IBM

Helping to enable more efficient, client-focused healthcare with Web portals.

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Consumer-driven healthcare reshapes organizational imperatives

Healthcare providers have reached a critical inflection point. Many providers have gone through several challenging years of organizing their electronic records systems. And during that time, consumer-driven healthcare has gained momentum, leading to heightened competition among providers and intensifying the need to rethink key processes to gain efficiencies and improve services. Leading providers recognize the potential of information technology to increase competitiveness, but at the same time, they struggle with driving new IT efficiencies.

Today, most organizations have numerous stand-alone applications, each of which may contain part of the information a worker or patient needs. Workers are undermined as disjointed searches for information stall their responsiveness and productivity. And patients often find themselves in a frustrating service "limbo," unable to resolve questions. Portal technology provides healthcare providers with an opportunity to streamline internal administrative and billing processes while giving patients more control over their own care, helping to improve the overall healthcare experience.

This executive brief examines the various solutions that providers often consider when addressing patient-driven business needs. It explains how an IBM WebSphere® Portal software–based solution can provide a flexible and valuable long-term solution compared to other options, with personalized user experiences that help deliver agile, security-rich access to relevant information. This brief introduces the features and capabilities available through WebSphere Portal technology. And to illustrate those capabilities and the success they have helped other companies achieve, it explores several case studies.

Roadblocks ahead: the limitations of popular solutions

As providers look for ways to respond to business challenges related to changing marketplace realities, they typically consider one of the three approaches outlined below. Unfortunately, although each option may provide a reasonable initial solution on some level, none is able to add value over time due to its inflexibility and its inability to help providers respond faster to changing user and business needs.

- *Implement a Web interface.* Providers often consider adding a Web interface on top of an existing healthcare information system to provide more users with access to a system's information and functionality. While the improved access may be initially compelling, interface solutions cannot address larger underlying integration challenges. In other words, you can't use a Web interface to pull together data from different systems, such as scheduling, billing, marketing, document management, health analytics and HR, to create more sophisticated patient- or employee-facing solutions designed to increase satisfaction or productivity.
- *Build a static online marketing presence.* While this is a good first step in many cases, patients today are used to using personalized self-service solutions in many other facets of their life. Empowering them to find information and pay bills, self-service solutions can often lead to improved collections and lower call center costs, which can quickly eclipse the value of pure marketing efforts.
- *Attempt to use existing office productivity software.* Trying to consolidate the broad spectrum of patient data from across enterprise systems into this underpowered solution is not only inefficient, it is also difficult to administer over the long term and limits the types of new solutions organizations can provide to patients and employees over time.

Web portals: single points of access, information and processes

The competitive shifts in the healthcare marketplace necessitate deeper capabilities that can help you acquire and retain clients, control costs, increase revenue and respond to changing marketplace conditions. At the same time, you can use these capabilities to empower employees and patients with the information they need, when they need it. For example, if employees are going to work efficiently and accurately, organizations need to eliminate cumbersome processes related to signing on to applications and gathering information from multiple software sources. And patients want to have an experience that's reminiscent of those they have with other industries such as travel, finance and retail. For example, the ability to schedule appointments, pay bills and access healthcare information online empowers patients to "own" more of their healthcare experience—potentially increasing their satisfaction and loyalty, while helping to reduce operational costs.
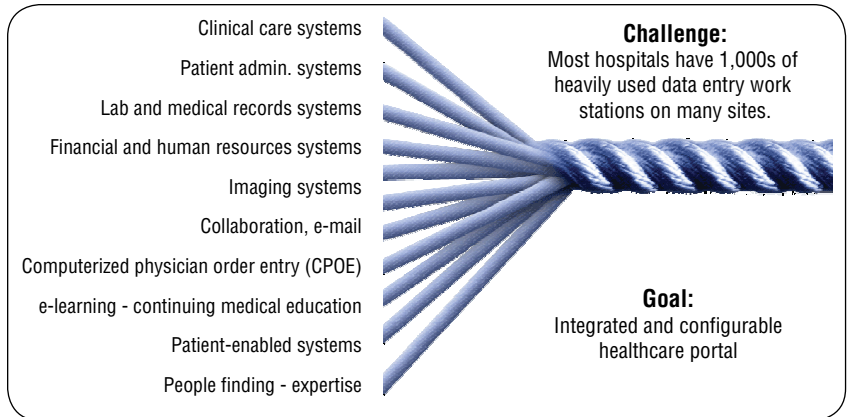
Business leaders across departments need solutions to address these types of challenges. And IT managers must find ways to deliver these solutions while leveraging previous development efforts, speeding time to production and controlling IT costs. Web portal solutions can provide the fastest route to customer-centric, efficient and nimble operations by delivering capabilities for easily and securely obtaining information from multiple sources and for streamlining cumbersome tasks. Specifically, they can:

