The Path to Information Technology-Enabled Clinical Integration: Strategy, Implementation and Future Directions
# The Path to Information Technology-Enabled Clinical Integration: Strategy, Implementation and Future Directions

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Dear Healthcare Colleague:

On behalf of Harris Healthcare Solutions, I am proud to share this 2014 white paper on clinical integration (CI)—from CI’s origins and recent hits and misses, to CI planning, design, implementation and CI directions. Joining me in writing this paper are several recognized CI experts:

- Vishal Agrawal, M.D. President, Harris Healthcare Solutions.
- Eric Leader. Director of Product Management and Business Intelligence, Harris Healthcare Solutions.
- Lloyd McCann, M.D., MSc (Health Management). Director of Medical Services, Mercy-Ascot Hospitals, Auckland, New Zealand.
- Ralph Wakerly. President, C-Suite Resources. Minneapolis, USA.
- Michael J. Mytych. Vice President, C-Suite Resources. Minneapolis, USA.

Healthcare is early in the game of clinical integration. Precursors such as community health information networks (CHINs), health information exchanges (HIEs) and regional health information organizations (RHIOs) used clinical integration as a driver. However, the current concept of CI has evolved from a focus on fee-for-service and volume, to clinical redesign orientated around bundled payment and shared costs and savings.

Progress is already evident. In some jurisdictions, such as the Chicagoland market, larger players with strong financial capabilities have acquired community organizations and practices of varying sizes to ensure they have the capabilities and talents at every touch point, which is an unstated requirement for completing a successful clinical integration network (CIN).

The makeup of the CIN is also evolving. While hospitals and health systems have traditionally employed hospitalists, they are now increasingly employing clinic-based general practitioners (GPs) capable of delivering the frequent, low-cost interventions patients have come to expect.

In some markets, hospitals and health systems face challenges around CIN governance issues. These organizations tend to attract physicians who yearn to retain their autonomy. The choice for physicians is a difficult one: align with healthcare organizations (HCOs) that offer autonomy or abandon the traditional physician practice model.

Harris is pleased to share the contents of this CI white paper with current and prospective clients, as well as clinical and business leaders within HIT companies, government, associations, public policy, research and academia.

Please contact me with your comments and recommendations on CI opportunities, constraints, strategies and trends. Harris Healthcare Solutions plans future white papers, issue briefs and webinars on these critical issues.
If you are already involved in developing a CIN, we would love to hear from you. If you need support in deciphering CIN goals, features and functions, we would be pleased to share our expertise and experience. For more information read about Harris CI at: http://healthcare.harris.com, call us on 480-833-5010 or email us at harris@healthcare.com.

To your clinical integration success,

Jeremy Powell

Jeremy Powell
Chief Clinical Strategist
Harris Healthcare Solutions

A nationally recognized leader in clinical integration solutions, Harris Healthcare Solutions offers a full range of interoperability solutions, including IT infrastructure and management, clinical workflow and analytics, health information exchange and imaging. Harris solutions improve healthcare quality, safety, efficiency, cost and outcomes by ensuring that the right information travels, with security and privacy, to the right person, at the right time, on the right device, at the point of care.
Providers face widespread changes in payment and delivery as the healthcare industry transitions from fee-for-service to value-based payment. Employers and insurers now seek to pay for care delivered to a population of patients, which typically includes care provided beyond the four walls of a hospital or clinic.

Clinical integration (CI) methods and processes pull together payment, support services or enablers and direct patient care to promote higher quality, more efficient care, according to Vishal Agrawal, M.D., President, Harris Healthcare Solutions. This can occur both at an individual patient level and more broadly through population health management approaches.

Hospitals and health systems are therefore looking for consortia, not-for-profit and for-profit partners that can offer acute and ambulatory care, specialty clinics and outpatient services, as well as health information technology (HIT) solutions that support care coordination and management across a community.

Information technology and clinical integration

Information technology is a critical clinical integration enabler.

