

Patient Access Services (PAS)

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Abstract

Relative to its peers, healthcare in the United States is characterized by high costs, poor outcomes and low patient satisfaction.¹ Payers, led by the Federal Government, are increasingly requiring that providers demonstrate improved performance as a condition of reimbursement. Furthermore, patients themselves are becoming increasingly sensitive to provider costs and performance as costs are shifted to them through higher premiums, deductibles and co-pays. A new competitive, performance-oriented, and truly patient-centric landscape is emerging in healthcare. A landscape in which providers must either evolve or face the existential consequences of inaction.

Caring for our Company and Relationship Management

Organizations seek to understand their customers for a variety of reasons. For example, knowing which goods and services to stock and provide requires understanding the demographics of the customer base and what it is that the customer seeks. Maintaining and increasing an enterprise's tangible goodwill requires effective emotional appeal to customers and letting customers know that the organization shares the customer's values. Moreover, that the organization actively seeks to protect and promote those values through empathy and a sense of shared mission.

Organizations with the happiest customers put their employees first. The emotions people experience on the job have a huge impact on the customer's experience"

This can be a daunting task. As individuals, we typically have a few friends and family members with whom we are close and about whom we can know much. Likewise, an organization seeks to treat every one of its customers as well as an individual treats their close friends. But with customer numbers ranging in the hundreds, thousands, or millions an organization's institutional memory is simply not capable of remembering, at the human level, each of the important, personal, details of each of its customers. Much less, the history of the customer's relationship with the organization.

A new class of technology, known colloquially as "Customer Relationship Management" (CRM) systems, has emerged. This technology seeks to capture as much about the organizational/customer relationship as possible so as to deepen the organization's understanding of its customers, enhance the organization's ability to serve the customers, and gain operational efficiencies by automating tasks where possible. Together this results in higher customer and staff satisfaction and higher operational efficiency with decreasing costs and increasing revenues.

¹ Kaiser Family Foundation: "Snapshots: Health Care Spending in the United States & Selected OECD Countries"

In short, it proves the Deming paradox – that by increasing quality, an organization reduces costs. It's time that healthcare in the United States took advantage of and deployed the same technologies in pursuit of improved health outcomes, improved patient and staff satisfaction, improved efficiency and lower waste.

"It is not enough to do your best; you must know what to do, and then do your best."

W. Edwards Deming

History and Background of Healthcare Information Technology

In the mid 1960s, researchers at Massachusetts General Hospital created the Massachusetts General Hospital Utility Multi-Programming System (MUMPS). MUMPS, consisting of a specialized programming language (called just "M") and a built-in hierarchical database, was developed under a federal grant aimed at digitizing the patient admission cycle and the collection of laboratory (clinical) test results.

As the personal computer rose to prominence in the 1980s, several private corporations used the open-source MUMPS platform as the basis for a set of commercial practice management systems (PMS) running front-office user interfaces. Those interfaces greatly automated the processes of patient scheduling, admission, and discharge. And, using the information gathered in the front office, the systems also greatly streamlined and improved back-office functions, of which the most important was, and is, billing and collection.

"For several decades, a consensus has grown that reining in the United States' \$3.2 trillion annual medical bill begins with changing the way doctors are paid: Instead of compensating them for every appointment, service and procedure, they should be paid based on the quality of their care."

New York Times, "Trump Health Agency Challenges Consensus on Reducing Costs"
Nov 12, 2017

As the decade went on, automation extended from front and back office clerical tasks and into the administration of clinical tests. Rough standards, such as the Health Level Seven (HL7) version 2 "hat and pipe" protocol allowed clinical medical equipment, primarily phlebotomy, electrocardiogram, and imaging equipment, to "tag" tests with patient demographic information sent from the practice management systems. Conversely, that equipment could send information about the tests back to the practice management systems where it could be used to help automate coding and other billing and collection activities for the practice.

Although clinical systems and practice management systems could now interoperate, that interoperability's primary purpose was to support efficient practice reimbursement (billing). However, two developments: the enactment of the Health Insurance Portability and Accountability Act (HIPAA) of 1996 and the implementation of so-called "Meaningful Use" under the Affordable Care Act of 2010 began to fundamentally change the utility of information technology within the provider space. And with that, the nature and utility of system interoperability.

