

Putting the Patient in Control:

Employing Technology Solutions to Empower Patients



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Introduction

When automated teller machines (ATMs) were first introduced in the 1970s, they were met with trepidation by consumers – many of whom were hesitant to hand over their hard-earned cash to a “machine.” Ultimately, however, consumers preferred the convenience that ATMs afforded, and the number of ATMs has now surpassed the number of bank branches according to the Federal Deposit Insurance Corporation (FDIC).¹

The global growth of on-demand banking has since ignited an expectation for consumer-directed self-service convenience in virtually all consumer interactions – how we bank, how we shop, how we travel and how we access music and movies. Could healthcare be next?

Empowering consumers with self-service technology that allows individuals to personalize and take greater control of their healthcare experience can help meet that expectation while improving the quality and lowering the costs of care delivery. Healthcare organizations are expanding the ability of patients to access their information, as well as automating routine transactions such as appointment scheduling, patient check-in and bill payment through the use of online, mobile and kiosk technology. Consequently, those healthcare providers who incorporate patient-friendly technology solutions are seeing an improvement in patient satisfaction, more efficient use of staff resources and a significant reduction in wait times and administrative costs such as paper and office supplies.

Growth of Self-Service

As self-service convenience began to permeate areas of our lives beyond banking, the adoption curve for other industries quickened. As consumers, we have become comfortable with self-service, and, in fact, now expect to choose when, where and how we make transactions. Nowhere is this more evident than in the travel industry, where we use computers, mobile devices and self-service kiosks to book travel plans, check in and manage itineraries.

A 2009 survey of airport trends revealed that passenger self-service will be the primary channel for check-in by 2010. Furthermore, self-service check-in kiosks are expected to grow from 63 to 90 percent in airports worldwide by 2012.²

Similarly, retailers have embraced self-service as a core business strategy. According to the IHL Consulting Group, a global research firm in the retail and hospitality arena, kiosk-driven transactions will more than triple by 2012 to more than \$1.7 trillion.³

Self-service technology has clearly evolved to meet consumer preferences and the growing need for convenience. Extending this on-the-go access to patients can help healthcare providers drive loyalty at a time when patients are taking greater control of their healthcare.

¹ Monitorbankrates.com: Consumers Embrace Electronic Banking, September 11, 2009

² Travel Daily News: SITA 6th Annual Airport IT Trends Survey, World's Top Airports Moving to Paperless Travel, November 4, 2009

³ IHL Consulting Group: 2008 North American Self-Service Kiosks

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A survey conducted by Buzzback Market Research on behalf of NCR Corporation revealed that 72 percent of U.S. consumers are more likely to choose a healthcare provider that offers the flexibility to interact via online, mobile and kiosk self-service channels over one that does not.⁴ Similarly, a 2009 Deloitte study found that 57 percent of consumers surveyed want to be able to access their medical records, schedule office visits, refill prescriptions and pay medical bills online.⁵ That demand for flexibility and convenience will only continue to grow.

Extending the Consumer Experience to Healthcare

Consumers are taking greater control over their entire healthcare experience – from selecting insurance plans and healthcare providers to managing their personal health information. Consumer-directed technology is facilitating that shift in control while supporting the larger industry-wide initiative to lower the cost and improve the quality of healthcare delivery.

For example, the growth of health saving accounts (HSA) and high deductible health plans is placing greater financial responsibility on patients, who consequently desire greater access to the price of medical care. Virtually all individuals, patients and caregivers are concerned with the quality of healthcare services provided by medical professionals and healthcare facilities. Many health plans, employers and health insurers are now providing greater transparency by allowing consumers to review and compare the cost and quality of healthcare services, including information on healthcare facilities, prescription medications and medical and surgical procedures.

In 2006, as part of its commitment to providing health information to individuals, WellPoint developed a product called “Care Comparison” in partnership with a large national employer. Care Comparison provides both price information for common services at specified hospitals and measures of quality.