Healthcare organizations (HCOs) rely on health information exchange (HIE) so that they can access patient record details from multiple sources, deliver a more complete longitudinal record and offer clinicians visibility into a rich data set beyond what exists within the electronic medical record (EMR), according to Eric Leader, Director of Product Development and Business Intelligence, Harris Healthcare Solutions. Other highly sought-after solutions to enable clinical integration include:

• Patient registries to identify patients at risk or in need of proactive management
• Care management solutions to facilitate care plan development and measure progress against plans across multiple providers
• Analytics solutions to measure and improve performance through cross-organizational care teams
• Payment management solutions to collect fees from patients, allocate fees to provider organizations and measure performance across care teams

No matter which systems HCOs choose to facilitate CI, they must realize that “health IT is a platform, not a panacea,” says Michael Mytych, Vice President, C-Suite Resources. “Health IT is a platform for change, but not the real end point of change. Among the multiple end points are CI, measurement of clinical quality, workflow changes and reductions in cost.”
CI Origins

Clinical integration has multiple drivers, including, but not limited to:

Cost: Providers across the globe continue to worry about the burgeoning cost of healthcare, as well as the limited financial sustainability of current care models.

Outcomes: Despite consistently heavy investment in healthcare, clinical outcomes continue to vary by country, state, region, city and even neighborhood.

Government: Regulators are committed to removing costs from the system, while improving quality, safety, efficiency and coordination.

Patients: Patient demands for information access and care coordination are increasing. Information technology has been an extreme equalizing force within healthcare, by giving patients access to a wealth of information.

“No one is happy with the way healthcare is headed; it’s too expensive, fragmented, inflexible and slow to change,” says Leader. “CI calls on providers to build partnerships with the capacity to care for patient populations, deliver positive patient outcomes and offer value in the form of enhanced quality, efficiency, cost management and patient satisfaction.”

HCOs also recognize the increasing challenge of working in isolation. Value-based payment, bundled payment, quality measures, population health management and the continuum of care demand CI, according to Michael Mytych and Ralph Wakerly, President, C-Suite Resources. Equally pivotal is widespread, multifaceted industry consolidation:

• Hospitals consolidate into systems
• Physicians consolidate practices into larger groups
• Physicians secure employment with hospitals
• Hospitals link with and acquire post-acute care organizations
• Not-for-profit organizations sell to for-profits

Value-based purchasing, the patient centered medical home and accountable care all require that HCOs operate with deeper and broader integration to serve populations of patients, says Mytych. That, in turn, means hospitals, physicians and payers must come together to attract patients—either through features like lowered deductibles and co-pays or by convincing patients of the organization’s capacity to meet every healthcare need.

Wakerly believes that many HCOs, in their haste to build physician strength in preparation for bundled payment, historically paid too little attention to patient experience and satisfaction. They traditionally viewed physicians and payers—not patients—as their primary financial customers. However, that reality will soon give way to value-based payment where patient satisfaction carries significant weight in reimbursement.
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The HealthLeaders Media Industry Survey 2012 Senior Leaders Report\(^1\) revealed patient experience and satisfaction as the top two priorities of senior healthcare leaders through 2015, followed by cost reduction and process improvement, clinical quality and safety, payment reform and reimbursement. When asked to identify the single greatest challenge related to quality improvement, 24% of senior leaders reported improved patient experience, including patient flow, while 21% listed care coordination and the continuum of care.

What do these results suggest? The majority of senior healthcare leaders are struggling to thrive in the gap between the first and second curves of the healthcare industry’s evolution, according to Wakerly and Mytych. For decades, HCOs functioned within the volume-based first curve, characterized by volume-based reimbursement; unrewarded quality; unshared financial risk; acute, inpatient hospital care; stand-alone care systems; minimal incentives for IT investment; and regulations that impeded hospital-physician collaboration.