All over but the shouting: The transition from payment-for-service to payment-for-outcome

HIPAA's two most important mandates were a) That health records belonged to patients, not providers and b) That providers were legally obligated to enable the portability of a patient's health record. Not only from provider to patient, but from provider to provider and provider to payer.

"[The] frenzy of mergers and other alliances taking place also reveals a frantic attempt to court and capture patients as people have more choices about where to go for care.

Patients are increasingly relying on walk-in clinics, urgent care centers or an app on their cellphone to check out a nasty rash or monitor their diabetes, and they are looking for places that are both less expensive and more convenient than a hospital emergency room or doctor's office.

Hospital executives are realizing that someone else, including an insurance company employing the nurse at a walk-in clinic or the doctor at a surgery center, wants to take over their relationship with patients — and the potential revenue that those patients represent.

Hospitals will have no choice but to ... reinvent themselves ... They know patients can go somewhere else. 'Health systems are considerably more concerned with being convenient and not unaffordable ...'

New York Times, "Hospital Giants Vie for Patients in Effort to Fend Off New Rivals" December 18, 2017

Initially this had little impact on the development of practice management systems. The overwhelming amount of patient health data was still maintained on a practice-by-practice basis in paper form. Throughout the 1990s and 2000s, the primary impact of HIPAA was to compel practices to surrender health records to patients when requested by the patients. That surrender was often fiercely resisted by providers who dragged their feet as they could in response to patient requests and even when granted, provided records only in facsimile (e.g. Xerox, mimeograph, etc.) form — and often charging significant "processing fees."

It was becoming clear that rising health care costs, which far outpaced inflation,

were unsustainable. Many, including the Federal Government (the largest payer in the United States) felt that the remuneration model used in healthcare -- known as fee-for-service -- was largely to blame. Coupling payments only to the type and number of procedures that doctors perform, instead of tying payments to patient health outcomes, creates a set of perverse financial incentives in which sickness generates profits while health drives away customers.

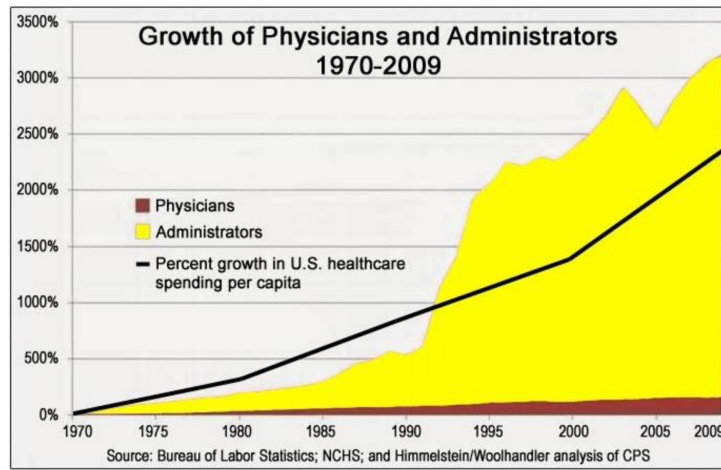
Payment models needed to shift from the acute encounter-based payment-for-service model and towards a model that better treated the most expensive types of health care. Those types being the diagnosis, management, and mitigation of chronic conditions where the payment to providers was based on how well providers produced positive health outcomes, not how often they treated patients.

Towards that end, the Federal Government designed and implemented the so-called "Meaningful Use" program, named to reflect the desire to meaningfully use electronic health systems towards the recording and reporting on patient health care and its outcomes. As well as the subsequent use of that data and reporting to improving outcomes at both the individual and

population level while driving down costs – to drive both outcomes and costs in the United States upward to match those of our peer nations.

The rise of the Electronic Health Record (EHR) system

As the nation’s largest health care payer, the Federal Government’s ability to shape US health



policy is as immense as is its need to contain unsustainably rising health care costs, particularly within its Medicare and Medicaid programs. It has been the policy of the Centers for Medicare and Medicaid Services (CMS) to put providers on notice that remuneration will increasingly be based upon outcomes, not services, and that providers will be expected not only to report their patient health outcomes but to demonstrate significant progress, year over year, in

qualitative health improvements.

