



Microsoft Collaborative Health

> Solutions for Healthcare Providers

Introduction

The healthcare industry faces sweeping change. To help healthcare organizations respond, Microsoft has launched an initiative that brings together Microsoft platforms, technologies, products, and partners to develop solutions to meet the specific needs of healthcare providers, health plans, and life sciences companies. Microsoft Collaborative Health recognizes that healthcare needs an infrastructure where healthcare professionals can access and share clinical records and information. Healthcare organizations also need to collaborate with each other in a seamless manner that revolves around a patient throughout the continuum of care. At the core are standards-based tools from Microsoft and its industry partners that are designed to streamline the way medical information is created, collected, accessed, and shared. This allows physicians, clinicians, researchers, and administrators to work together in integrated, collaborative teams.

This paper focuses on Microsoft Collaborative Health for healthcare providers that can help hospitals and clinics automate manual processes, reduce costs, increase productivity and efficiency, and improve the quality of patient care. Future papers will address Collaborative Healthcare for Life Sciences and Health Plans. Microsoft Collaborative Health includes portals that enhance access to information, electronic health records, clinical and administrative forms automation, caregiver team collaboration, business intelligence, and integration technologies.

The healthcare industry continues to face intense challenges. These include rising costs, declining profitability, and widespread inefficiency. Meanwhile, a fast-changing regulatory environment and pressure to improve quality, safety, and access are driving an extraordinary set of transformations across the industry.

New technologies are the catalyst for many of these changes. They also offer new opportunities to improve the quality and control the cost of healthcare. In this summary, we'll explore how Microsoft Collaborative Health solutions are helping healthcare providers meet these challenges.

Healthcare

The Opportunity for Change

When it comes to healthcare in the U.S., the facts speak clearly:

- The U.S. is first in the world in total healthcare spending but ranks 48th in life expectancy.
- Healthcare spending continues to rise dramatically, with \$2.7 trillion the projected figure for 2010.
- Mounting hospital costs account for one in four dollars spent on healthcare today, with medical errors adding greatly to the price of healthcare.

These are serious and complex issues. Shifting the tide requires fresh approaches to outdated administrative procedures that have been in place for decades. Microsoft launched Collaborative Health to provide healthcare institutions with tools that help them streamline information flow, control costs, and improve the quality of patient care.

> *Microsoft Collaborative Health solutions for healthcare providers help hospitals and clinics automate manual processes, reduce costs, increase productivity and efficiency, and improve the quality of patient care.*

Microsoft Collaborative Health

An Overview

The way data is created, stored, and shared within the healthcare industry today limits the ability of doctors, nurses, clinicians, and administrators to share information and work together. Healthcare professionals are bogged down with paper-based processes, manual data entry, and isolated information systems that do not communicate.

Through Collaborative Health, Microsoft and its partners give healthcare and life science professionals tools that streamline the way they enter, access, and share data, resulting in improved health at reduced costs. As a pioneer in the field, Microsoft understands how people use digital information technologies in their daily lives. We've applied that knowledge to the issues faced by healthcare providers, health plans, and life sciences organizations.

CASE STUDY

At the **University of Texas M. D. Anderson Cancer Center**, a digital diagnostic imaging management and retrieval solution from Stentor, based on Microsoft technology, is expected to deliver savings of \$30 million over eight years. And at **Alamance Regional Medical Center** in Burlington, North Carolina, an integrated electronic medical record system built on the Microsoft platform by Eclipsys has reduced lab order duplication by 58 percent, at an annual cost saving of more than \$100,000.

For these three branches of the healthcare ecosystem, we provide solutions that simplify the collection and sharing of information and eliminate the barriers to collaboration.

- **Healthcare providers:** Instant access to patient information when and where it's needed, a vital step in efforts to improve patient care and reduce costs.
- **Health plans:** Deliver more value to customers faster and with fewer resources than the competition.
- **Life sciences organizations:** The capability to bridge the gap between disconnected, disparate systems, enabling researchers and scientists to access information seamlessly, improve scientific and business productivity and collaboration, and transform bioscience data into medical and pharmaceutical insights.

