Clinically Integrated Networks and Population Health: Taking the Next Step
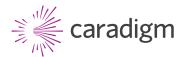
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Healthcare organizations increasingly face the demands of value-based reimbursement as hospitals and physicians are held accountable for higher quality care delivered at a lower cost. As organizations plan and prepare for value-based care, they also must remain focused on margins threatened by increased cost structure and declines in reimbursement in the current fee-for-service environment.

To maintain focus on current operations while positioning themselves for the opportunities in this value-based reimbursement market, many hospitals and physicians have turned to clinical integration as a viable option. Growing in number since 1996, when the Federal Trade Commission (FTC) provided guidance on its antitrust enforcement policies related to healthcare organizations so that affiliated healthcare providers could avoid triggering anti-kickback, Stark Law and similar regulatory violations, today there are an estimated 500 clinically integrated networks (CINs) in the United States. In general, CINs formed to address four aims:

- Increase quality

- Reduce cost and waste in the current system to maintain margin

- Sustain independence for physicians not ready for hospital employment

- Position providers to take on higher levels of accountability to effectively manage utilization and the health of populations[1]

To achieve these four aims, CINs need to acquire and employ the appropriate health information technology (HIT) solutions. CINs can employ technological solutions in several ways to advance their goals, including assisting a physician in adhering to clinical protocols, reporting on quality measures, tracking care costs to identify opportunities for improvement, and effectively coordinating patient care (especially for high-cost, high-risk patients), thus improving outcomes and reducing costs.

While existing IT solutions like electronic medical records (EMRs) and health information exchanges (HIEs) have helped CINs achieve the first three aims, they have fallen short in enabling CINs to effectively manage utilization and the health of populations. To achieve this goal, CINs require new types of information technology solutions that allow them to understand and manage clinical and financial risk for optimal outcomes.

HISTORY AND GROWTH

Clinical integration enables collaboration among independent providers to deliver high-quality care in a more efficient manner. These independent physicians, hospitals and other providers share responsibility for the care of patients, across the community, and share patient information to fulfill that responsibility.

The Department of Justice and the FTC define clinical integration as an active and ongoing program to create a high degree of interdependence and cooperation among physicians and hospitals to control costs and ensure quality.[2] Working together, these providers can more effectively compete for payer and employer contracts because they demonstrate higher quality and greater efficiency in care delivery.

Because of this higher quality and greater efficiency, the antitrust laws that often prohibit joint contract negotiations may permit clinically integrated providers to engage in collective negotiations with health plans or other payers.

Recently, interest in CINs has grown rapidly as a result of payers shifting to value-based reimbursement, favoring those providers that deliver high-quality care in an efficient manner. Employers as well are pursuing value-based purchasing arrangements. Achieving measurable improvements in quality and efficiency demanded under these new payment models requires coordination and collaboration among a community's providers. A CIN provides a vehicle for independent providers to work together for these purposes while protecting their individual interests.

INFORMATION TECHNOLOGY

Health information technology (HIT) has been identified as the backbone of the clinically integrated network's value proposition.[3] HIT is necessary for CINs to effectively coordinate care, communicate among the sites of care in the network, collect measurable data and address a wide variety of other needs:

- House established clinical guidelines and measures
- Allow access to clinical guideline adherence at the provider, practice, and network levels
- Provide a secure mechanism for provider communication
- Enable providers across a network to access patient information and refer patients to specialists using an integrated information system
- Create a central data repository enabling a longitudinal patient record
- Develop disease registries
- Allow clinical decision support based on clinical guidelines and measures
- Enable patient access to clinical support through a portal, such as secure provider messaging, reminders and alerts, test results viewing and prescription refill requests
- Report provider, practice, and network-level patient outcomes[4]

HIT is critical for CINs to meet their four key aims—increase quality, reduce cost and waste, sustain independence, and effectively manage utilization and the health of populations.

IMPROVE QUALITY

Factors that threaten healthcare quality and patient safety include those that fall within the categories of adverse events and variation in care.