Following the government’s lead, private insurers are also increasingly demanding that providers demonstrate the efficacy of their treatments, giving rise to a new term “precision medicine.” Both public and private payers are also mandating that providers themselves put more skin in the game, namely assume more of the actuarial risk inherent in health care, through assumption of responsibility for population health via corporate structures such as Affordable Care Organizations (ACOs).

The Federal Government recognizes that Information Technology (IT), long relegated to back-office functions within healthcare, now has a significant front-and-center role to play in the transition from the quantitative fee-for-service model to the qualitative fee-for-outcome model. Meaningful Use incentivizes the transition for IT through cash grants to providers who adopt certified electronic systems (systems able to record and report qualitative patient health care outcomes) as well as punishments to those providers who cannot demonstrate either the ability to measure qualitative outcomes or to demonstrate effective patient health record interoperability and portability.

Practice management system vendors quickly reacted to this, adding functionality to their billing systems that allowed them to meet Meaningful Use certification criteria and allowing providers who purchased those certified systems to receive large monetary infusions from the government.

In addition to meeting the certification requirements, the practice management system vendors also undertook significant market campaigns designed to “re-brand” their systems. This re-branding sought to transition the view of the systems away from billing and schedule

maintenance and to a view of them as comprehensive health management systems which would not only facilitate payment but also act as repositories of all patient health information.

Thus were practice management systems transformed into electronic medical record (EMR) systems and later the even more catholic-sounding electronic health record (EHR) systems.

The case for Patient Access Services (PAS)

Payment models are transforming, medical records are becoming more portable, and patients are playing a larger and larger role discerning and selecting providers based on the provider's measured performance and competence. These trends represent the most significant changes

“With the benefit of hindsight, it's clear how this has affected advertising and marketing,” says Jon Swallen, chief research officer for Kantar Media.

“The ACA dramatically changed the landscape for these companies, and advertising and marketing strategies have evolved to meet the new challenges.”

As insurance plans have tried to push more of the costs of healthcare coverage onto subscribers, patients have been empowered and incentivized to shop around for healthcare, and to be more cost-conscious

“That's led to a much more competitive environment for hospitals at the consumer level,” Mr. Swallen says.

It also has meant that more and more, hospitals and clinics are marketing themselves directly to consumers rather than the professional community.

“Ten or 20 years ago, hospitals depended on physicians to refer a patient,” Mr. Swallen says. “Today, the consumer is more empowered to make those decisions.”

Advertising Age, “Healthcare Marketing”

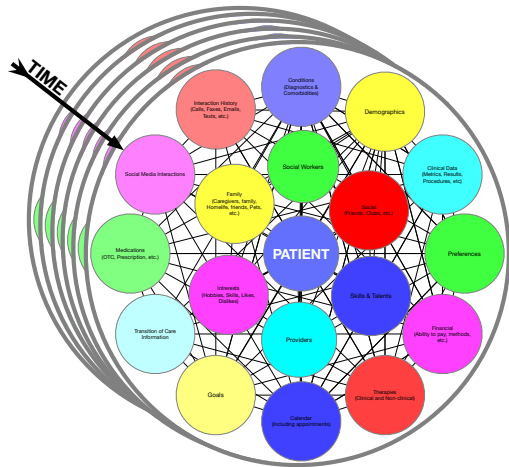
in the American health care system since Henry Kaiser inaugurated employer-based health coverage during the Depression.

As a result, we are in a period of wrenching economic and cultural change in the health care industry. Those invested in the status quo, far too often those in positions of administrative power within the industry, have and can be expected to fiercely resist the change. Nonetheless, the fundamental unsustainability of the US health care system, particularly when compared to the performance of our peer nations, signals that the status quo represents a future that is already dead.

Embracing the change means a commitment among providers to redefine the medical business model. It means a commitment to turn away from the old, quantitative, encounter-based payment system and to embrace a new, qualitative, system that

focuses on the patient as customer -- using procedures and systems that enable a permanent qualitative and longitudinal relationship between patient and provider.