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In developing solutions for Collaborative Health, Microsoft and its partners focus on four key characteristics:

- **Simplicity by design:** Microsoft Collaborative Health solutions are easy to learn and use, and integrate smoothly into everyday work flow.
- **Improved productivity:** Achieved by strong integration between the tools that healthcare providers use and the back-end server products where data is stored and processed.
- **Greater value:** The combination of price advantages of the Microsoft® Windows® platform, the ability to use commodity hardware, and a comprehensive set of rapid application development tools from Microsoft.
- **Integrated innovation:** Tightly integrated products that make full use of Web services allow caregivers to connect more easily to the information they need at the point of care.

Microsoft Collaborative Health is helping healthcare institutions around the world streamline information flow, reduce costs, and improve the quality of patient care. Ingolstadt Hospital in Germany is one example. An electronic data-entry solution based on Microsoft technologies has enabled this major regional healthcare facility to reduce errors in patient data entry and medical treatment and reduces additional, not accountable costs by streamlining data flow and waiting times for patients that follows a patient throughout treatment.

Microsoft Collaborative Health

Addresses six areas for providers:

Patient Information Access: Healthcare Portals

Caregiver Collaboration: Real-Time Communication Through Online Training, Education, and Team Building

Clinical and Administrative Forms Automation

Electronic Health Records

Integration

Business Intelligence

> CASE STUDY

At **Children's Hospital and Regional Medical Center** in Seattle, the largest pediatric center hospital in the Pacific Northwest, a portal solution that includes wireless communication and collaboration capabilities has helped reduce record keeping expenses by 10 percent and IT support costs by 37 percent. In addition, transcription errors and delays in information transfer have been reduced, enabling physicians to spend more time with patients and less time on paperwork.

> CASE STUDY

Geisinger, a large rural integrated health system serving more than two million people across 38 counties in Central and NE Pennsylvania, uses Microsoft Office Live Meeting in the department of Obstetrics and Gynecology and their offices throughout the region. Live Meeting creates new opportunities for training and education that transcend the geographic limitations. Live Meeting makes meeting content available to physicians at home, in the office, or at the hospital.

"We are extremely satisfied with the Live Meeting platform, as it has fostered a community environment within our team of physicians and providers, and is the next best thing to being there in person."

—**Eric J. Bieber, M.D.** *Chair of Obstetrics and Gynecology*
Sr. VP of Community and Provider Relations

> CASE STUDY

Clinical and administrative forms automation solutions help clinicians collect, retrieve, and share patient information, enhancing productivity, reducing patient wait times, and eliminating the need for manual data entry and re-entry that wastes time and introduces opportunities for error. At **Swedish Hospital of Seattle**, a clinical forms automation solution enables the hospital's emergency room staff to use Tablet PCs connected to a wireless network to gather patient data, and organize, share, and manage that data on the hospital intranet. With the solution, Swedish Hospital expects to provide high-quality care for 10 percent more patients and increase annual per-patient revenue by 3 percent.

> *Microsoft technologies enable healthcare providers to access HL7 messages quickly and efficiently, and they provide a powerful means for reducing complexity and integrating disparate healthcare systems.*

Patient Information Access

Healthcare Portals

Microsoft healthcare portal solutions provide the foundation for more streamlined and efficient information sharing, enabling healthcare professionals to work together more effectively, respond more quickly, and deliver higher quality care at a lower overall cost. As a central information hub, a healthcare portal can be tailored to the specific needs and roles of particular users, providing instant access to relevant applications, content, and services that facilitate collaboration and enhance community. Combined with mobile devices, such as Microsoft Tablet PCs and Microsoft Windows-based Pocket PCs, healthcare portals built on Microsoft SharePoint® Portal Server or Windows SharePoint Services provide the framework for delivering access to information at the point of care. Because they are built on proven Microsoft technologies, healthcare portal solutions provide the security framework needed to achieve compliance with HIPAA and other mandates.

At the U.S. Army's Telemedicine and Advanced Technology Research Center, which develops, evaluates, and demonstrates new healthcare technologies, a point-of-care handheld assistant, based on the Microsoft Windows-based Pocket PC, has been developed that provides first responders in battlefield situations with an all-in-one solution to store and retrieve patient records, record and transmit clinical information, and help diagnose and treat medical conditions. Called Battlefield Medical Information System-Tactical (BMIS-T), the device is currently used by the White House medical staff for the president and his staff and is being deployed to all care providers within the Special Forces special operations command.