However, Wakerly and Mytych believe that HCOs have already begun to experience the value-based second curve. In this emerging era, 1) **payment** rewards population value in terms of quality and efficiency, 2) **quality** influences reimbursement, and 3) **partnerships** come with shared risk. HCOs must learn to thrive in an environment that demands realigned incentives for enhanced care coordination and IT investment for population health management.

While CI is the solution, it’s far from a one-size-fits-all healthcare innovation. Instead, it exists on multiple levels, according to Lloyd McCann, M.D., Director of Medical Services for MercyAscot.

Generally, three levels are defined:

- **Macro level**, which includes population levels and care communities;
- **Mesolevel**, which includes care pathways and groups at a sub-population level;
- **Micro level**, which includes case management and individual patients.

**Figure 1: Levels of integration in healthcare\(^2\)**

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<td></td>
<td>• Care pathways</td>
<td>• Care coordination/ Care planning</td>
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\(^1\) [www.healthleadersmedia.com/pdf/survey_project/2012/Senior_Leaders_f.pdf](http://www.healthleadersmedia.com/pdf/survey_project/2012/Senior_Leaders_f.pdf)

Each CI IT component could yield specific benefits, according to Dr. McCann. A patient portal, for example, offers a patient engagement platform that could improve clinical outcomes and also lead to provider savings.3 A provider portal brings about operational savings and enhanced communication among providers.4 Workflow optimization solutions such as referral management, care management and medication and allergy reconciliation, improve patient safety, increase productivity and can also generate provider savings.

**CI: The journey so far**

The CI journey, globally, has been far from straightforward. Analysts draw parallels between CI and accountable care with regard to mission, goals and processes. Some providers have focused on accountable care opportunities through the Centers for Medicare & Medicaid Services (CMS), while others have forged accountable care partnerships with payers and employers. Still others have built physician quality alliances composed of acute and ambulatory care providers and insurance management companies that function much like CINs.

Providers, such as small community hospitals, continue to struggle with accountable care, according to Leader. Confused over how an economic model that features accountable and managed care could reduce care costs, these hospitals seek out large clinics or other hospitals to form CINs. Meanwhile, service-column based HCOs find it tough to align governance and business structures with a CIN, choosing instead to focus on reinvention of more traditional business models.

Leader is convinced that CI challenges relate to the breadth and scope of an HCO’s mission and vision. “While HCOs realize that a CIN calls for partnership with other organizations, they struggle to determine how to connect every element within the CIN to reduce costs, manage care and engage patients across multiple care providers,” he says. “Larger networks may succeed with CI, but smaller, more geographically dispersed HCOs will be challenged to provide care through a continuum that rests outside the immediate service area.”

The majority of hospitals already have a CI strategy, although the strategy tends to shift with the nature of payer and provider relationships, according to Dr. Agrawal. Chief information officers (CIOs) and chief medical information officers (CMIOs) are just determining how to partner with clinicians—especially affiliated physicians who must commit to using electronic medical records (EMRs) and exchanging information with the enterprise.

Despite these and other challenges, the CI movement has developed an impressive but limited winner’s circle. Large, prestigious HCOs—from Advocate Health Care to Kaiser Permanente—have already achieved success in CI and accountable care via government and private payer programs. Other large ACOs—from Dignity Health (formerly Catholic Healthcare West) and the Cleveland Clinic, to Johns Hopkins Medicine and Boston Medical Center—have built alliances that reduce costs and focus on delivering value to patients.

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Wakerly highlights integrated delivery networks (IDNs) driven by physician leaders, including Geisinger, Marshfield Clinic and Cleveland Clinic. Especially noteworthy is Park Ridge, Illinois-based Advocate Health Care, which has pursued CI for more than 15 years by forging a culture of collaboration and team-based patient care.

Dr. McCann counts Kaiser Permanente, the Veteran’s Administration (VA), Mayo Clinic and Cleveland Clinic as being among the organizations that have achieved macro-level CI with impressive impacts on quality, cost and safety. HCOs that realize meso-level CI have a high impact on quality and patient satisfaction, but a lesser impact on costs, he says.