Care Comparison displays rates for 40 common medical procedures, allowing comparisons amongst facilities. In 2010, WellPoint will add 20 new procedures to the tool. Costs will be “bundled” to include all services that are typically part of a procedure or treatment, including facility, professional and ancillary costs, such as radiology and lab tests, and routine office visits. These are average costs for non-complicated episodes and reflect negotiated rates with providers. Information on how frequently facilities perform each procedure will also be available.

Care Comparison also provides quality measures for 161 inpatient procedures and conditions obtained from state, federal and private sources. Quality measures include the number of patients treated (a key driver of quality), complication rates, average length of stay and facility-specific mortality rates.

In a choice-based system, information that helps individuals make informed choices *before* a medical service is provided ultimately reduces costs, improves quality and increases value for all stakeholders. This is an important step in transforming the individual’s role in his or her own healthcare.

⁴ NCR 2009 Self-Service Consumer Survey

⁵ Deloitte: 2009 study of Health Care Consumers

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The Care Comparison methodology has been adopted by seven non-WellPoint affiliated Blue Cross and Blue Shield Plans. In addition, the Blue Cross Blue Shield Association, the trade association for the independent, locally-operated Blue Cross and Blue Shield plans across the nation, recently selected Care Comparison as the “Blue” standard pricing transparency tool to be implemented by all Blue Cross and Blue Shield plans by 2011. To view a demonstration of Care Comparison, log-on to the following:

<http://www3.anthem.com/flashtour/AnthemCareComparison/BCBS/demo/masterMainMovieAnthem.html>

State governments are also launching consumer-friendly sites to assist citizens by providing individuals, consumers and caregivers with a wide variety of health and healthcare information. One of the first state-sponsored Web sites launched was in Florida (<http://www.floridahealthfinder.gov/index.shtml>), which has established a Web site that enables consumers to obtain data on hospital charges and quality indicators such as length of stay, readmission rates, mortality rates, and complication/infection rates. The Florida Web site also features the ability to compare prescription drug prices, long-term care and hospice facilities and various health plans operating in Florida.

Massachusetts has a similar Web site (<http://hcqcc.hcf.state.ma.us/>). This site helps consumers learn about the quality and cost of healthcare services in that state. This Web site provides detailed information on the state’s hospital providers, including patient safety practices, the use of physicians in intensive care units (ICUs), the utilization of electronic health records (EHR), and complication/infection rates.

With just a few clicks, the citizens of Georgia can make educated decisions about their healthcare through a Web site launched by the Georgia Department of Community Health (DCH). GeorgiaHealthInfo.gov was launched to provide healthcare quality, cost and health education information.

Funded through a CMS Medicaid Transformation Grant, GeorgiaHealthInfo.gov was launched in two phases. The first phase allows users to access health, wellness, prevention and disease content from MayoClinic.com. The site also features cost and quality comparison data for hospitals, cost data for common outpatient procedures, cost comparisons of prescription drugs, and quality rankings for health insurance plans. Users are also able to obtain the location of and driving directions to hospitals, pharmacies and outpatient centers from their homes using a mapping function. The second phase of the Web site includes expanded provider profile information and the addition of a decision support tool for long-term care.⁶

Patient Engagement Tools

In addition to technologies intended for direct patient interaction, widely deployed provider-based technologies are offering opportunities for engaging the patient at the point of care. These solutions help empower both the provider and patient with valuable information to assist in making educated and informed decisions.

Availity, a leading health information network, provides a suite of provider-focused business and clinical tools that are being used by physician practices and hospitals to engage their patients. The solutions are accessed via the Availity Web portal and through a network of more than 400 business-to-business partners.

⁶ DCH press release; http://dch.georgia.gov/00/press/detail/0,2668,31446711_31673855_132248364,00.html; December 19, 2008.

