



# Building a healthy e-business: The right Rx



## **Imagine the possibilities**

Aside from technology, it's hard to imagine anything advancing faster than medical science. Until now, these two fast tracks seemed destined to remain on separate paths. Complex and confidential by nature, the healthcare industry is a sector traditionally steeped in paper-based processes and established communication methods.

Today, the Internet has injected an unprecedented dose of information, automation and integration into the healthcare system. Web fever is spreading rapidly as healthcare organizations—from provider to payer—seek the right formula for their e-businesses.

The following hypothetical scenarios offer a glimpse into what's possible.





## Live better, longer

*After viewing a TV medical series on heart disease, Ginger logs on to her health plan's Web site, hoping to receive some reassurance that she's taking every precaution possible in her battle against the disease. Once on the site, she finds valuable news and research findings, dietary advice and sample menus from nutritional experts, along with behavioral modification techniques that address her particular health challenge—hypercholesterolemia. With just a few clicks, Ginger can graph her cholesterol history and forecast the impact that certain changes, such as increased exercise, will have on her cardiac risk profile.*

*While online, Ginger reads through her e-mail and discovers a familiar message from her health plan. It's time to reorder her medication. A new feature has been provided with this reminder—a link to the Web-based pharmacy that filled her prescription last month. In seconds, Ginger's refill is on order, scheduled to arrive before she misses a dose.*

*Later that summer, excessive business travel topped off by a few weeks of vacation leaves Ginger feeling undisciplined in terms of health management. While scanning her Internet in-basket, she reads the e-mail from her HMO. It's a polite prod about the importance of taking medication as prescribed. In the message are contrasting outcomes among patients who comply with recommended dosage and those who don't. Tips on "making compliance a habit" are also included.*

*With encouragement from her digital health-care advisor, Ginger renews her commitment to maintaining a healthy lifestyle and effectively managing her disease.*

Chronic disease can translate into a daunting, lifetime challenge for patients—and a hefty financial responsibility for insurers. Consider the long-term complications that can arise from a disease such as diabetes: heart attack, stroke, nerve damage, amputation, kidney failure, blindness and an increased risk of certain types of cancer. To effectively combat potential negative outcomes, everyone agrees that patient compliance is key. Today, this means equipping consumers with the right information and the incentives they need to actively improve their own health.

Make no mistake; there's no shortage of medical information on the Web. Although consumers are inundated with free advice from a host of self-proclaimed experts on virtually every topic, many are searching for a source they can trust.

This is a need that you as a healthcare provider can fulfill by providing reliable information and services to members and consumers alike—with the click of their mouse.

At your healthcare site, Ginger finds out about rebates on fitness equipment purchases, discounts on healthy meals at local restaurants, and reduced subscription rates to heart-healthy cooking magazines. These personalized incentives—designed especially for members with high cholesterol—minimize financial obstacles that may be impeding recommended lifestyle changes and give reluctant subscribers a nudge in the right direction.

As a healthcare partner, you understand the need to maintain an ongoing dialogue with your members. Value-added services, such as electronic reminders about medication refills or recommended screenings, invite a higher degree of adherence to treatment plans and provide the opportunity to stay in touch with individual subscribers.

**The net results?** Your customers have tools they can use to improve their health—and you've earned a role as their trusted healthcare advisor.



## **Do no harm**

*At her patient's bedside, Dr. Kate touches the wall-mounted computer to prescribe a new medication. As she enters the order, a red stop sign flashes a warning. An allergy—apparently omitted from hospital admission forms—was detected in earlier notes from the patient's former physician. After reviewing the complete medical record, Dr. Kate selects a different drug from the list of alternatives offered by the system, then verifies the dosage that was calculated based on the patient's weight. As the prescription is transmitted to the pharmacy, Dr. Kate continues her rounds.*

*Around the corner, an unconscious man is rushed into the emergency room. As the hospital staff searches the man's wallet for identification information they can use to locate family or friends, they notice a health plan insignia on the top right corner of his credit card. With a*

*simple swipe of this card, key facts from the patient's encrypted medical history are instantly available to the triage team on their ER computer display. Without any dialogue with the man or his family, emergency personnel have the data they need to provide the urgent care the patient requires—swiftly and safely.*

*The next day, during a press conference publicizing the hospital's incredible safety record, the Vice President of Operations cites a 50-percent improvement over last year's baseline—an impressive accomplishment. Later, while meeting with officials from the Joint Commission for Accreditation of Health-care Organizations and the American Hospital Association, he shares his institution's formula for success.*

With the Institute of Medicine reporting as many as 98,000 American lives lost each year due to preventable medical errors, the healthcare industry is undergoing radical change. In fact, the often-repeated quote from Hippocrates, “First do no harm,” has become your organization’s rallying cry.