The explanation for meso-level CI performance is complex. “While some HCOs assumed that EMR implementation qualified as progress toward a CIN, many EMR systems lacked the flexibility to adapt to other EMR and data solutions,” says Leader. The result: Strapped by funding constraints, many HCOs continue to sit behind the curve on care management and collaboration. Meanwhile, large EMR vendors remain focused on addressing Stages 2 and 3 of meaningful use requirements rather than moving forward with CI.

Also troublesome to HCO executives are costly but underperforming business intelligence (BI) systems. HCOs that took a more traditional path and built data warehouses and analytics reporting capabilities on top of BI systems often failed to reach the level of maturity required for using BI to govern an authentic data-driven organization.

“The technologies may be adequate, but they are not well-aligned to HCOs’ business needs and strategies,” says Leader. “While HCO executives can probably ask questions and obtain answers based on data, it’s a large chasm to cross for them to govern an organization based on data and information.”

Wakerly and Mytych point to the inability of HCOs to fully understand physician practice information systems, as well as the general lack of interoperability between practice and hospital systems. Once a hospital acquires a medical group, it often asks its physicians to abandon its IT systems in favor of hospital systems. Clinicians grow frustrated, not only because of the executives’ lack of sensitivity and in-depth knowledge of practice operations, but also because of lengthy, repetitive meetings and exhausting budget deliberations.

**Using IT to drive CI success**

An optimum CI IT platform may include the following elements, according to Dr. Agrawal:

- Electronic medical record
- Health information exchange
- Central data repository (for HCOs that lack compatible EMRs)
- Collaboration tools
- Secure provider-to-provider and provider-to-patient messaging
- Care planning, tracking and management
• Disease registries

• Business intelligence

• Patient outreach, including tools that deliver education and access to the clinical record and facilitate collaboration among the care team

• Claims management, if payer organizations are alliance members

Jeremy Powell, Chief Clinical Strategist, Harris Healthcare Solutions, differentiates between front- and back-end systems and other functions that may underpin clinical integration. Within back-end systems are a central data repository that enables a longitudinal patient record; an identity management system or Enterprise Person Index (EPI); results normalization solution for assembling and assimilating a common lexicon and hierarchy; provider/care team and patient relational data stores, including demographics, diagnoses and services data; a patient registry for managing care gaps; clinical decision support leveraging established clinical guidelines and measures; hospital diagnostic, episodic and intervention data integration; and data integration of community laboratory, radiology diagnostics and prescribed medications.

Front-end systems, in contrast, feature clinical results viewing across all care settings; access to network-established CI guidelines and measures; secure messaging among CI providers; the ability to send, receive and track referrals; medication and allergy reconciliation and order entry capabilities at the point of care; patient education and outreach tools; care management tools, including care transitions; provider, practice and network-level outcomes reporting; and guideline adherence reporting at both the provider and patient levels. Other functions include Physician Quality Reimbursement System (PQRS) submissions, patient and caregiver experience survey tools, predictive modeling, risk adjustment and data integration.

Dr. McCann offers a similar view, echoing the necessity for HCOs to move toward electronic workflow wherever possible. “Any HCO’s goal is ultimately to deliver high quality care to its patients. Clinicians have the same goal. Wherever possible, HCOs should focus on enabling clinicians to deliver care and therefore minimize the administrative and technical overhead on clinicians,” he says. “Clinicians should be invited to log in to an application once and then maintain context across the range of clinical systems they use.”

Dr. McCann also subscribes to a three-tier CI HIT framework that features an information governance structure, an IT platform that provides flexibility and maximizes use of existing data and legacy systems as well as clinician and patient focused functionality.
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Dr. Agrawal highlights CI initiatives that have used simple governance frameworks and flexible IT platforms as potential models to provide further momentum for the CI movement. The key to CI success, according to Wakerly, is an organization integrated on both inpatient and outpatient levels and supported by strong cultural and organizational models conducive to process change. Cultural change calls for a common vision around patient care as well as aligned incentives.