Adverse events are costly in terms of clinical outcomes and financial results. The death of one of every 10 Medicare patients is attributable to lapses in patient safety, and those incidents result in nearly $9 billion in excess healthcare costs.[5] A typical 350-bed hospital, averaging 14,000 admissions and 5,500 surgeries suffers over 3,000 adverse events per year—including pressure ulcers, adverse drug events and

healthcare-associated infections.[6] Nearly 100,000 people a year in the US die as a result of healthcare-associated infections, more than breast cancer and prostate cancer combined.

In addition to adverse events, unintended variation in care can threaten the quality of that care. An estimated 45 percent of patients within the US fail to receive the recommended package of care for their condition or symptoms.[7] Unintended variation leads to $12 billion in avoidable medical costs and contributes to 30 percent of the US expenditure on healthcare spent on ineffective or redundant care.[8]

Quality and operational improvements are requirements for a clinically integrated network. CINs provide the means to engage physicians in determining how quality is defined and measured and take an active role in care redesign and protocol development to increase quality. Areas of focus are defined through a set of initiatives with metrics and baselines. For those initiatives, quality targets are defined in advance and if achieved, incentive payments are distributed to physicians.

A number of IT solutions that help organizations deliver progressively improved quality outcomes.

- **Patient or disease registries** track outcomes and recall patients when needed. Registries collect data related to patients with a specific diagnosis, condition or procedure that can be accessed online by providers across the healthcare community. They are intended to track patients and their compliance with guidelines across populations; physician compliance with those guidelines; and outcomes for interventions. Registries enable healthcare providers to deliver proactive care and treatment to individual patients or groups of similar patients, in order to help reach certain quality goals.

- **Patient dashboards** or **scorecards** alert providers to gaps in care or quality measures at the point of care. It is important for healthcare organizations to select robust solutions that aggregate near real-time patient data from across the care continuum, and deliver that information to clinicians within their EMR workflow. With rapid access to more complete patient data within the EMR, clinicians can gain additional insight about the actions needed to provide quality care. This additional patient data can include readmission risk or infection-risk scores, quality-measure gaps, disease-management gaps in care, or other data determined by the organization.

- **Clinical surveillance** and **infection tracking** applications can aggregate and display near real-time inpatient data, including nursing documentation, to help healthcare organizations identify cohorts of at-risk patients, proactively manage those patients and facilitate timely interventions. Adverse events tracked include catheter-associated urinary tract infection (CAUTI), central line-associated bloodstream infection (CLABSI), sepsis or systemic inflammatory response syndrome (SIRS), glycemic control and catastrophic clinical deterioration.

- **Clinical protocol compliance applications** enable organizations to set parameters for cost, risk and outcomes. Built for quality managers and the department heads responsible for managing performance, these operational and analytical toolsets provide a mechanism to drive quality initiatives. They offer a variety of out-of-the-box preconfigured protocol compliance sets, provide for customizable thresholds and definitions of protocols specific to organizations, and offer seamless workflow integration between protocol data and hospital systems. By codifying current clinical knowledge and best practices into clear guidelines, the applications allow aggregated data to be surfaced in near-real time to facilitate intervention.

- **Quality analytics** solutions can generate report cards on physician performance. They offer drill-down and root cause analysis for each measure and sub-measure, at the facility, provider and patient level, and compare performance relative to national benchmarks and institution specific targets. This enables organizations to identify areas for improvement and take proactive steps to enhance quality.

CINs have successfully implemented programs and technology to drive improvements in quality in healthcare delivery. Annual results from one CIN demonstrate the potential.[9]

- A comprehensive asthma management initiative resulted in a control rate 23 percentage points above the national average and saved $11 million in direct and indirect medical costs.

- Diabetes key performance indicators exceeded national predicted averages by 9 percentage points for HbA1c good control and by 23 percentage points for hypertension control. Calculating savings from just one of the control outcomes, HbA1c, saved more than $4.9 million annually above national average performance levels.

- The administration rate for Combination 3 immunizations exceeded the 90th percentile for combined preferred provider organizations (PPOs) and health maintenance organizations (HMOs).

- The rates of immunization for rotavirus-related diseases exceeded national rates by 10.6 percentage points for HMO and 19.0 percentage points for PPO patients, resulting in a savings of over $4.4 million in avoided hospitalization costs.

