global cause-based, not-for-profit organization focused on better health through information technology. Daniels is also Vice President of Operations for HIMSS Analytics. HIMSS leads efforts to optimize health engagements and care outcomes using information technology.

Eric O'Daffer, Vice President for Gartner Healthcare Supply Chain Group. O'Daffer is focused on end to end value in supply chain. He spends most of his time with providers, assessing how they best manage all of the components of supply chain.

Charles Elliott, a practice leader in the Performance Improvement Consulting Division of Truven Health Analytics, Charles Elliott has more than 20 years of healthcare experience and is responsible for leading innovative approaches to improving performance for clients. Elliott has extensive experience in operational improvement, strategic planning, finance and service excellence.



Thomas Skorup, Vice President of Applied Solutions for ECRI Institute, an independent not-for-profit organization that researches best approaches for improving patient care. He is responsible for ECRI Institute's onsite consulting service, applied solutions group and management of major projects within healthcare organizations.

Discussion Point #1: Some have said that quality and financial data accuracy is the number one concern, and may be the number one hurdle for CQO. Is there progress to actual data and predictive analytics?

To initiate the discussion of quality and financial metrics, Skorup shared the following case example:

> Dr. Brenner of the Camden Coalition in New Jersey reviewed, from a quality perspective, patient populations with high readmission rates to hospitals. Working with a large data set, Dr. Brenner determined that many of the readmissions patients were from the same apartment building in Camden. As an intervention, a health clinic was established in the building, resulting in reduced hospital readmissions, improvement in patient outcomes, and ultimately, reduced cost in healthcare.

Other examples might include new implants or surgical approaches that result in faster patient recovery and less rehabilitation time. Considering a service line to determine quality metrics along the continuum and the financial impact over time, predictive analytics means bigger data sets. Larger data sets should provide information that informs analysts where variation in clinical care is acceptable. Predictive analytics means understanding what metrics are needed from data sets to impact what supply chain and clinical care do.

Daniels added that HIMSS Analytics collects data from all hospitals in the country, housing it in the HIMSS' Analytics® Database. HIMSS runs the data through a proprietary algorithm to produce a score, which indicates an organization's position along the HIMSS Analytics Electronic Medical Record (EMR) Adoption Model℠. The model is internationally accepted and recognized. Achieving the highest level, Stage 7, requires demonstrated use of information technology to drive business decisions from clinical, financial and business operations perspectives. As an example, Daniels cited the experience of a large health system in the northwest. Reviewing their data, they noted that a specific patient population was a high utilizer of the emergency department. Through their outpatient clinics, the health system conducted a preventive outreach campaign targeted to the population in question. Measuring their efforts over one year, they were able to demonstrate a 50 percent reduction in emergency department utilization and costs. Daniels summarized by stating that data analytics can be used to actually improve an organization's operations.

In response to a query from O'Daffer, asking for examples of provider progress or success in analytics, one member of the audience responded that the supply chain at their organization had dedicated resources to data several years prior and is now

beginning to realize a return on investment. This allows them to act preventively, and to be more prescriptive with

customers. Another audience member shared that their organization had invested in a supply chain analytics department with a system custom-tailored to automate the process of collecting all costs for analysis.

In yet another example, it was indicated that an 80-hospital organization is relying on broader data sets than their own, because of variances. Varying chart systems among its hospitals affected data input and created an undesirable data variance. However, the organization is able to drill down to find variances in utilization and cost by physician and DRG. They then meet with the physicians and their service lines, allowing the service line to influence the physicians' practice habits. The organization's clinical research staff further enables the organization to access studies, identify opportunities and act accordingly.

It was pointed out that while nearly all hospitals have some type of financial data warehouse that enables financial analytics, only 43 percent of hospitals have a clinical data analytics warehouse for aggregating clinical data and combining it with financial data to conduct the cost, quality and outcomes analytics that are needed.

Thought leaders made the observation that as implementation of electronic medical records (EMRs)

increases, there will be greater access to data and more mature databases. Daniels observed that at this time, only three percent of hospitals (185 hospitals) have achieved Stage 7 of the HIMSS' Analytics EMR Adoption Model℠.

Discussion Point #2: What mechanisms should be considered in the struggle to identify total cost of care?

O'Daffer observed that the "cost to serve" is used frequently in other industries, but understanding everything that filters through the "cost to serve" in healthcare is challenging. It encompasses everything, including product price, inventory costs, transportation costs and more. Understanding this from a supply chain standpoint is viewed as the next step for most organizations in reducing the costs of serving the population.

Discussion Point #3: What is the end game?

Petty commented that data is not an information technology (IT) project. IT gathers, stores and protects the data, but the supply chain, providers, manufacturers, distributors and payers are the data people. It was generally agreed that the purpose for collecting the data is to be able to identify variations that, when acted upon, will reduce the cost of care and contribute to CQO success.

It was observed from the audience that discussions had included interoperability, consumption data, the capture of unique device identification (UDI), clinical process variations and other isolated problems. It was also noted that little progress will be achieved until the supply chain is able to step back and consider the bigger picture of the system, rather than fixing the isolated problems. Petty agreed that the supply chain must be strategically driven and assume the disciplined leadership that can drive operational excellence.

Discussion Point #4: What is the role of mobile and Cloud-based data and technology?

It was observed that younger providers are being trained and are accustomed to using smart technology. Few of them want to or agree to work for organizations that aren't using technology and devices, or where use of smart phones and tablets is limited. Patients also will want full access to and the ability to contribute to their information. The challenge will be managing numerous and different device types (e.g., Apple vs. Android) and their connection to networks in safe and secure ways that will not compromise patient information and yet allow physician productivity.