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The Availity CareProfile is a real-time, multi-payer health record currently sourced from claims data. Accessed through Availity's secure provider Web portal, physicians are able to review the patient's health history, including information such as diagnoses, procedures, inpatient stays, lab orders and results, and prescribed medications across multiple treating physicians. This type of access helps providers identify information that otherwise might not have been shared or available. A good example of this is medication history. The CareProfile gives physicians insight into medications prescribed by other providers, which is critical in assessing the patient's overall health status and catching potential drug interactions. Equipped with this information, physicians are able to engage their patients in deeper discussions about their health and make more informed decisions about treatment.

Another solution that supports provider-driven patient engagement is electronic prescribing (e-prescribing). The Availity CarePrescribe e-prescribing tool, which is available via the Web portal or hand-held device, offers providers the ability to prescribe medications at the point of care. The solution conducts safety checks such as drug-to-drug interactions, and drug-to-allergy interactions, providing alerts when such interactions are identified. This enables the provider to discuss other options with the patient, ensuring the most effective and safest medication is selected. Additionally, with access to the formulary information specific to the patient's health plan, the provider is able to discuss lower cost alternatives with the patient, making the best decision on which medications to prescribe.

The Availity CareCost Estimator is a tool for physician practices to use in setting treatment cost and payment expectations with the patient. This solution enables users of the Availity Web portal to enter key data points, including a diagnosis code, procedure code, and place of service in order to obtain an estimated cost for the patient's visit.

Making Healthcare "Personal" — the Growth of PHRs

In addition to "surfing the Web" for health and healthcare information, individuals are using technology to assist in the management of their personal health information. Just as the health system and providers migrate toward integrated technology solutions such as EHRs, individuals are also embracing personal health records (PHRs).

PHRs, which are usually available online, can help people track their healthcare information and services and improve communications with their providers. Generally, a PHR is controlled by the individual, and can be shared with others, including caregivers, family members and health providers. Ideally, a PHR will have a fairly robust and complete summary of an individual's health and medical history based on data from many sources, including information entered by the individual (allergies, over the counter medications, family history, etc). PHRs are available from a number of sources, including health plans, providers, and independent vendors who are given permission by the individual to receive and store information from health plans, providers, pharmacies, labs, etc.⁷

In October 2007, Microsoft launched its vision for a PHR – HealthVault. Soon after the launch, Microsoft created partnerships with health systems, large employers and health insurers to provide PHRs free of charge to individuals.

⁷ Centers for Medicare and Medicaid Services; <http://www.cms.hhs.gov/perhealthrecords>

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One of those partnerships was with the Mayo Clinic. Patients of the Rochester, Minnesota, healthcare provider are encouraged to store medical information on Microsoft's HealthVault service, a central online repository for patient health information and records. Using the Mayo Clinic's network, patients of its healthcare services can keep track of their health information and information for family members, and receive health guidance and recommendations from Mayo.⁸

Another partnership was launched between Microsoft and Partners HealthCare, a large, integrated healthcare system in Boston. Partners, which was founded in 1994 by Brigham and Women's Hospital and Massachusetts General Hospital, employs approximately 50,000 people, including 6,000 physicians. In 2008, Partners delivered close to \$6 billion worth of healthcare services. A division of Partners is the Center for Connected Health (CCH), which evaluates and creates solutions and programs that can help deliver quality patient care outside traditional medical settings. A key task of the CCH was to find and implement combinations of remote-monitoring technology, sensors, online communications, and cumulative medical data to improve the treatment of diseases and conditions that require ongoing care – including diabetes, hypertension and weight control.

CCH adopted a software-plus-services approach using Microsoft products, technologies and solutions to create its Connected Health Care Suite, a combination of comprehensive records systems, online access to data, online communications between patients and providers and integration with a variety of medical devices and computers. CCH used several Microsoft products, including the Microsoft HealthVault platform, which provides online storage of medical records and applications that patients and healthcare providers can use to view and share health information securely. HealthVault also supports input from a wide range of medical devices, systems and applications created by various solution and hardware vendors.⁹

Health insurers are also encouraging covered individuals to create PHRs. WellPoint has created a secure, consumer-friendly, personalized health information tool for all WellPoint members. WellPoint partnered with WebMD to help implement its PHR solution.

