

GE Healthcare

# Healthcare by Any Other Name

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## Introduction

Whether referred to as integrated healthcare or accountable care, the current focus on new healthcare models is a reaction to long-standing concerns around quality, cost, and efficiency. Many of these issues stem from care delivery systems that have been:

- Directed more at episodic treatment than prevention and early intervention
- Fragmented rather than integrated and coordinated
- Focused on patient eligibility and billing rather than patient engagement within and outside of the care setting
- Customized to the idiosyncrasies of individual facilities rather than standardized across care sites
- Rewarded more for volume than for quality and cost outcomes

The resulting inefficiencies have made healthcare less effective, less safe, and more costly than can be tolerated, particularly against the backdrop of a challenging worldwide economy. The old dictum 'if you provide healthcare, they will pay' no longer applies. Public payers, private payers, and regulatory agencies are wielding both carrots and sticks to drive healthcare organizations toward greater coordination, demonstrable quality, and measurable cost control.

The consensus on what ails our health systems, as well as the availability of new technologies, has led to the creation of new models of delivery, such as accountable care organizations and integrated health organizations. By whatever name, these healthcare models are designed to promote accountability and improve outcomes for the health of a defined population.

## Searching for the silver bullet

These new care models represent an effort to solve deeply-embedded healthcare delivery problems experienced by organizations of all sizes. Part of the solution is better quality and cost measurement and broader knowledge sharing, a daunting task for small rural hospitals and large academic communities alike.

Meeting these challenges requires a committed upfront investment, which can be partially supported by public sector programs such as the U.S. Meaningful Use program and ACO Shared Savings proposals. However, such government programs are not appropriate or applicable to every healthcare organization, nor is it available in every country. Other investment support is available from the private sector, such as payer financial incentives. Nevertheless, these approaches are unlikely to fully cover the investment needs for all parties. Therefore the necessary growth and sustainability in infrastructure is a long-term goal that will be accomplished in phases, not overnight.

That journey begins with a strong foundation in Healthcare Information Technology (HCIT). Starting with data capture, then sharing between locations and multi-vendor systems, and finally evolving to sophisticated care management and predictive analytics, HCIT helps make accountability an attainable goal. With a phased approach and sensible technology plans, concerns about the cost and complexity of implementing these new care models should not prevent providers from moving forward.

Underneath their often complex regulations, ACOs, IHOs, and other structures share a similar backbone: the common-sense basics of population health management. Population health management can be understood as the practice of engaging a clearly defined group of patients and providers across the care continuum. The goal is simply to enable better health outcomes for all at the lowest cost. The pillars of population health are summed up in the Triple Aim of the Institute for Healthcare Improvement:<sup>1</sup>

- Provide better health outcomes for the population served
- Enhance each individual's experience of care
- Reduce the per capita cost of care

Guided by these principles, healthcare organizations can take steps today to replace the more narrow focus of past delivery models with a more holistic approach to care management for patients. Using appropriate HCIT solutions, organizations can access and disseminate more effective care methods, coordinate care among affiliated institutions and health care professionals to improve patient satisfaction and loyalty, and achieve quality improvements and operational efficiencies that result in significant and sustainable cost savings.

A good example is Geisinger Health System's ProvenCare<sup>®</sup> program, which is demonstrating that quality outcomes and cost control can go hand-in-hand. Across multiple surgical procedures, including elective heart surgery, hip replacements and cataract surgery, Geisinger bills insurers a flat fee that covers all care for 90 days after the operation. If a patient is readmitted due to complications during that time, Geisinger absorbs the cost. The key to the program is standardizing best practices, translating them to specific steps for every procedure, and embedding them into an electronic check list that holds providers accountable for following the protocol. In the case of elective heart surgeries, complications have decreased by more than 20 percent and readmissions within 30 days declined by 44 percent. The average hospital stay has been cut by half a day.<sup>2</sup>

Patient complications down 20%, Readmissions down 44%,  
Average hospital stay down by .5 day

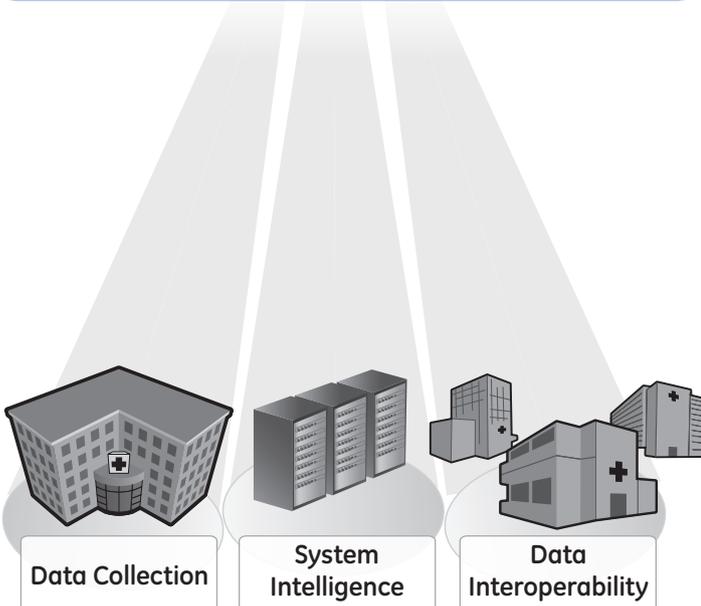
## Connecting to better care delivery

In the business world, IT became essential by delivering greater insights and efficiencies to the core processes of an organization. It seems unthinkable that companies today could foster strong customer relationships without the immediacy of email, gain insights into consumer trends without search engines and social media, or manage profitability without being able to analyze the company's financial data on demand.