The thought leaders observed that current technologies are key to CQO success as everyone must have access to the data. It was noted that data

collection must be simple or people will not do it. Thought leaders also commented that payers have a vast wealth of information and data and should be engaged by the supply chain in discussions.

Calling attention again to cloud technology, Skorup observed that when patients receive care both within and outside the hospital, mobile devices that send data to the cloud help to aggregate data in a common location. This contributes to opportunities for normalizing the data as it comes through the cloud.

Noting the amount of unstructured data within healthcare, Skorup suggested that the ability to assign a specific device and its cost to a patient at a particular episode of time and accurately capture information throughout the full continuum of care, whether in a physician's office, ambulatory care center or hospital, will facilitate the better understanding of true care costs. Mobile technology and the cloud will help facilitate collection of that data.

Citing Amazon and how digital supply chain transformed the company, O'Daffer called attention to the many ways the supply chain in other industries is leading change and the influence it will have on consumerism in healthcare. Those supply chain leaders are finding new and different ways to deliver products and distribute information.

Interoperability between systems was noted by a thought leader as one of the key problems in the healthcare field, suggesting that the mindset of point-to-point connection needs to be replaced with cloud access. Petty echoed the sentiment with the analogy that he can travel worldwide using his bank card, and his bank knows who he is, what his balances are and alerts him to potential fraud when purchase patterns don't align. Charles Elliott noted that customers demanded that level of banking service. Other industries are also setting similar levels of customer expectation and healthcare should expect patients and families to demand a rapid change in its ability to respond in a similar cohesive manner.

Discussion Point #5: What changes need to happen within supply chain to achieve CQO metrics data capture?

Challenging the thought leaders and panelists, Petty asked what changes need to occur to drive similar benefits. The first challenge posed was developing the interoperability between enterprise resource planning (ERP) and electronic medical records (EMR.) Hospitals are limited in their knowledge and often don't know outcomes because they may not be known until months following patient discharge. A key factor to shared knowledge is trust, which is based on evidence and data.

It was observed that that multiple "standards" in reality meant there really is no standard, and recommended that the supply chain engage suppliers to understand and develop a plan for standardized information. This will then allow for the capture of standardized electronic data. It was noted that many companies have invested in standardizing the barcoding of products for monitoring purposes. The critical need to determine if the information will be captured in the cloud, will it come from the GPO or will be located in

the ERP system, and to then decide how products and patients will be tracked.

It was also observed by thought leaders that the only way to achieve standards that will work is to think outside the four walls of the individual hospital. The goal for AHRMM will be to continue to convene and facilitate these types of discussions. It will also be critical to understand and figure out how to implement technology. Understanding the financial model associated with the cloud and a supply chain that is well educated about cloud technology is then in a position to approach ERP providers to develop a faster method for transition. Change is coming rapidly and if the supply chain doesn't lead the way, change will be forced upon it.

Leaders also questioned how to work further upstream, for example, how to influence the design and production of wearable technology. Without standards, the supply chain doesn't know what to tell an engineering design team, and how standards will relate to the downstream aspects of a product.

In the vein of "we're not fixing supply chain, we're fixing healthcare," thought leaders observed that the larger the number of people who collaborate and aggregate data, the better able you are to identify the greatest practice instead of just a good or okay practice. If the supply chain, hospitals and others do not change their perspective about the problem to be solved, then others from outside the healthcare field may do so, in the interest of consumerism, big data and analytics and opportunity.

Before the close of discussion, Daniels shared with the audience the interest on Capitol Hill in the interoperability of healthcare technology. There is mounting interest and questioning to determine what has been accomplished as a result of the Medicare and Medicaid EHR incentive program payments.

Round Table Discussion Themes

Round Table Discussion Themes

Thought Leader Summit attendees were asked to engage in round table discussions around CQO. The group spent about 15 minutes identifying key industry touch points, actions and next steps specifically to address the cost area of the CQO Movement. The first discussion was then followed by a similar discussion of quality and then outcomes. Participants' comments were captured in writing and have been grouped by related themes.

Of the discussion points the following three themes, ranked in order of popularity, emerged as common across the discussions of cost, quality and outcomes:

- Access to data, data analytics, data standards and other data aspects were represented by 54 percent of responses
- Pricing transparency, overall costs, cost of care and other related cost comments were represented by 18 percent of responses
- Clinical variation, value based purchasing and value analysis represented 16 percent of responses

Several common themes emerging from the discussions that are especially noteworthy include:

- The vital need for effective collaboration and solutions-based engagement between providers and suppliers
- The importance of engaging physicians and surgeons in cost, quality and outcomes efforts
- The critical role that cloud-based technology can and will have in supply chain and healthcare transformation solutions
- Encouragement to continue with similar discussion opportunities, allowing ample time for identifying and discussing specific actions and deliverables

Next Steps

The successful gathering of healthcare leaders and subsequent discussions of expanding the CQO Movement beyond the provider community, to the greater healthcare field is just the first step of the Thought Lead Summit. AHRMM has committed to assembling a task force of thought leaders around one of the common themes that came out of the roundtable discussions. The goal for the task force will be a deliverable that will be presented at next year's Thought Leader Summit held during the AHRMM15 conference in Indianapolis, August 9-12, 2015. The long -term objective is to continue to convene leaders across the healthcare field at an annual Thought Leader Summit to develop productive alliances and foster stronger relationships in service of greater efficiencies, lower costs and more importantly, improved patient experience.

CQO Movement Sponsored By:

This report has been developed for AHRMM by The Walker Company Healthcare Consulting. www.walkercompany.com.

155 North Wacker Drive, Suite 400

Chicago, Illinois 60606

(312) 422-3840

www.ahrmm.org