CI IT Success Requirements

Vishal Agrawal, M.D., President, Harris Healthcare Solutions, offers these recommendations for clinical integration success:

- Use clinical practice guidelines across the organization(s) to focus on integration at the clinical level
- Rely on electronic referral management
- Use IT to engage with patients
- Depend on unique patient identifiers or an electronic master patient index
- Use patient registries to enhance proactive management
- Use business intelligence to help drive performance

Equally important is finding vendors and consultants that prioritize HCO needs and requirements instead of attempting “to crowbar a solution around clinical workflow,” says Dr. McCann. “Ultimately providers want the option of purchasing a complete solution or just one component of a solution.”
Powell recommends that HCOs look for the following competencies in screening and contracting with CI vendors:

- Demonstrates experience in product development, systems integration and complex problem solving
- Shows evidence of being on time and on budget
- Leverages open source integration components
- Delivers open frameworks and platforms
- Utilizes previous investments in EMR, EMPI, Registry and Risk Management solutions
- Partners with best-of-breed solutions to augment core competencies
- Functions independently of insurance and EMR companies

**CI planning and process: unleashing the power of IT**

There are many recognized approaches to achieve CI. It is important to consider that CI may also not necessarily be an endpoint in itself, but a vehicle to deliver value to patients. However, there are some important principles HCOs should consider in their CI journey.

Essential to CIN success are strategic, C-suite level business discussions that cover these issues:

- **Goals and objectives:** Should the HCO pursue volume, value or market, or a combination of these goals and objectives?
- **Business model:** Which business model is most likely to enhance revenues, boost expectations around value, secure payment for care of a population and facilitate collaboration among providers?
- **Strategy and approach:** How should the HCO move forward with its chosen business model? Will a piecemeal approach work once the HCO has developed and engendered support for a business strategy? Can solutions such as HIE, analytics and collaboration be efficiently integrated into the strategic framework?

In many cases, HCOs also find value in CIN consultants who define strategy, capabilities, possibilities, and priorities in a multi-phase approach. Leader praises such consultants for their ability to articulate a broader range of capabilities and alternative business approaches, including deferral of business decisions until installation of required tools or repairs of the gaps found within tools.

Among the questions suggested by Leader for conversations with C-suite HCO executives:

- **Needs:** What are the organization's most significant business needs?
- **Problems:** What problems is the organization trying to solve? In what order should it solve these problems?
- **Community:** What is the nature and essence of the organization's clinical community? Do ambulatory providers already have EMR systems, or should the organization provide EMRs to providers on a subscription basis?
• **Business model**: What is the organization’s business model? How well has it performed in the past? To what extent can this model work in the future?

• **Performance status**: What is the current state of care delivery, including clinical, operational and financial performance?

• **Market**: How have market conditions influenced organizational performance?

• **Vision and goals**: What is the proposed state of care delivery and performance?

• **Strategy**: What is the organization’s preferred strategy or menu of strategies, including strategy features and components?

• **Functions**: What clinical, financial and operational functions should the CI solution perform?

• **Benefits**: What benefits should the CI solution deliver in terms of cost management, care coordination and collaboration, patient engagement, meaningful use compliance, and care quality, safety and efficiency?

Powell advises HCOs to pursue these questions in the context of an assessment roadmap. This roadmap begins with interviews and a system inventory of hospitals, providers, community, regional health information networks (RHIOs), EMRs and vendors. It continues with the development of a current and future landscape diagram.

A gap analysis can provide HCOs with critical information on HIE, analytics, clinical data repository and patient engagement, while also offering insight into budget and staffing issues. Vendor selection and contracting, which ideally incorporate staffing and financial models, tend to open the door to implementation.

Dr. McCann endorses a flexible, collaborative, interactive approach to CI. Among his recommendations for CI planning, design and implementation:

• **Clinical leadership**: Identify and use senior clinician champions and clinical advisory groups to facilitate solution design, implementation, adoption and use.