From an IT perspective, this means replacing the old billing-centric backoffice systems with new customer-centric front-office systems. It means a transformation in the culture of IT within healthcare from the maintenance of technical infrastructure to the creation of systems that enable deep and meaningful patient interaction, interactions that enable non-clinical methods of health improvement and that empower not only the patient but the provider's staff.



It means the re-conceptualization of information technology within healthcare towards systems that fundamentally are not about “data processing” but that are about communication. Societally, this is not a new trend as we have seen with the rise of information systems as communication systems from email in the 1970s to the advent of social media in this century.

But it is new to the health care industry.²

For providers, future success means embracing the changes within the industry and developing and deploying technical systems that support those

changes. Of those systems, perhaps the most important are systems that support and enable rich, qualitative, relationships between patient and provider. Patient Access Services, as they are becoming known, are to health care what customer relationship management systems are to other industries.

With a twist, however. Health care is fundamentally unlike other industries in that it is not subject to market discipline (nor should it be). Health care consumers (patients) generally are involuntary consumers – unlike a new car or a new computer, no one shops for a heart transplant unless it is absolutely necessary. Moreover, health care consumers are typically under extreme emotional and physical duress.

So, while we can recognize parallels and similarities between the customer relationship systems employed in other industries, it would be a mistake to simply copy those systems, and the practices employed in deploying them, to healthcare.

“Value-based payments are heavily weighted toward patient satisfaction, which frequently comprises up to 25% of your total quality score and quality score payment. CMS requires patients to be surveyed for population health programs about their experience in the ambulatory setting – asking them whether they are getting timely care and access to specialists, how the provider communicated and whether they felt included in the decision-making, whether they were given educational materials and support that promoted their health, and asking them to rate their provider and their overall health status. Getting high scores in patient satisfaction often translates to better patient loyalty and engagement in managing their disease, resulting in better outcomes and financial performance.”

<https://caravanhealth.com/patient-engagement/>

The development of patient relationship, patient access, systems in healthcare requires the involvement of individuals within and outside the provider space who deeply understand the unique economic and cultural factors in the US health care industry.

² See companion article “Issues in Computerized Communication: Components and Questions” Journal of Organization of American Historians, Spring 1992 issue.

Twilight of the Clinical

There is a strong bias in Western Medicine, particularly as practiced within the United States, towards clinical practices and procedures as the foundation for healthcare delivery. This bias can be traced to the mid 19th-century rise of professional fraternities, such as the American Medical Association (AMA) and the political pressure that those fraternities placed on state governments to institute formal licensing of the profession. The impetus for this, similar to efforts within the legal profession with its fraternities such as the American Bar Association, was to legitimate the practice of medicine. To embargo the practice to those who had mustered the qualifications, if not the merit, necessary to protect the brand.

“Everything looked so good [in the EHR system], and yet what Father had gotten was not Medicine but Healthcare—Medicine without a soul.

What do I mean by ‘soul’?

I mean what Father did not get.

Presence. Attention. Judgement.

Kindness.

Above all, responsibility. No one took responsibility for the story.”

“Robotic Healthcare,” *Harvard Magazine*, January-February 2018

There is growing evidence that non-clinical approaches to the practice of medicine can yield substantial benefits in terms of medical outcomes. For example, the emotional and mental health of patients are potent forces in the functioning of the immune system. Improving emotional and mental health are perhaps the most important administration a provider can perform.

Unfortunately, not only are practices deficient in the non-clinical administration of health care, but so are the systems on which the practices depend. As we go into below, typical electronic

“They seem much more willing to invest more money in fancy equipment a company can make profit from in tertiary care use than in evidence-based primary care preventive measures like public health nurses for pregnant moms through to age 2 of their child

We get federal meaningful use reimbursements for keeping patients with diabetes Hgb a1c under 9, but not for turning pre-diabetes around or stable and non-progressive. Can’t sell anything to healthy people...”

RN, major west-coast health provider

health record (EHR) systems are poorly designed to process even clinical information (as opposed to billing information). They are completely insufficient in aiding providers where the administration of non-clinical health care is concerned. Not only can they not ingest, store, and process data such as social history, lifestyle issues, emotional challenges, etc. but their analytical and predictive processing is limited to simple, brittle, and linear rules administration.