Caregiver Collaboration

Real-Time Communication Through Online Training, Education, and Team Building

Clear communication across the continuum of care is central to the practice of safe, effective medicine. Good communication improves compliance with treatment plans, raises patient satisfaction, and enhances the quality of care. Microsoft Office Live Meeting is a communication and collaboration tool that allows healthcare workers to meet to conduct grand rounds presentations, clinical case conferences, medical staff meetings, staff training, and patient referrals and case consultations, no matter where they are located, using just a computer with an Internet connection and a phone.

Because many healthcare organizations are dispersed across large geographic areas, Live Meeting can significantly reduce the time burden, inconvenience, and expense of attending meetings in person. With Live Meeting, hospitals can ensure that medical staff stays up to date on regulatory compliance, medical, and other critical information, and it makes it easier to form virtual teams of specialists who can work together in real time on complex patient diagnoses and treatment plans.

Live Meeting can also play an important role in meeting patient needs by providing a cost-effective tool for delivering patient education, for organizing virtual group visits for patients with chronic diseases, and for offering post-treatment counseling and follow-up visits.

Clinical and Administrative Forms Automation

Today, 70 percent of all healthcare transactions require manual processes. The administrative cost of a paper claim can be as much as \$20 every time it is filed. As a result, administrative spending accounts for 25 percent of the cost of healthcare, one of the highest rates for any industry. Microsoft offers tools and applications that provide the infrastructure for clinical and administrative forms automation solutions, built on Microsoft Office InfoPath™ 2003, that allow healthcare providers to replace paper with digital forms that streamline the flow of patient information and automate processes.

Electronic Health Records

A typical U.S. hospital has more than 200 different information system applications, few of which work together. In addition, an estimated 70 percent of healthcare transactions are paper based. The difficulty inherent in accessing paper-based information and moving information between disconnected systems dramatically limits the ability of healthcare providers to collaborate efficiently in the delivery of patient care.

Electronic record storage is a powerful starting point for solving these difficult issues. Built on familiar productivity solutions and standards-based server technology, electronic health record solutions from Microsoft and its partners deliver the information infrastructure needed to integrate data from a wide range of systems, and they provide interfaces that enable physicians and other users to make full use of data quickly and easily.

A Microsoft-based electronic medical records solution built by Allscripts Healthcare Solutions has helped University of Minnesota physicians eliminate paper-based medical records. The solution utilizes 500 wireless Microsoft Windows-based Pocket PCs for dictation, reviewing patient medical records, and other daily activities, and is improving the accuracy of transcriptions and reducing the administrative burden of managing paper forms.

Integration

With a typical hospital running dozens of disconnected systems, the need to link a wide range of applications running on different platforms is critical. Complicating the issue is the necessity of connecting directly with insurance company systems to automate claims processing, and the need to achieve and maintain compliance with HIPAA guidelines. Microsoft Collaborative Health gives healthcare organizations an easier way to manage integration, more cost-effective methods to communicate information back and forth, and faster methods of developing and implementing new interfaces between systems.

Microsoft Collaborative Health also provides a rapid, cost-effective way to take advantage of HL7. Used in more than 95 percent of U.S. hospitals, HL7 is the global standard for electronic messaging in healthcare. An active supporter of HL7 standards, Microsoft is a member of the HL7 organization and participates in a number of forums, including the annual HL7 interoperability demonstration at the Health Information Management Systems Society (HIMSS) conference. Microsoft technologies enable healthcare providers to access HL7 messages quickly and efficiently, and they provide a powerful means for reducing complexity and integrating disparate healthcare systems.

Business Intelligence

To survive in today's business environment, healthcare organizations must respond and adapt to changing requirements with speed and accuracy. To help healthcare organizations achieve new levels of business agility, Microsoft Collaborative Health includes business analysis tools for caregivers and administrators. Built to link systems and data across departments and even across organizational boundaries, Microsoft business intelligence solutions ensure that decisions are made based on a complete view of patient data.