Published industry research provides some recommendations for improvement, but you’ve also delved deeply into your own bank of knowledge. Your quality-control teams routinely perform analyses from an integrated pool of data gleaned from clinical, infection-control, pharmacy, administrative and other key systems. After uncovering potential safety gaps, your organization can make adjustments to “build in” prevention. You’ve eliminated many exposures and reduced risk by blending redesigned processes with advanced technology solutions. Automated drug-ordering systems, for example, eliminate undecipherable handwriting, miscalculated dosage amounts, miscommunication due to similar-sounding drug names, and problems with conflicting drugs and allergies.

Industry-wide collaboration has resulted in standards and methods for sharing information—even ones that can operate at the frenzied pace demanded in an emergency room. With key personal healthcare information in their own hands, patients can rest assured that whenever—or wherever—an emergency occurs, healthcare providers have fast access to life-and-death data. Through a single swipe of a patient’s “smart” card, numerous administrative processes—such as hospital admission, claims and patient co-payments—can be activated. With no forms or transcription involved, each step of the process happens quickly—and accurately.

An unrelenting emphasis on error prevention has boosted employee morale. Every staff member exhibits a sincere desire to enhance patient safety. In addition, costs continue to fall—the result of fewer repeat procedures, shorter hospital stays and less resources spent countering adverse reactions. Innovative patient safety programs that deliver real, tangible results minimize your liability risk and raise the bar for your competition.

**The net results?** Operating costs have plummeted. Perhaps most important, you have helped restore your patients’ confidence in the healthcare system.



## **Provide care—anywhere, everywhere**

*Today is Tuesday. Instinctively, Dr. John heads toward Medical Suite West. Dividing his time between two facilities is certainly easier with a mobile office. The doctor and his staff are no longer forced to ask patients to call back on Monday, Wednesday or Friday, when personnel are at their primary location. They can now carry all of their files in one hand.*

*After a quick cup of coffee, Dr. John sees his first patient of the day, Jim. Entering the examining room, the doctor flips open his electronic notebook and views his patient's file. He inquires about Jim's health and the reason for this visit, touching different areas of the electronic form as the conversation unfolds. As Dr. John notes Jim's recurring knee pain, a chronological listing of the patient's previous orthopedic complaints is highlighted on the right side of the screen. Noticing a pattern of running injuries repeatedly treated with rest and anti-inflammatory drugs, Dr. John suggests a visit to an orthopedist. With a touch of a*

*button, he requests a referral from the patient's HMO, then asks Jim whether he would like to be notified electronically or by phone. Based on Jim's preference, Dr. John types in his patient's e-mail address. To temporarily reduce discomfort, the doctor orders a prescription-strength non-steroidal anti-inflammatory drug and electronically transmits the prescription to Jim's pharmacy. The prescription will be waiting there for pickup on the way home.*

*The next afternoon, Jim receives an e-mail from Dr. John's office indicating that the referral arrangements are complete. With a user id and password supplied by his HMO, Jim logs on to the electronic medical records system on the Web. There, he finds detailed information about his referral. Jim clicks on the schedule appointment button and is connected electronically with the orthopedist's office to arrange a specific date and time for his visit.*

To best meet your patients' needs, you must be where *they* are, with ready access to critical information. Your handheld, wireless device makes this all possible. Designed for intuitive use by physicians, the device uses "intelligent" forms that adapt to information entered. Fields that do not apply simply disappear as you hone in on your diagnosis. Documentation is automatic; you avoid additional transcription costs, miscommunication risks and time wasted typing up notes after hours.

Through the Internet, you're linked into a virtual starburst of interconnected healthcare providers. Lab reports, prescriptions, insurance verification, claims and referrals are all transmitted electronically, where allowed by law. And thanks to the Web, new patients can complete perfunctory paperwork from their homes—rather than in your waiting room.