For example, brittle EHR systems can flag a patient overdue for a vaccination but cannot incorporate sophisticated predictive forecasting based on lifestyle and socioeconomic factors, say predict weight gain resulting from job-related stress. Such sophisticated predictions are easily performed by a modern patient access system (PAS), built on a modern CRM platform.

The case against the EHR as PAS foundation

Just as they scrambled to re-brand their practice management systems as electronic health record systems, in order to capitalize on federal Meaningful Use incentives, the major EHR vendors are now scrambling to re-brand their EHR systems as Patient Access Service (PAS) systems. Major new versions and modules from all of the vendors now purport to effectively address everything from population health to patient/relationship management to chronic disease management and care transition to interoperability. The marketing collaterals are glossy and impactful, the sales pitches are compelling and engaging, and the allure of one-size (vendor)-fits all is as strong as ever.

Beneath the surface bluster lurks a legacy of damage from past promises made and unfulfilled. Every provider with any history of EHR implementation is well familiar with the high costs, high maintenance, and under-performance of the systems in practice. Two fundamental factors conspire to severely constrain the ability of legacy EHR systems to evolve and adapt to the changing landscape of health care in the United States.

“But instead of ushering in a new age of secure and easily accessible medical files, Epic has helped create a fragmented system that leaves doctors unable to trade information across practices or hospitals. That hurts patients who can’t be assured that their records—drug allergies, test results, X-rays—will be available to the doctors who need to see them. This is especially important for patients with lengthy and complicated health histories. But it also means we’re all missing out on the kind of system-wide savings that President Barack Obama predicted nearly seven years ago, when the federal government poured billions of dollars into digitizing the country’s medical records.”

“We’ve Spent Billions to Fix Our Medical Records, and They’re Still a Mess. Here’s Why.” *Mother Jones*, October 15th, 2015

The first factor is simple technical obsolescence. If a singular characteristic described the technical nature of the major EHR systems today it would be that they are old, designed to address challenges and issues in health care that are not relevant today. Everything from the computer code bases, most of which stem from the 1970s, to the architecture, to the ability to interoperate with other systems is as brittle as it is a proprietary maintenance nightmare. The

“I will submit that one of the biggest impediments to innovation in healthcare is Epic, because the way that Epic thinks about their [intellectual property] and the IP of others that develop on that platform” James Hereford, CEO Fairview Health Services

“Hospital CEO to Epic: Stop blocking innovation, open up your platform.” *Healthcare IT News*, January 18th, 2018

user interfaces are as ad-hoc as they are haphazard, utilizing a long-obsolete “client/server” model that has been adapted to distributed deployment via a variety of ugly technical hacks involving things such as remote desktops, vendor-specific proprietary application programming interfaces (APIs), shared drives, incomplete interoperability standards and other byzantine approaches that are as operationally fragile as they are manifestly insecure.

The second factor is the business model prevalent within the EHR industry. Fundamentally the business model seeks to monetize the patient health record, meaning it is fundamentally at odds with the goals and visions of everything from HIPAA’s health record mandates to those provisions of the Affordable Care Act that seek to lower health care costs and improve health care outcomes

through fundamental reshaping of how patient health records are curated, distributed, and defined.

It is no mystery why executives of the major EHR vendors find themselves having to testify before Congress and explain why their systems do not meet mandatory interoperability standards. It is no mystery why the EHR systems lack even rudimentary support of modern open interfaces, such as HL7s Fast Healthcare Interoperability Resources (FHIR) specification. It is no mystery why the EHR vendors relentlessly pursue legal action against third parties seeking to interface their products with EHR systems.

Irrespective of the benefit to patients, payers, providers and the nation, nearly every technical requirement made necessary in the transition from payment-for-service to payment-for-outcome represents a fundamental and existential threat to the EHR vendor's bottom line. And they have and will continue to resist enabling that transition, including the deployment of effective Patient Access Services systems, fiercely.

“What you hear is that, if you were to buy the best of breed—the best cardiology system, or the best chemotherapy system—no one would ever choose Epic,” says Julia Adler-Milstein, a University of Michigan researcher who studies health care IT. As it stands, she says, ***using Epic is easier than trying to piece together better options from various software vendors.*** On top of that, Epic will tailor each installation on-site to a customer's specific needs. What it doesn't have—and ditto systems created by competitors Cerner and Meditech, the other bigwigs in EHR—is a framework to connect to other facilities using competing EHR systems.”