• **Workflow analysis**: Rely on clinical and functional specialists to analyze clinical and administrative workflow.

• **Communication**: Clearly define and communicate the vision, goals, benefits and challenges of the CI process.

• **Forward focus**: Identify the CI vision, goals and outcomes, along with the HCO’s current status and gaps that require closure.

• **Timetable**: Determine the schedule for CI planning, design and implementation over a two-to-three month period.

• **Outcomes**: Quantify outcomes, including the impact of CI on clinical, operational and financial performance.
Leadership is indispensable. Physicians, who often serve as the CEOs of clinically integrated organizations, wisely invite their medical colleagues to participate in CI governance. Such involvement is essential, says Mytych. Many HCOs have floundered and failed at CI because they lack buy-in from employed and, in particular, affiliated physicians.

**Recommendations for CIN Implementation**

Jeremy Powell, Chief Clinical Strategist, Harris Healthcare Solutions, offers these recommendations for CIN development and implementation:

- Leverage the resources of market-based consulting organizations
- Develop a sound CI vision and strategy
- Create a governance model and workable governance structures
- Sustain the CIN by advising physician practices on how to improve clinical, operational and financial performance
- Support health information exchange for enhanced care coordination and collaboration
- Educate physicians on the new realities of reimbursement and payments that involve other providers
- Take a long-term view of CIN management
- Explore the synergy of CIN governance, operations and strategy
- Approach CI in the context of population analytics, care team creation, outcomes measurement and securing adequate reimbursement

Presence Health worked with Harris to create a variety of committees centered on functions such as the development of measures, quality, performance, membership, credentialing, HIT, finance, contracting and operations. Presence Health continues to advocate mechanisms for ongoing communication, measurement of “what matters,” executive support, strong physician leaders and physician involvement in CIN design.

“One of the principal motivations behind the formation of Presence Health is to ensure a more collaborative, cost-effective, and interconnected healthcare experience for the patient and the physician,” said Richard H. Ferrans, M.D., System Vice President and Chief Medical Officer of Clinical Integration and Accountable Care at Presence Health. “The Harris Clinical Integration Platform will give us the infrastructure to deliver a suite of services that will be developed in coordination with Presence physicians and adhere to the responsibility we have to our patients to deliver a better healthcare experience.”

Harris Healthcare Solutions recommends the following implementation schedule for CI. There are activities in six work groups structured around governance/organization, clinical care, delivery network, IT and CI steering.
### Proposed Clinical Integration Implementation Schedule

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<tr>
<td>• Identify initial payment contracting options</td>
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<td>• Determine IT priorities and plan</td>
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<td>• Hold first-round physician forums and provide CI education</td>
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<td>• Establish work groups</td>
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<td>• Determine governance and legal structure</td>
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<td>• Identify FTC strategy</td>
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<td>• Establish clinical oversight structure</td>
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<td>• Complete business plan</td>
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<td>• Select IT vendors</td>
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<td>• Establish physician participation criteria</td>
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<td>• Secure board approval for implementation</td>
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<td>• Confirm ownership requirements</td>
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<td>• Identify target patient population</td>
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<td>• Obtain start-up funding</td>
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<td>• Draft incentive structure and flow of funds</td>
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<td>• Engage in IT vendor contracting</td>
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<td>• Determine participation of hospitals and other provider networks</td>
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<td>• Hire executive director</td>
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<td>• Identify initial performance measures</td>
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<td>• Design physician reporting</td>
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<td>• Begin clinical decision support (CDS) and clinical data repository (CDR) build</td>
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<td>• Establish provider networking</td>
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<td>• Determine required staff support versus outsourcing of IT and care management</td>
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<td>• Form the CI entity</td>
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<th>Quarter 5</th>
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<tr>
<td>• Make initial performance reports available</td>
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<tr>
<td>• Confirm the review and feedback process</td>
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<tr>
<td>• Finalize the incentive structure and flow of funds</td>
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<tr>
<td>• Move forward on physician portal, analytics and patient engagement</td>
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<tr>
<td>• Finalize initial payer contracting strategy</td>
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FUTURE DIRECTIONS

CI could thrive or continue to stumble, depending on multiple variables such as the fate of government-sponsored healthcare reform. Many factors will, however, drive the success of CINs over the coming years.