There is no doubt that IT is becoming similarly intrinsic to healthcare. Providers need the ability to easily access up-to-date longitudinal patient information and apply evidence-based decision-support tools at the point of care. The resulting insights can help improve the quality, coordination and speed of care, producing better outcomes at a lower cost. It's a win for patients, for hospitals and health systems, and for the community at large.

To be capable of providing true value for population health management, an HCIT infrastructure requires three foundational "layers":

- **Data Collection:** Electronic repositories that record patient care from two perspectives – clinical (Electronic Medical Records, or EMR) and administrative (revenue cycle, claims)
- **System Intelligence:** Rules-based workflow that enables the leveraging of clinical and operational guidelines and policies throughout the care process
- **Data Interoperability:** Standards-based Health Information Exchange (HIE) technology that enables data, workflow and applications to be uniformly accessible across the community of care



An Electronic Medical Record (EMR) is a software application that records all medical encounters for a given patient in a care setting over time, from personal history and clinician notes to exam results and appointments.

## EMR and Revenue Cycle technology: the roots of population health

The limitations of paper-based care documentation have been well-established. Such systems slow the dissemination of vital information, introduce greater likelihood of error, and add cost and inefficiency to patient care. An EMR, in contrast, creates a "living" electronic record of patient encounters over time, iteratively adding data on patient demographics and problems, clinician notes, treatment recommendations, medications, vital signs, and other information. EMRs are increasingly including functionality that uses these data to enhance care, such as computerized order entry and clinical decision support. According to the U.S. Department of Health and Human Services, "Increased adoption of EMRs has the power to cut health care costs, reduce paperwork, improve outcomes, and give patients more control over their health care, while maintaining full protections on the privacy of individual health information."<sup>3</sup>

Electronic revenue cycle systems manage patient appointments, reminders and referrals, and insurance status. This functionality often includes prompt verification of the patient's insurance eligibility and terms of coverage, and it also provides the means for digital submission, tracking, and remittance of healthcare insurance claims. As a secure, efficient way to manage healthcare events and transactions, such systems can help providers increase claim accuracy, reduce operational costs, and improve cash flow.

An EMR and revenue cycle system are often integrated in one application or closely linked via interfaces. Together they form a robust "starter set" of data sources that can provide a comprehensive view of patient encounters, documenting everything from symptoms and diagnoses to lab results and medications to appointments, referrals, insurance eligibility, and claims tracking. This rich data source enables stratification of the patient population, helping providers properly identify the highest risk or highest cost patients and those most in need of dedicated care management.

## System intelligence: turning data into usable knowledge

Decision support (driven by evidence-based medicine) and analytics (powered by cost/quality reporting) are two essential components of population health management. Both require an IT infrastructure that organizes large collections of data, applies them to evidence-based algorithms and rules, then delivers information in a user-friendly manner.

HCIT helps translate evidence-based medicine into clinical decision support (CDS), formalized “order sets”, and precise quality metrics. These system intelligence tools are often implemented through portals or as part of an EMR. Typically, healthcare organizations add this system intelligence after getting their HCIT “starter set” in place.

Quality measures enable care delivery organizations to assess their progress. Such measures can be used internally to link with CDS and create cycles of quality improvement. They can also be used externally to establish accountability, demonstrate value, and provide a basis for system-wide enhancements.

Organizing data from quality and cost measures allows timely access and monitoring of key performance indicators, staff productivity, and service utilization. Because communicating insight can be such a difficult challenge, both dashboards and sharable reports are critical for effective population health management. Without this delivery, the data are not actionable for the people who need it most.

Health Information Exchange (HIE) connects multiple patient care points within a given geographic area—hospitals, clinics, labs, pharmacies—enabling them to share data in a mutually meaningful way, even if they have different EMR systems.

## HIE technology: the backbone of interoperability

With a still largely decentralized healthcare system, the limits of localized approaches to patient data management become even more evident. Consider the hypothetical case of Mary Jones, who visits her primary care physician because of severe headaches. She is sent to a nearby lab for blood work and then referred to a neurologist for further evaluation, all of which results in a pharmacy order for migraine medication. All of these care nodes (personal physician, lab, specialist, pharmacy) have different electronic data management systems—none of which can communicate with the others. How well Ms. Jones’ care is coordinated is limited by the current low-technology and point-to-point communication tools (phone, fax, mail) that tend to introduce lag time and a higher risk for error into the care process.