“We've Spent Billions to Fix Our Medical Records, and They're Still a Mess. Here's Why.” *Mother Jones, October 15th, 2015*

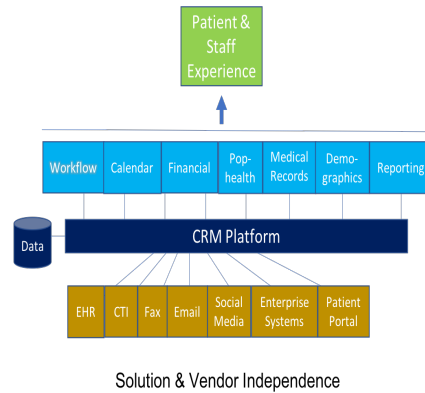
The case for CRM as PAS foundation

Modern customer relationship management systems (CRM), irrespective of any particular vendor, all share certain salient characteristics important in the health care context:

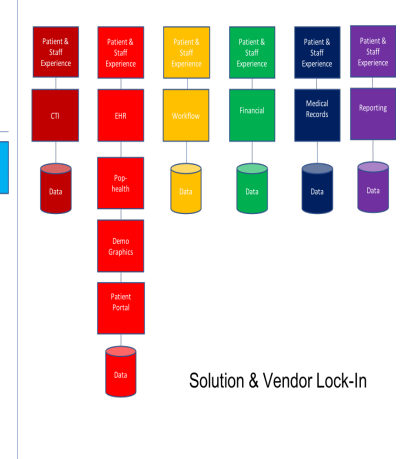
They are *cloud-based*. This has significant benefits over on-premise hosted EHR systems from the standpoints of interoperability, health record availability, reliability, and security.³

³ See companion whitepaper “Patient, Provider and Payer: Why it is in everyone's interest to move patient health information out of the premise and onto the cloud” for more information.

They are architected to facilitate *horizontal integration* of components. In contrast to the vertical “one-size-fits-all” approach taken by the EHR vendors, CRM systems allow the customer to pick and choose components, modules, and functionality from a variety of vendors based not on monopoly lock in practices but on needs of the customer and the merit of each vendor’s technology. One is free to choose a population health analytics module from vendor X, a telephony interface from vendor Y, a workflow management component from vendor Z, etc.



Solution & Vendor Independence

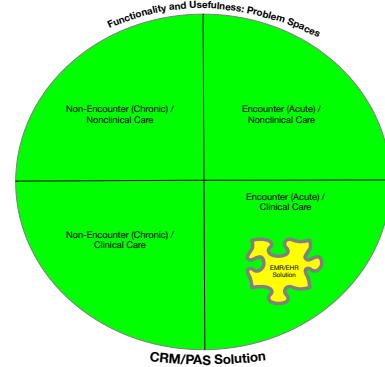


Solution & Vendor Lock-In

The solution difference: Horizontally vs. Vertically Integrated Solutions

They utilize current, best-of-breed, interoperability APIs. Instead of closed, vendor-specific, APIs used throughout the EHR industry, CRM platforms robustly support standard interoperability and security APIs such as RESTful web services, SOAP, XML, OAuth, etc. In fact, it is this robust support of interoperability that enables the horizontal application integration of point #2, above.

They use web-based interfaces. Building on standards such as HTML5, CRM systems leverage the same web (browser) based application distribution and interface technologies used throughout the world of eCommerce. This means not only a flexible, extensible, and rational user experience but it also pays enormous dividends in de-coupling the application from the user’s desktop. No longer must IT departments install proprietary software on the desktops of users, no longer are users confined to interacting with the system only on computers that have the software installed, no longer are there concerns with software maintenance and upgrades that must be accomplished pervasively throughout the organization. Any device, a desktop, laptop, or tablet, can be used to interact with the system – irrespective of the user’s location.



EHRs are only one piece of the complete PAS puzzle

They do not require an army of computer scientists, systems administrators, programmers, and analysts to design, develop, and deploy. Instead of being tailored to the technical fetishes of the traditional health care information technology caste, CRM systems are intended to be responsive to the needs and experiences of their users and the individuals with whom the users interact. This makes them particularly attractive to those within health care who are

“My dream is to be a clinician voice in patient access and EHR design. We have so many clickable links and tabs and icons on any given page of our EHR. The cockpit of a fighter jet looks simple by comparison.”