- *Enable personalized self-service portals for patients* that give patients a sense of control over their care and increase their provider loyalty, while helping to create greater operational efficiency.
- *Provide a single view of patients* to physicians and clinicians, helping caregivers be more effective and proactive.
- *Support employees with HR- and facility-related portals* that simplify administrative processes and enable personnel to focus on their jobs while helping to reduce costs.

The ingredients of a successful patient Web portal

What features of a patient Web portal will truly help healthcare providers acquire and retain customers? An effective patient self-service portal must provide patients with a secure and personalized experience to:

- *View their medical bills and make payments online.*
- *Request nonurgent medical appointments with physicians.*
- *Complete forms online, anytime.*
- *Update demographic and insurance information.*
- *Request a payment plan to pay off medical bills.*
- *Request payment histories for taxes, medical reimbursement accounts and other purposes.*
- *Obtain preventive care and disease management information.*
- *View personal test results and clinical information.*
- *Receive detailed information about the provider network, including specialties, facilities and directions to offices.*
- *Provide patient satisfaction feedback.*

Clinical care systems
Patient admin. systems
Lab and medical records systems
Financial and human resources systems
Imaging systems
Collaboration, e-mail
Computerized physician order entry (CPOE)
e-learning - continuing medical education
Patient-enabled systems
People finding - expertise

Challenge:
Most hospitals have 1,000s of heavily used data entry work stations on many sites.

Goal:
Integrated and configurable healthcare portal

Portals can serve many clinical and patient information needs.

Quickly, simply and securely implement portals for key challenges

IBM offers an open, flexible self-service portal solution for healthcare providers comprising several award-winning products that can enable your organization to efficiently implement, customize and realize value from portals. By using IBM WebSphere Portal Server software, IBM® Content Accelerator and IBM Lotus® Forms software, as well as other portlets and IBM applications, organizations can enable patients and employees to efficiently find and access more information and complete transactions effectively, potentially resulting in higher productivity and lower costs to the organization. What's more, WebSphere Portal solutions can help you preserve your existing technology investments, potentially enabling you to get more value from key systems.

Create the Web portals your patients, physicians, clinicians and employees need

Solutions and services from IBM and IBM Business Partners enable you to provide patients, physicians, clinicians and employees with the services that meet their requirements. A flexible, open portal environment enables IT departments to quickly and cost-effectively integrate the applications and features your users need, without being limited to costly and proprietary solutions. For example, you can:

- *Quickly and flexibly integrate patient and clinical data.*
- *Allow medical staff, marketing and HR to deliver rich Web content online.*
- *Quickly deliver mashups and composite applications with WebSphere Portal software.*
- *Enable users to search unstructured information in records, claims and other sources by using text analysis and customized metrics.*
- *Help ensure that users access only those pages they're entitled to view by using native document-level security to block unauthorized users.*
- *Create and deliver easy-to-use electronic forms with Lotus Forms software.*

Get your Web portal up and running quickly

How soon can you design and implement a portal? How soon do you need it? IBM offers capabilities that enable self-service solutions for healthcare providers that are easy to deploy, support and update. Out-of-the-box solutions, reusable components, prebuilt templates and Web 2.0 capabilities in IBM software allow your IT team to spend less time writing complicated code, so it can implement services more quickly. Moreover, WebSphere and Lotus solutions can be installed as smaller implementations and can easily scale as new capabilities are needed.