REDUCE COST AND WASTE

More than half of all healthcare spending—up to $1.2 trillion of the $2.2 trillion spent annually in the US—has been deemed wasteful spending.[10]

Two significant contributors are clinical and operational inefficiencies. Often, those providing or paying for care don't have the information available for appropriate clinical decisions. In addition, that information isn't always used even when available. Variation in treatment results in a reported one-third of healthcare spending on unnecessary hospitalizations, redundant tests, unproven treatments, and excessive end of life care. Greater adoption of evidenced-based practices could help address unintended variation; one study showed that only 55 percent of patients receive recommended care.[11] Removing redundancies could save more than $40 million annually, according to an estimate by Johns Hopkins Hospital, "just by getting computers talking to each other."

Operational improvement projects are necessary components of a clinically integrated network. Clinical integration allows physicians to take an active role more effectively managing costs, reducing variation and eliminating unnecessary waste within the delivery system. Health information technology can help those networks achieve these aims.

- **Health information exchange** (HIE) can serve two purposes: sharing a breadth of patient data from across the healthcare community to provide a more comprehensive set of information for each provider; and making test results and similar information available to help reduce duplicate or unnecessary services.

- **Patient dashboards** or **scorecards** alert providers to gaps in care or quality measures at the point of care. This enables a provider to address those gaps while the patient is in the office, increasing efficiency by avoiding a separate visit. Such dashboards can also identify patients at risk of readmission risk or infection, enabling actions that might prevent an unnecessary hospitalization.

- **Clinical protocol compliance** applications enable organizations to drive evidence-based practices and reduce variation. They turn clinical knowledge and best practices into clear guidelines surfaced in near-real time to facilitate intervention.

- **Analytics** solutions can measure physician performance and compare that performance at the facility and provider level to institution specific targets and national benchmarks.

CINs have had success implementing programs and technology to drive improvements in efficiency in healthcare delivery. Five-year results from one CIN demonstrate the potential:

- Improved financial margins lowered their staff FTE requirements by 10 percent

- Decreased number of referrals to the hospital as a result of increased patient engagement. The absolute number of emergency room evaluations has remained flat despite a 28.6 percent increase in the number of patients.

- Decreased hospital admissions by 16 percent and 9.7 percent in two consecutive years.

SUSTAIN INDEPENDENCE

The United States has seen rapid consolidation over the past decade among insurers, physician practices, and pharmacies. Two main factors have been behind the push for size: to achieve economies of scale and the desire to have the upper hand in the negotiation for revenue with the adjacent sectors.[12] Consolidation into larger hospitals and physician groups has been a means to better coordinate care, enforce practice guidelines, standardize procedures, employ cost-control measures and drive quality improvement programs.

While a trend, it's not the preferred choice for all providers. Clinically integrated networks offer an alternative to consolidation, achieving the same aims of care coordination, evidence-based practice, cost control and quality improvement, while maintaining provider independence.

- **Health information exchange** (HIE) accumulates and communicates patient data from across the healthcare community in a standard format; this can help sustain provider independence as it enables them to remain on their own EMR without having to switch to one mandated by an integrated delivery network.

- **Data aggregation platforms** can collect data from the disparate systems of independent providers, bringing it together for multiple uses. The most robust solutions aggregate, in near real-time, clinical and financial data from across the care continuum.

MANAGE UTILIZATION AND HEALTH OF POPULATIONS

Population health is embodied by healthcare organizations working in a coordinated manner to improve the overall health of a defined set of patients across the care community, under a risk bearing financial arrangement. The goals of population health management are to improve the health of patients and to reduce costs by aligning the economic incentives for care delivery and utilization among the patient, provider and payer.

Because of their organizational relationship, and the sharing of data and initiatives to drive better outcomes and lower total cost of care, CINs are well-positioned to engage in population health, contracting with payers and employers.