Sarah Comey Cluff, M.Ed., MS, CNS

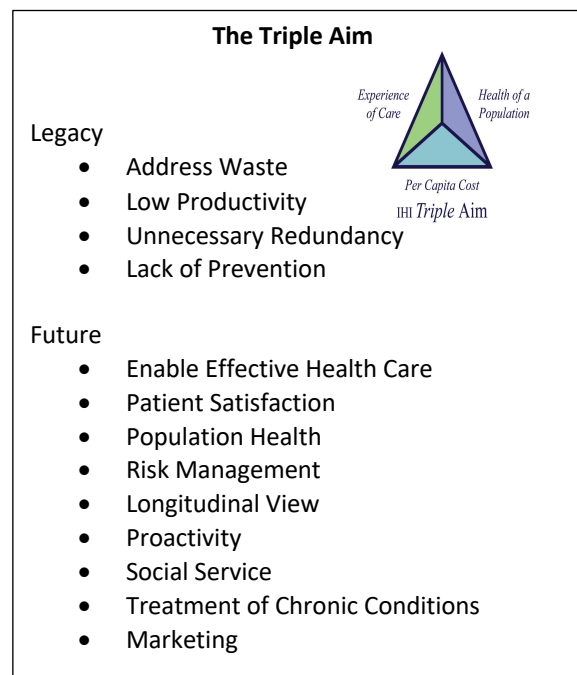
responsible for maintaining and growing the organization’s goodwill among patients and the public, those who expand the organization’s economic footprint through marketing and communication, and those whose background, experience, responsibility and ability to empathize with patients can best leverage systems that let them do just that.

Finally, and perhaps most importantly, unlike EHR vendors, the business cases of the major CRM vendors do not depend on controlling access to patient health records⁴, they do not depend on thwarting interoperability between systems, and they do not depend on making transitions from one vendor’s particular solution to a particular problem so expensive that it doesn’t happen, regardless of the merit. In other words, the business cases of the CRM vendors’ products are not, unlike the EHR vendors’, intrinsically antagonistic to the transition away from payment-for-service and to payment-for-outcome.

Conclusion

Compared to its peers, health care in the United States is characterized by extremely high costs, poor outcomes, and low patient satisfaction. These factors are particularly prevalent within the realms of large providers, particularly large health care systems, and within the domains of chronic disease management, population health, and aging demographics. Pressure from payers, particularly the Federal Government and patients as they assume a greater share of out-of-pocket expenses, are moving the industry from a quantitative payment-for-service remuneration model to a qualitative and accountable payment-for-outcome model.

For providers, successfully and economically transitioning to payment-for-outcome depends to a



⁴ See companion article, “Record Portability is a Moral Issue, Not a Technical One” for more information

great deal on improving, broadening, and enriching the provider/patient relationship. This includes the provider's ability to understand each patient's unique factors and to use that understanding to enhance the provider's ability to empathize with and ultimately deliver higher quality care, resulting in improved health outcomes, to the patient.

Given the size of a provider's patient population, information systems can and should be brought to task to enhance the provider's ability to meaningfully and effectively understand the patient. The system's ability to enhance communication with the patient, through centralization of data, consolidation of user interfaces, and the creation of a comprehensive longitudinal history of the provider/patient relationship is key.

Information technology in healthcare had its genesis in the development of systems to support the accounting, scheduling, and clinical recording needs of the organization. Attempts have been made to re-engineer these legacy systems to support today's healthcare best practices, including the re-branding of those systems from practice management to health record systems. However, for reasons stemming both from technical debt as well as fundamental business models and revenue capture assumptions, these re-engineering attempts are fundamentally impossible.

Fortunately, a new class of purpose-built relationship management systems have emerged. These systems are built on open standards, modern user interfaces, and lessons learned from the computer's positive role in areas from social media to machine learning. Progressive health care providers will use them as an integral part of surviving the wrenching cultural and economic change facing the industry. And not just surviving, but thriving.