For those who prefer full service, IBM has design and implementation services to help clients engineer an integrated, flexible and reusable portal infrastructure, using standardized methodologies and best practices.

IBM healthcare portal solutions in action

You can use WebSphere Portal software to implement the solutions described above, including solutions that provide a single view of patients to staff, enable self-service portals for patients and provide HR portals for employees. A wide array of solutions is available through the IBM WebSphere Portal Business Solutions Catalog, a repository for industry and vertical solutions of all kinds from IBM and IBM Business Partners. You can search the catalog for health-care solutions and take confidence that Business Partner solutions are validated by IBM.

In cases where organizations aren't trying to urgently address a particular need, IBM often recommends that you start with a patient portal because it can potentially deliver top- and bottom-line benefits. Not only can it help you cut costs, but it can also help you generate revenue and attract and retain patients. Whichever entry point you choose, however, you can be confident that you will be able to easily expand into other areas as necessary, thanks to the flexibility of WebSphere software.

To illustrate the capabilities and benefits of each area, let's examine the results that several IBM clients have realized with their WebSphere Portal solutions.

Patient-centric care: Duke Medicine

Located in Durham, North Carolina, Duke Medicine is a leading education, research and care provider that includes Duke University Health System, Duke University School of Medicine and Duke University School of Nursing.

Challenge

Enhance healthcare delivery and build a security-rich, flexible and scalable foundation for patient-centric care that provides information to patients in inno-vative ways and supports the transition to an IT service management approach that integrates people, processes and technology across the organization.

"Patient response has been outstanding. In the first eight weeks alone we had 2,500 patients register and 500 appointments were made online. We also received more than US$100,000 in payments online."

—Rafael Rodriguez, associate CIO, academic and infrastructure services, Duke Health Technology Solutions, Duke Medicine

"We have a track record of successfully directing IT resources and solutions to new initiatives that improve quality of care and access to care. IBM has been a helpful partner in this effort."

—Rafael Rodriguez

Solution

Duke Medicine teamed with IBM Global Technology Services to evaluate its existing processes and technology and to develop a roadmap to help ensure that IT is aligned with organizational goals. A key initiative was to launch a patient portal powered by WebSphere software called HealthView (healthview.dukehealth.org). The portal provides a single, security-rich information access point for patients and administrators. Patients can make appointments, view their bills and update information online. And hospital staff can see a patient's billing and health history from a single screen.

Benefits

- *Expected ROI in 1.68 to 2.17 years[1]*
- *Approximately US$1.1 million in benefits over a three-year period resulting from streamlined collection processes, reduced burden on call centers and improved collection efficiency[2]*
- *Strengthened patient relationships*

Single view of patients: Memorial Health System

Memorial Health System (Memorial) is a Colorado Springs, Colorado–based hospital system serving a 500,000-person metropolitan area.

Challenge

Memorial sought a way to provide better care while reducing patient costs. To deliver more predictable and stable patient care, the hospital wanted to switch to electronic healthcare. It wanted a solution that could provide physicians and other caregivers with the information they need, on demand, to treat patients on the spot, regardless of where in the system the information originally resided.

"Our PhysicianLink portal is an example of how our investment in IT gives us a competitive advantage. Fourteen hundred physicians in our community use the product. They love it. This really forms a support platform for all their systems and makes them want to work with us."