WellPoint members – all 33 million of them – now have access to a complete suite of online health information products including a confidential, portable PHR. WellPoint believes that as health plan members assume more control and responsibility over their health, they will be actively turning to the Internet to search for medically sound information and innovative ways to proactively manage their health.

A Cure for Bad Debt

According to the Healthcare Financial Management Association, 62 percent of hospitals say bad debt and charity care expenses have had a negative impact on financial performance.¹⁰ Providing more convenient options for patients to remit co-pays and settle outstanding balances while checking in at a self-service kiosk or at home through an online portal is having a measurable impact on the bottom line as well as patient satisfaction.

⁸ http://www.pcworld.com/businesscenter/article/163508/mayo_clinic_broadens_microsoft_healthvaultbased_service.html

⁹ <http://www.microsoft.com/industry/healthcare/casestudy/library.aspx?casestudyid=4000006268>

¹⁰ HFMA: The Financial Health of US Hospitals and Healthcare Systems, January 2009

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In 2008, Adventist Health System (AHS) implemented the NCR Patient Portal, which provides patients access to their account balances and bill payment services. While online, patients can view a glossary of billing terms and access a list of frequently asked questions, helping to minimize the need for phone tag with billing staff. This drives cash flow for the health system and greater engagement for patients, who can also use the portal to request appointments, manage health history information and pre-register for their visits.

Giving patients the ability to make payments online and onsite at the registration kiosk has significantly increased the number of electronic check and credit card payments AHS receives. As a result, there has been a decrease in accounts receivables because the staff no longer has to wait to receive check in the mail from patients. Most importantly, AHS has been able to improve overall cash flow and minimize patient bad debt.¹¹

Beyond driving revenue, automating routine patient processes can help address spiraling costs and inefficiencies. For example, appointment reminders delivered to a mobile device can mitigate the lost revenue that stems from missed appointments. Upon arrival, the average patient must complete a number of demographic, consent, HIPAA and other forms for each appointment. Capturing this data electronically via self-service kiosk dramatically diminishes the costs associated with purchasing, filing and managing paper forms.

It also allows the hospital staff to use their time more effectively. The Medical Center of Central Georgia (MCCG) implemented NCR MediKiosk, allowing patients to register, sign consent documents and pay any outstanding balances. The 603-bed facility has since gone from a 1:1 staff to patient ratio to 1:6, allowing staff to spend more time pre-registering patients by phone, and providing support, direction and assistance upon patient arrival instead of managing paperwork behind the desk.¹²

Impatient Patients

Providing online access to tools for managing more aspects of healthcare, including scheduling appointments, paying bills and viewing PHRs and other information, gives individuals and their caregivers greater control over the healthcare experience. But, what is driving the adoption of self-service kiosks by healthcare providers? One answer is time ... or lack of it. A Consumer Reports National Research Center survey revealed that patients' top complaint about doctor visits was time spent in the waiting room. Nearly one in four patients (24 percent) said they waited 30 minutes or longer.¹³

Just as individuals seek self-service to avoid waiting in line at the airport counter or the grocery store, busy consumers would prefer not to waste time waiting to see their physician. According to a report issued by the California Healthcare Foundation, although fewer than 10 percent of health delivery organizations have implemented patient kiosks thus far, the experiences of early adopters show that kiosks can be effective tools for meeting the rising consumer expectations for speed and convenience.¹⁴