A standards-based, two-way HIE technology can eliminate gaps between local EMRs by creating, in effect, a universal conduit that allows patient information to be shared quickly and transparently among institutions, providers, and patients. HIE connects the disparate systems across communities, aggregating data and images to enable safer, quicker, more informed decisions at the point of care. With transparency to each corner of the health system, HIE sets the table for the wide adoption of improved care processes.

## The importance of standards-based HCIT

In developing an HCIT infrastructure, especially for HIE and other interoperability functions, it’s critical to choose standards-based applications. Easier implementation and long-term viability are the benefits of adopting standards from organizations like HL7 and interoperability profiles from IHE (Integrating the Healthcare Enterprise).

A standards-based approach can:

A standards-based system:

- **Provide predictability:** measurement, repeatability, and reproducibility are enhanced
- **Support collaboration:** more providers can “plug and play” in the network
- **Prevent “lock in”:** the care delivery organization is not hostage to custom solutions
- **Reduce costs:** lower installation expenses and total cost of ownership

With Care Management technology, users can collect and analyze data to identify high-risk patients, personalize care plans, coordinate care team workflow, and make programmatic improvements.

## Care Management: enabling the holistic, patient-centered care plan

With data collection grounded in system intelligence and the information exchange platform in place, this HCIT infrastructure can be further enhanced by attaching clinical apps that improve performance. One of the most critical apps for population health is in the evolving area of Care Management.

Improving the management of patients with chronic diseases—the sickest of the sick—is a core imperative of population health from both a clinical and a financial perspective. The numbers are staggering: 5% of the U.S. population accounts for almost half (49%) of total health care expenses.<sup>4</sup> Nearly 133 million Americans—almost 1 out of every 2 adults—have at least one chronic illness, and healthcare costs for chronic disease treatment comprise over 75% of U.S. health expenditures.<sup>5</sup>

In concert with a robust EMR, revenue cycle software, and HIE, a Care Management solution can assist healthcare organizations in a number of ways. It enables stratification and predictive modeling to identify patients who are at higher risk for developing serious diseases—potentially enabling earlier intervention to limit the severity of the disease and the cost of care. Combining information on individual patients with evidence-based guidelines, case managers can optimize care plans and more easily coordinate the activities of primary care professionals, clinical specialists, home health workers, and others. Such coordination is vital since virtually all chronic patients have multiple co-morbidities and a corresponding high number of caregivers and potential care plans. Finally, Care Management analytics can enable providers to identify gaps and opportunities in their programs for at-risk patients, leading to quality and cost management improvements.

A Care Management solution helps produce a critical output of population health management: the evolving care plan. As a patient's data enter the system from multiple sources over time, the care plan evolves to address the current health status of the patient. All caregivers should have HIE access to the centralized care plan with the ability to develop and revise appropriately to the patient's changing health profile. This approach helps ensure that patient care is truly holistic—not just the sum of individual plans developed by individual providers.

## Practicing best practices

The intent of population health management is to replace fragmented, episodic care delivery with a holistic, coordinated approach that improves the health outcomes and experience of care for the population served, while lowering per capita costs. Doing so requires an HCIT platform that supports collection and storage of pertinent data on patients, providers and payers; integrates system intelligence to enable evidence-based decisions; and enables smoother handoffs of information among all team members.

With such an IT platform in place, providers can leverage advanced applications to further enhance their services, such as Care Management to optimize care plans for the chronically ill, Utilization Management to manage medical and pharmaceutical use, and Referral Management to better track patient encounters against individual care plans and organizational strategies. Each step brings the healthcare organization that much closer to creating an integrated community of care that can improve population health, reduce waste and inefficiency, address patient and caregiver needs, and control costs.

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## Biographies

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Mark Segal is Vice President, Government and Industry Affairs, for GE Healthcare IT. He is past Vice Chair and Executive Committee member of the HIMSS Electronic Health Record Association (EHRA), Vice Chair of EHRA's Public Policy Leadership Workgroup, past Chair of HIMSS' Government Relations Roundtable and member of its Public Policy Committee. He is on eHI's Leadership Council and Policy Steering Committee and the Connecting for Health Steering Committee.

Before joining GE, he spent over 20 years in healthcare, most recently as Vice President at both Medical Present Value, Inc. and the American Medical Association. Mark has spoken and published on a variety of healthcare topics. He was the first chair of the National Uniform Claim Committee and member of the WEDI Board.

Mark has a BA in political science from the University of Rochester and a PhD in political science from the Massachusetts Institute of Technology. Mark can be reached at [mark.segal@ge.com](mailto:mark.segal@ge.com).

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Before joining GE, he was the Director of IT and Chief Applications Officer at Boston Medical Center (BMC), responsible for all the enterprise hospital technologies and systems including enterprise EMR, RIS/PACS, Ancillary Systems, and the enterprise revenue cycle system. He has presented on many health information subjects and was recognized as one of the Top 25 Clinical Informaticists in the country by Modern Healthcare Magazine.

Joel holds an undergraduate degree from Boston College and Master's degrees from Harvard University and the BU School of Medicine. Joel can be reached at [joel.vengco@ge.com](mailto:joel.vengco@ge.com).

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## About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at [www.gehealthcare.com](http://www.gehealthcare.com).

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