> CASE STUDY

Washington Hospital Center, the largest hospital in Washington, D.C., is another example. Washington Hospital created its own solution built entirely on the Microsoft platform. Called InSight, the solution consolidates patient data from hundreds of data sources, making the information instantly available at the point of care across a range of devices—including wireless delivery to the Tablet PC and Pocket PC. The automation of manual processes enables Washington Hospital to bring in more than U.S. \$3 million in new annual revenues, while saving additional millions by reducing its dependence on paper records.

> CASE STUDY

The ability to link various systems using Microsoft technologies has enabled **Scripps Health**, a large Southern California-based healthcare system with 10 hospitals, to achieve significant efficiency gains. Scripps also expects to increase overall messaging efficiency by 25 percent once the system is rolled out across the entire organization.

> CASE STUDY

Microsoft business intelligence solutions enable healthcare organizations to empower clinicians and administrators to make faster, better-informed decisions. **Memorial Healthcare System** in South Broward County, Florida, is using a Microsoft business intelligence solution to pull together transactional data from ten disconnected systems. Sophisticated analysis features give Memorial's 200 managers real-time access to 250 key performance indicators, enabling them to make faster, more accurate decisions relating to health, safety, and the bottom line. And by automating analytical processes, Memorial saves over 22,500 hours of management time per year.

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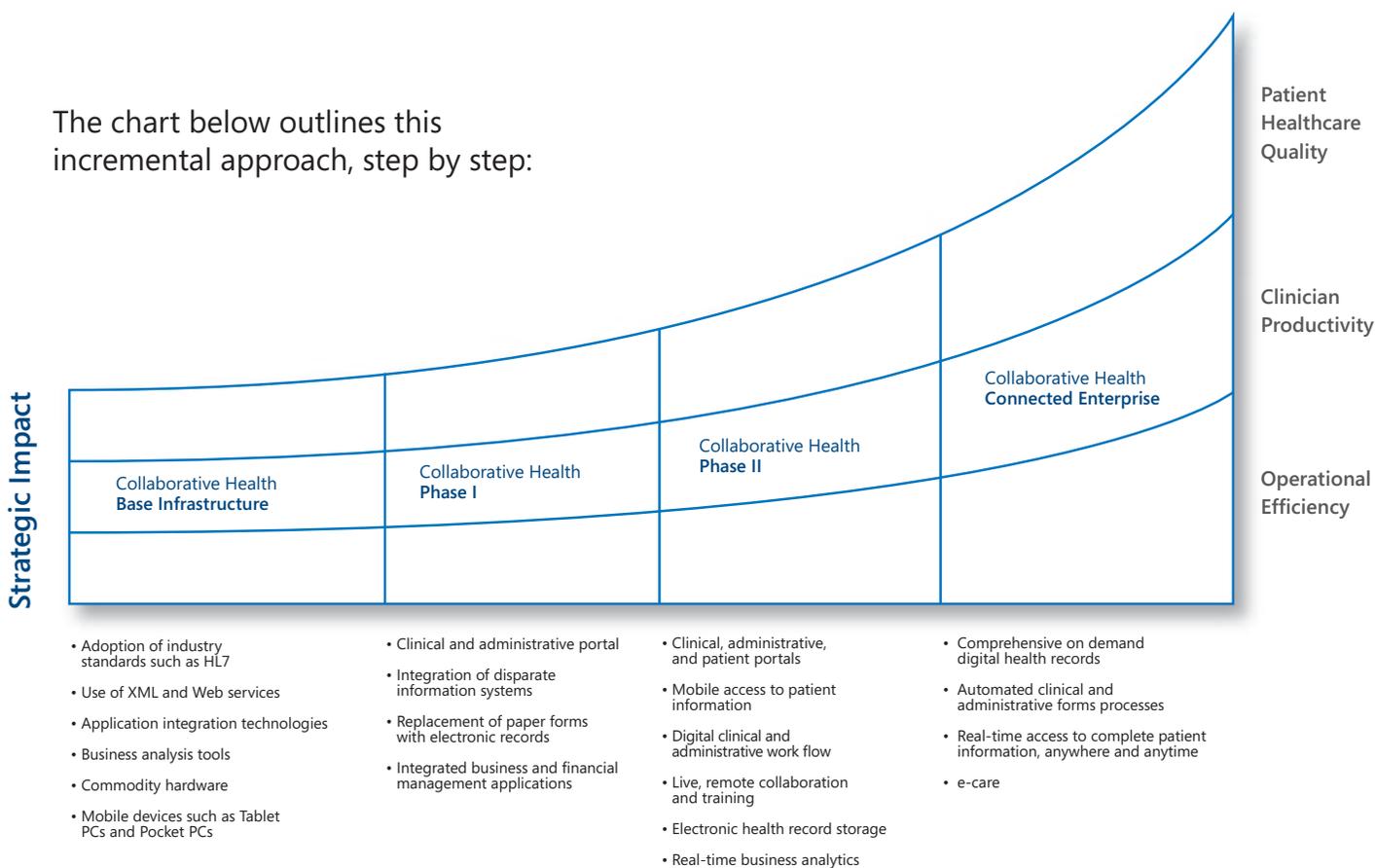
Moving Toward Collaborative Health