With the HIPAA-driven introduction of a national standard for electronic claims and other transactions, healthcare providers and health plans alike are able to utilize standard electronic transactions that make electronic data interchange a viable and preferable alternative to paper processing. This means you can now provide timely information to health plans, consult with colleagues where required—even share valuable, aggregated information with research institutions—while protecting your patient's privacy.

Electronic ties breed order and better coordination across today's complex healthcare system. Fewer delays and errors result in better support for your patients—and faster payments from their insurers.

**The net results?** High-quality information and automated processes improve service—and cash flow.



## **Reinvent...continuously**

*As this year's open enrollment period winds down, Sonya and her team formally begin work on next year's health-plan offerings. And they know exactly where to start: with what they already know.*

*During the past few months, thousands of inquiries have been received from members and prospects concerning features and services that are important to them. Sonya launches a text-mining application to search call records and e-mail messages for common requests—ones that the company could not previously fulfill. Another person downloads the write-in comments from the Web survey conducted last quarter, then turns the analysis software loose on that data. Patterns begin to emerge—from aromatherapy to a radical new cancer treatment.*

*Another teammate queries the marketing information database to piece together profiles of members who are switching to competitors' plans. In parallel, the team pulls reports that*

*identify which of the company's plans and programs are most popular with different demographic groups, as well as which geographies and age groups are strongholds—or weak spots—for their business.*

*Within a few hours, the team has amassed factual, immediately usable information to ground their planning efforts. They know who is shopping for what and who is buying what. The demand for certain new programs is quite apparent; other areas will require further exploration as part of the company's normal market research. Where possible, obvious plan adjustments and new services are run through simulation programs based on historical cost data and forecasted transaction volumes. This helps to ascertain risk levels and break-even points.*

*The team leaves its first planning session with some specific, innovative changes that show great promise—and plans to test the concepts within their active, online healthcare community.*

You know your customers well—in some ways better than they know themselves. Data mining sheds light on emerging needs they may not even be aware of. It's all about anticipation—a capability that has won you the reputation of industry innovator.

Armed with sophisticated, yet easy-to-use tools, you can piece together disparate data—including demographic profiles, behavior patterns, cost trends and marketing campaign results—and transform it into cohesive, rich, seemingly limitless information. Current, readily available data—not last quarter's or last year's—translates into more accurate decisions. The ability to discern the discrete cost of a specific change in coverage provides a higher degree of confidence in the financial viability of any adjustments under consideration.

By leveraging valuable information you already have, you can better focus your traditional market research efforts and rapidly discover winning ideas. With a closer look at your existing processes, you can also improve current programs by eliminating barriers and access restrictions that no longer provide measurable benefits to you or your members. Since you recognize early on which services are highly valued by your members, you can negotiate and form alliances with the respected healthcare providers and product vendors necessary for a successful venture.

Meeting healthcare needs in creative ways earns you new, forward-thinking customers, and strengthens bonds with your existing members.

**The net results?** You can afford to innovate without undue risk, which can, in turn, bring additional customers—and revenue—your way.



## Time for a checkup?

With new opportunities emerging almost daily, it might be time to place your business under the microscope. Take a moment to assess your organization's current condition in the following areas:

- Do your clinical teams have access to the right information—in the right place and at the right time—to provide timely and appropriate patient care?
- Do your members feel like you “know” them—that they are treated as individuals, not numbers—regardless of where or when they enter the healthcare system?
- How customer-centric are your e-business endeavors? Do you actively leverage the information you have to provide additional value-added services?
- Are you prepared to compete in a consumer-driven marketplace where most employer healthcare benefits have moved to a “defined contribution” model?
- Are you measurably reducing operating costs through innovative e-business solutions?
- Are you capturing and analyzing reliable information on best practices, costs, and treatment outcomes to allow you to calibrate insurance rates, measure benefits, assess risks and adjust coverage based on this knowledge?
- Does your e-business infrastructure provide the streamlined connections that you require with other healthcare organizations—while keeping patient data private and protected?

At IBM, we understand the complexity and inherent challenges that a healthcare e-business faces. Contact us at [envision@us.ibm.com](mailto:envision@us.ibm.com) to investigate how we can formulate a potent e-business strategy for you. To learn more about the Centers for IBM e-business Innovation, or to explore our other resources for business executives, visit

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### **Credits**

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