11 Advance for Health Information Executives: Improving Revenue Cycle Management with Self-Service, December 2009

12 HMFA: Georgia Health System Pioneers Patient Kiosks, September, 2008

13 Consumer Reports Health: Get Better Care from Your Doctor, February 2007

14 California Healthcare Foundation: Touchscreen Check-In: Kiosks Speed Hospital Registration, March 2009

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Newark Beth Israel Medical Center (NBI), a 673-bed regional teaching hospital in Northern New Jersey, deployed self-service kiosks for patient registration and saw check-in times reduced by 25 percent for first-time patients and by 75 percent for subsequent patient visits.¹⁵ As a result, the hospital extended self-service to its Emergency Department and decreased average wait time by an hour. Within the first day of implementation, the number of triaged patients seen increased from six to 10 per hour.¹⁶

Optimizing the Benefits of EHRs

Consumer control is not merely a groundswell among frustrated patients. As the HITECH Act seeks to define “meaningful use” of EHRs, the ability to provide patients with greater access to information grows. Stages two and three of the phased implementation of “meaningful use” currently cite support for patient access to their health information as well as providing patient access to self management tools.¹⁷ Providing self-service kiosk, online and mobile channels to access PHRs and manage appointments, bills, and other patient interactions, can help healthcare providers address this requirement.

Putting the patient in control can also support a truly paperless workflow from the beginning of a patient encounter. Currently, healthcare providers converting from paper-based to electronic records must digitize paper forms, including consent documents, registration forms and privacy notices. Providers scan documents or manually re-enter data that patients provide on printed forms, including demographic, insurance and medical history details. Taking these additional steps diminishes the cost, quality and efficiency gains that EHRs were designed to create.

By automating the patient registration process with self-service kiosks and online applications, healthcare providers can eliminate the inefficiencies, redundancies and potential errors that stem from re-entry. Florida Hospital Fish Memorial in Orange City, Florida, has found that since deploying NCR MediKiosk™ self-service technology, patients are more likely to correct information when using the kiosks than when a registrar is verbally asking them for their information.¹⁸ Similarly, Conifer Health Solutions, the revenue cycle subsidiary of Tenet Healthcare, reported that after deploying NCR MediKiosk and NCR Patient Portal solutions 1-in-3 kiosk users updated their patient information.¹⁹

Connecting the Patient, Provider and Payor

The insurance industry often bears the brunt of perceived responsibility for rising healthcare costs. Self-service and other patient-friendly technology solutions can help mitigate rising costs while improving clinical outcomes by connecting healthcare insurers, providers and patients at the point of service.

Since implementing patient registration kiosks, University of Colorado Hospital (UCH) has been able to improve cash flow by reducing denied claims and receiving payments more quickly. The hospital reports that improved data quality has resulted in faster, more accurate billing. UCH credits an almost two-day decrease in average days to final bill to its use of a kiosk demographic validation process that reduced bad addresses by 12 percent.²⁰

15 InformationWeek: Self-service Kiosks Help Hospital Reduce Patient Wait Times, Paperwork, and Anxiety, July 1, 2005

16 California Healthcare Foundation: Touch screen Check-in: Kiosks Speed Hospital Registration, March 2009

17 US Dept. of Health and Human Services: CMS Proposes Definition of Meaningful Use of Certified Electronic Health Records (EHR) Technology

18 HFMA: Optimizing Patient Access

19 HIMSS 2009: From Kiosks to the Web: Self-service Opportunities in Healthcare

20 HFMA: Optimizing Patient Access

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Beyond payment, self-service kiosks provide an additional channel for insurers to support healthy practices and preventative care by recommending specific tests or procedures to patients with chronic disease management at the point of service. For example, at check-in, patients with diabetes may receive a message from health insurers or health plans encouraging them to discuss the importance of testing for hemoglobin A1c with their physician. The payor ultimately benefits by stemming the cost of untreated or uncontrolled conditions, and the provider benefits by getting reimbursed for more comprehensive and medically appropriate services provided while improving disease state management compliance.

Conclusion

Technology is enabling consumers to take greater control in all aspects of their lives. Healthcare is no exception. Giving patients the self-service tools they need to become more active participants in defining and managing their care will be key to building a 21st century intelligent health system.