—Dick Eitel, CEO, Memorial Health System

Solution

Memorial deployed a portal, content management and electronic medical record solution, called PhysicianLink, based on IBM WebSphere Application Server software, IBM WebSphere Portal software and other IBM technology to support the efficient use of stored patient information. Physicians can use the security-rich WebSphere software–based portal to quickly access patient lab and radiology results, insurance information, radiology images, transcribed reports and more. The solution also broadens electronic document and content management capabilities, providing doctors and healthcare givers with easy access to millions of scanned records, with the help of IBM DB2® Content Manager technology.

Benefits
- *Improved patient satisfaction*
- *Reduced redundant paperwork, mailing costs, phone and fax time, and personnel expenses*
- *Increased documentation access for the physician's office staff and the hospital*
- *Decreased time from diagnosis to treatment*
- *Faster information retrieval*

The components of your healthcare portal: under the microscope

IBM provides a range of solutions that can help your agency quickly develop and deploy extranet and intranet portals to give your patients and staff access to the data, content and processes they need to make better decisions. A number of IBM software applications support the creation of effective provider portals.

IBM WebSphere Portal software

Built on a standards-based platform, WebSphere Portal software is an industry-leading portal product that can accommodate thousands of portlets and gadgets to provide aggregated, personalized information to staff and patients. The core portal platform, with a service-oriented architecture (SOA) and rich support for Web 2.0 technologies, can help you shorten development time, improve performance and develop highly interactive, desktop-like composite applications. Flexible, solution-specific business accelerators can dramatically speed time to deployment and can provide quick time to value for your organization.

IBM Content Accelerator

This accelerator for IBM WebSphere Portal software brings simplified, yet powerful online Web content creation and management to business users—virtually removing authoring bottlenecks. It helps improve productivity and allows organizations to keep Web content accurate, up to date and easy to find. The accelerator includes:

- *End-to-end Web content management. Content can be created (using a WYSIWYG rich text editor), managed and published to multiple Web sites.*
- *Browser-based document management.*
- *High-quality, scalable and security-rich enterprise search functionality to help maximize the value of corporate information.*

IBM Lotus Forms software

Given workflow and claims-processing challenges related to regulatory requirements, such as the Health Insurance Portability and Accountability Act (HIPAA) in the United States, paperwork challenges are increasingly daunting. IBM Lotus Forms software integrates with WebSphere Portal software to help enable

you to automate processes, increase efficiency, reduce paper usage and leverage existing IT investments. Easy-to-use, wizard-guided electronic forms can help you simplify and extend the form completion process outside the firewall. With electronic forms, your organization can:

- *Enable patients to access forms via a Web browser so they can complete, sign and submit the documents from practically anywhere.*
- *Cut data entry time, reduce errors and lower operational costs within your healthcare organization.*
- *Create forms in 28 languages, on a broad range of platforms and operating systems.*

IBM DB2 Content Manager software

Healthcare organizations are buried in documents, images, e-mail, digital media and other structured or unstructured information that must be secured for regulatory reasons. The challenge is to provide doctors and employees with easy access to the information they need in order to optimize patient care, service and productivity while minimizing information management challenges related to capturing, organizing, storing and delivering the information. IBM DB2 Content Manager software offers an open, comprehensive and consistent framework to manage, share, reuse and archive digitized content—so doctors, employees and patients can access the information they need when they need it.

Why is IBM the right choice to help providers implement self-service portals?

As a leading provider of healthcare solutions, IBM has a proven track record of helping organizations like yours tackle tough challenges. We have already helped numerous leading providers implement portal solutions, including Med-Star Health, Duke Medicine and many other healthcare organizations around the world.

IBM supports open software platforms and industry standards and has made a long-term, multimillion-dollar commitment to developing award-winning portal solutions. With healthcare provider customers worldwide, we have established thought leadership in advancing portal technology. Your organization can benefit from access to insights that IBM has gained through its extensive experience in implementing self-service solutions and developing best practices and processes.

For more information

To learn more about IBM WebSphere Portal software and other supporting solutions from IBM, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/websphere/portal

1, 2 Forrester Consulting, *The Total Economic Impact of IBM Patient Portal Powered by WebSphere*, October 2007.