Clinically integrated networks must address the challenges of managing an assigned population:

- Collecting and distributing needed data across the healthcare community
- Understanding the clinical and financial risk within an assigned population
- Managing contracts with payers and providers
- Managing utilization
- Coordinating care across care teams
- Ensuring quality and patient safety
- Engaging providers in a new way of delivering care
- Engaging patients in their own care

Although hospitals and physicians have invested in electronic medical records (EMRs), the demands of population health require investment in health information technology that complements EMRs to address patient activity that falls outside the four walls of their institutions. EMRs are designed for single-patient interactions with a physician or nurse, in a hospital or office. Accountable care and value-based reimbursement demand systems that manage health across populations outside of episodic care in clinical settings. Organizations need comprehensive health histories rather than just records of these healthcare episodes and need information at the point of care to help make effective clinical decisions;

Organizations need four key capabilities to deliver effective population health management—data control, healthcare analytics, care coordination and management, and wellness and patient engagement—capabilities not found in EMRs. Data control aggregates and manages data from across the community to make information accessible where and when you need it. Healthcare analytics deliver the business and clinical intelligence to generate insights and drive better decisions. Care coordination and management solutions enable care team collaboration and increased patient compliance that drive improved outcomes for patient populations. Wellness and patient engagement solutions help organizations promote healthier lifestyles for the patients in their population. Such solutions help organizations meet the Institute of Healthcare Improvement's Triple Aim Initiative – improving the patient experience of care, improving the health of populations and reducing the per capita cost of healthcare. True population health solutions enable your teams to deliver the appropriate care to patients through effective coordination and patient engagement, improving outcomes and financial results.

- **Health information exchange** collects and communicates patient and population data from across the care continuum. Bringing information together into a transactional clinical data repository resolves the gaps in patient data and provides clinicians the information they need to deliver appropriate patient care.

- **Data aggregation** solutions bring together patient data from disparate sources, transform the data into a consistent and meaningful format, and store that data it in a repository for convenient access. Advanced aggregation solutions deliver prebuilt interfaces for a breadth of systems, provide sophisticated data normalization and terminology mapping, and easily combine both claims and clinical data. As a result, you can achieve the goal of the comprehensive, longitudinal view of each patient, in an assigned population, that enables the best decision making possible

  Aggregation platforms transform the delivery of care through the strategic use of data, delivering timely information to your providers within their workflows at the point of care, and powering rich analytics to deliver deep insights into individual patients, populations and performance; to predict outcomes; and to rapidly identify the actions needed for improvement.

- **Identity and access management** (IAM) solutions address the operational challenges of access to clinical applications while protecting organizations from increasing security and compliance risk by safeguarding access to patient health information. IAM solutions offers provisioning, single sign-on, clinical application integration and context management.

- **Risk stratification** solutions help organizations understand the predicted costs and savings opportunities for a population and stratify patients—by risk, utilization, cost, patient motivation and guideline/medication compliance. They also identify movers—those patients predicted to experience major changes in health in the next 12 months; and identify drivers of future risk—conditions and complications to target with interventions and personalized care plans. In doing so, risk stratification helps organizations better allocate resources and attention, identify opportunities for cost reduction and measure performance, and achieve the highest return on intervention.

- **Care management** applications help organizations better manage at-risk patients, in a data-driven way, to achieve targeted patient outcomes and financial results. Comprehensive applications deliver information to enable timely and appropriate interventions and reduce unnecessary utilization, surface evidenced based care pathways that identify gaps in care in near-real time and recommend mitigations, and provide tools to develop and collaborate on personalized plans of care

- **Utilization management** solutions can help organizations with the highest-utilizing populations, e.g. hepatitis C, HIV, transplants, pain management, etc. UM applications can also manage prior authorizations for services, providing integrated care guidelines and clinical decision support. Robust solutions offer complete transparency between utilization management and risk management, care management, quality initiatives and patient engagement.

In addition, technology can assist physicians in configuring and adhering to clinical protocols, track care costs to identify opportunities for improvement, more effectively coordinate patient care to improve outcomes and reduce costs, generate care-gap lists, and increase engagement of patients and family members in the care process.

CONCLUSION

Clinically integrated networks have employed health information technology to improve current operations—increasing quality and reducing cost and waste—while sustaining independence. In building networks and demonstrating better outcomes at lower cost, CINs have positioned themselves to negotiate with payers and employers to take advantage of opportunities in a value-based reimbursement market. To take the step into population health, however, CINs need to invest in health information technology beyond the electronic medical record in order to effectively manage utilization and the health of populations. Ranging from HIE to analytics to applications for care and utilization management, this technology is necessary for CINs and other organizations to manage clinical and financial risk and succeed in a competitive healthcare market.

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