Importantly, the cost of healthcare must be reduced. Spending 18 percent of GDP on healthcare is no longer sustainable. HCOs must reduce costs, provide better value and accept lower payments, according to Dr. Agrawal.

“HCOs must negotiate payment for care of a patient population, while improving chronic care management through closely coordinated, highly collaborative care teams that adhere to best practices and generate positive clinical outcomes,” he says.

CI also requires a community view of the patient record, measurable care management, accountability through performance metrics, and patient engagement, according to Leader. HCOs must involve patients with their care plan, while also building relationships with care coordinators and relying on electronic tools to facilitate care, prevent readmissions and deliver care in the home.

Less predictable, says Leader, is the evolution of EMRs originally designed to serve a transaction-based healthcare system. While these EMRs support transactions leading to charge capture, they have limited capacity to measure and manage population health and organize collaborative care teams that exist outside the EMR.

Also essential is reinvention of state HIEs. While HCOs will continue to run HIEs as private or enterprise exchanges, states and regions must enhance existing HIEs to meet the needs of care plans and CI. Managing in a cross-organizational care environment will likely require the exchange of essential, discrete data rather than existing continuity of care documents.

Powell believes that CINs could evolve in one of two ways: true collaboration from point of care to governance or “somewhat parasitic relationships.” Large Market IDNs, for example, may decide that they want a patient population but not the provider or practice owner. Early physician participants in CINs may retain their right to have a voice in governance and autonomy, as compared with later-stage participants who may need to follow rules set by predecessors.

HCOs working to achieve CI will continue to face multiple challenges and opportunities:

• **Heavy EMR investments**: While the healthcare C-suite promised that EMRs would deliver organization-wide benefits and outcomes, significant EMR purchases have sometimes delayed, deferred or reduced investments in other HIT solutions while still failing to meet expectations.

• **Continued technology-centrism**: Equally troubling to HCOs are investments in immature performance management and BI solutions with little regard for governance
structure and required skill sets. “What’s required for CI is not a technology-focused solution but placing intuitive tools in the hands of professionals who can make a difference,” says Leader.

• Caregiver shortages: Physician and nursing shortages continue to escalate. Powell anticipates that other care professionals, who assist in managing care delivery via care plans and activated patients, will help to ensure that the most appropriate care is delivered to all patients.

• Changing C-suite mindset: The increasingly complex C-suite must manage the transition from a service-oriented to a value-oriented market that demands population and care team management.

• Patients: “HIT gives us a platform to engage and involve patients in their own care. Technology use is becoming increasingly pervasive and expectations around care delivery and engagement will continue to increase in patient populations,” says Dr. McCann. “This provides us with a unique opportunity to deliver value while reducing costs.” Powell believes that CINs must also fulfill their commitment to patient engagement and care coordination through new high-touch, low-cost care paradigms. This means offering portals, next generation e-visit and telemedicine consultations, disease-centered educational forums, and call centers to ensure patients are activated and engaged in their health.

“When HCOs can more fully leverage CI systems and use multidisciplinary care teams to administer care against vetted, condition-specific plans, patients will better understand how to manage and diminish the symptoms of many chronic conditions,” predicts Powell.

“While current methods of care delivery often rely on paper processes to drive referrals, consultations, and orders, tomorrow’s care will utilize electronic, instrumented, clinically integrated care delivery solutions,” forecasts Powell. “These clinically integrated solutions will allow numerous, heterogeneous communities of providers to better understand patients’ needs and gaps in care and leverage cross-silo alerting mechanisms to ensure they provide the best care and improve outcomes for their patients.”