An Incremental Approach

Technology is transforming the healthcare industry at a rapid pace. But healthcare organizations need to be able to take a more measured approach that balances the benefits that specific solutions offer against issues such as cost, the potential for disruption, the impact on existing systems, and more. We recognize that no healthcare organization can afford to take an all-or-nothing approach to technology adoption, and that each organization has its own requirements, restrictions, and institutional needs.

Microsoft Collaborative Health was designed to allow healthcare organizations to benefit from today's technology and apply the latest innovations, regardless of their current technology infrastructure. The goal is to build on existing technology and pursue an incremental strategy that delivers rapid return on new investments through projects that come with a manageable price tag. This approach helps reduce execution risk for management and allows employees to adapt more easily to changes.

The chart below outlines this incremental approach, step by step:



> *Microsoft Collaborative Health was designed to allow healthcare organizations to benefit from today's technology and apply the latest innovations, regardless of their current technology infrastructure.*

Microsoft healthcare portal solutions are an example of this incremental approach. The foundation for enabling healthcare professionals to work together more effectively, a healthcare portal can easily be layered on top of existing information systems to provide a security-enhanced central location for communicating general information to staff and provide employee support. An additional layer of functionality opens the door to more sophisticated clinical portals that enable physicians, clinicians, and pharmacists to communicate and collaborate quickly and efficiently within and beyond the boundaries of a single organization. Security and personalization features help ensure that information is protected and HIPAA compliant.

Incremental integration enables the creation of administrative portals that tie together business data from disparate systems not only across a single organization, but also from business partners such as payers, suppliers, and government organizations. Ultimately, healthcare portals can be extended to enable patients to interact with improved security over the Web with clinicians and administrators.

Partner Strategies

Microsoft works with a network of more than 25,000 certified partners whose capabilities and deep industry knowledge supplement Microsoft's strengths. Microsoft also has hundreds of healthcare-specific independent software vendor and systems integration partners such as:

- Eclipsys
- Allscripts Healthcare Solutions
- Stentor
- Amicore
- Siemens Medical Solutions
- digiChart
- Greenway Medical Technologies, Inc.
- IDX Systems Corporation (Imagecast)
- iMedica
- Misys Healthcare Systems
- Nextgen Healthcare Information Systems
- Proclarity
- Capgemini
- Quilogy
- BORN
- InfoSys
- Hewlett-Packard

Conclusion

The healthcare industry faces difficult issues along with unprecedented opportunities for transformation. Through Collaborative Health, Microsoft is committed to developing IT solutions that can help healthcare organizations tackle today's challenges by reducing complexity, improving integration, streamlining processes, and enabling closer collaboration across the healthcare ecosystem. Working closely with leading industry partners, Microsoft offers solutions that will help healthcare organizations achieve new levels of success through better productivity, enhanced safety, and higher-quality healthcare.

For more information about Microsoft Collaborative Health, including case studies, videos, product brochures, data sheets, webcasts, and presentations, please visit www.microsoft.com/healthcare ■

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