The high-touch, low cost paradigm also means that providers will increasingly disseminate educational content, including vignettes and videos to help patients understand procedure risks, recovery and follow-up care. The result, according to Powell, will be a more educated, fully engaged population of patients.

“When a patient develops a new condition, providers will deliver a new set of educational materials along with an invitation to join a collaborative physician and patient community,” says Dr. Agrawal. “Engagement conducted ahead of traditional procedures will ensure that patients spend less time managing paper work and more time doing what matters to them.”
BRIEF CASE STUDIES

Kaiser Permanente CI Case Study

With more than 9 million plan members, 180,000 employees, 45,000 nurses, 35 medical centers and 450 medical offices, Kaiser looked to Harris for an integration platform, program management, architecture and systems engineering, integration, mapping and support. Kaiser and Harris partnered to achieve NwHIN, HL7 and IHE integration across Epic regions, primarily through the Care Connectivity Consortium (NwHIN) and regional clinical integration. KPCO, the initial integration of Epic, Next Gen and Cerner systems, provided admission, discharge and transfer (ADT), lab notes and transcription, and radiology and pathology reports. Also delivered was message routing and transformation, population of a data repository that drives business intelligence, population health management and clinical workflow scoping and assessment.

Presence Health CI Case Study

Formed through a merger between Resurrection Healthcare and Provena Health Care, Presence Health is a not-for-profit, Catholic institution with more than 100 facilities in the state of Illinois. Because Resurrection used McKesson and EPIC systems and Provena relied on MEDITECH, the newly created organization sought systems integration. Working with Harris, Presence Health has already taken steps to improve patient services, including patient engagement, population management, care collaboration, physician alignment and shared savings.

The CI solution developed by Harris offers a standards-based infrastructure that connects clinical systems with workflow and analytics tools that integrate complex data from diverse systems. In doing so, the solution delivers on clinicians’ needs to better coordinate and manage care across provider organizations, access data from multiple sources, exchange clinical results and generate a more complete longitudinal patient record.

Using tools provided by Humedica and data from the Harris repository, the solution also helps to identify at-risk patients in need of proactive management and measures and improves performance across care teams.

"Harris’ vendor-neutral CI solution combines the workflow and patient-centric solutions Harris acquired from Carefx in 2010 with Harris’ open architecture approach and secure IT infrastructure capabilities," says Vishal Agrawal M.D., President, Harris Healthcare Solutions. "Presence’s decision to partner with Harris supports the reality that hospitals and physician groups must implement CI to enhance coordination of care, eliminate duplication of services, manage risk and control healthcare costs."

Presence Health’s decision to partner with Harris on CI also tracks the Supreme Court’s June 2012 decision to uphold the Patient Protection and Affordable Care Act, which encourages providers to enhance care delivery, not only for sick patients but also for entire populations, communities or cohorts of patients. Presence plans to focus on the best possible patient outcomes, using CI to improve care through evidence-based standards and full communication, coordination and collaboration among providers.
HARRIS CLINICAL INTEGRATION SERVICES

Working on an HCO’s existing infrastructure, Harris Healthcare Solutions build clinical integration frameworks featuring Managed Services, Interoperability Platform, Clinical Information Access and Integration Solutions, Clinical Workflow Management Solutions and Performance Management and Improvement Solutions.

While Managed Services includes IT outsourcing, disaster recovery, mobility, remote hosting and systems integration, Harris’ interoperability platform leverages existing technology investments to bridge information gaps along the continuum of care. Using standards-based architecture, the platform provides an intelligent workflow automation engine and various options for sharing data securely.

Harris’ Clinical Information Access and Integration Solutions offer provider and patient portals, health information exchange and clinical image management, while Clinical Workflow Management Solutions include referral management, medication and allergy reconciliation, disease management, clinical desktop, and clinical messaging and collaboration. Performance Management and Improvement Solutions embrace financial performance, clinical outcomes, operational effectiveness, patient experience and consulting services.