



## Taking the Pain out of Healthcare Information Management



**Fujitsu, EMC Documentum, and Adobe deliver a joint solution to help you realize your vision of electronic health information management. Streamlining processes to improve patient care, while maintaining compliance and improving the patient experience, is no longer a dream—it's your new system.**

SOLUTION  
BRIEF

### Healthcare providers inhabit a unique place in the business community.

Like any corporation, providers are subject to the same pressures to improve efficiencies, especially when it comes to information management. Yet, in many hospitals, clinical systems are disconnected from financial systems, increasing the time it takes to receive payment for procedures. Since there are often limits on the amount of time allowed between delivery of a procedure and submission of the payment request, delays can even result in not getting paid at all. Therefore, the efficiency or inefficiency of information management has a measurable impact on cash flow and profitability.

But, unlike some other companies, healthcare organizations are driven by more than the bottom line, and communication delays can have a direct impact on the quality of patient care. Being able to access patient information as soon as it's available is especially critical, as it helps nurses, admissions staff, records managers, and finance teams reduce the risk of errors and respond more quickly to changes in a patient's situation. Providers also want to make sure that they are getting the most value from their professional staff. After all, every minute that nurses spend doing paperwork is a minute they're not spending with a patient.

The healthcare industry is also highly competitive, and competitive advantage is closely tied to customer satisfaction, with the customers being both doctors and patients. But, again, the stakes are much higher than in many industries. The ultimate measure of success is the physical well-being of their patients, and this can be dramatically influenced by information management problems due to delays and bottlenecks. Someone with an illness doesn't need the additional stress of waiting for test results that are sitting on somebody's desk or of being forced to schedule outpatient visits on separate days so their medical records have enough time to move from one clinic to another. Sooner or later, that patient is going to look elsewhere for better quality of care.

Information accuracy is also a major challenge. Clinicians making important healthcare decisions must be confident that errors haven't been introduced as information moves throughout the organization, a very real concern when it is being processed manually.

Because of the critical nature of their operations, healthcare providers are also facing an increasing number of government regulations regarding safety, security, and operations, with reporting requirements varying from state to state and agency to agency. These mandates also affect customer satisfaction. For instance, tightened rules for patient confidentiality have made it difficult to get patient records from one appointment to the next without physically transferring them, again slowing down the process.

## The Technology Challenge

Clearly, information management is a critical concern in the healthcare industry. And while most companies have already made large investments in technology to help manage their data, they've discovered that there are still serious challenges in terms of sharing data quickly, accurately, and securely.

One of the biggest challenges is that relevant data is stored in multiple repositories in multiple locations, including doctors' offices, hospitals, insurance companies, and regional medical databases. Trying to get information into and out of these often incompatible systems, where and when people need it, is often difficult enough. Adding controls to make sure that the information only goes to the people who should see it makes it that much harder. But as budgets continue to tighten, IT departments don't have the luxury of rebuilding their systems from scratch to make them work better together. Instead, they have to find ways to get more out of their existing technology investments.

## A Proven Course of Treatment

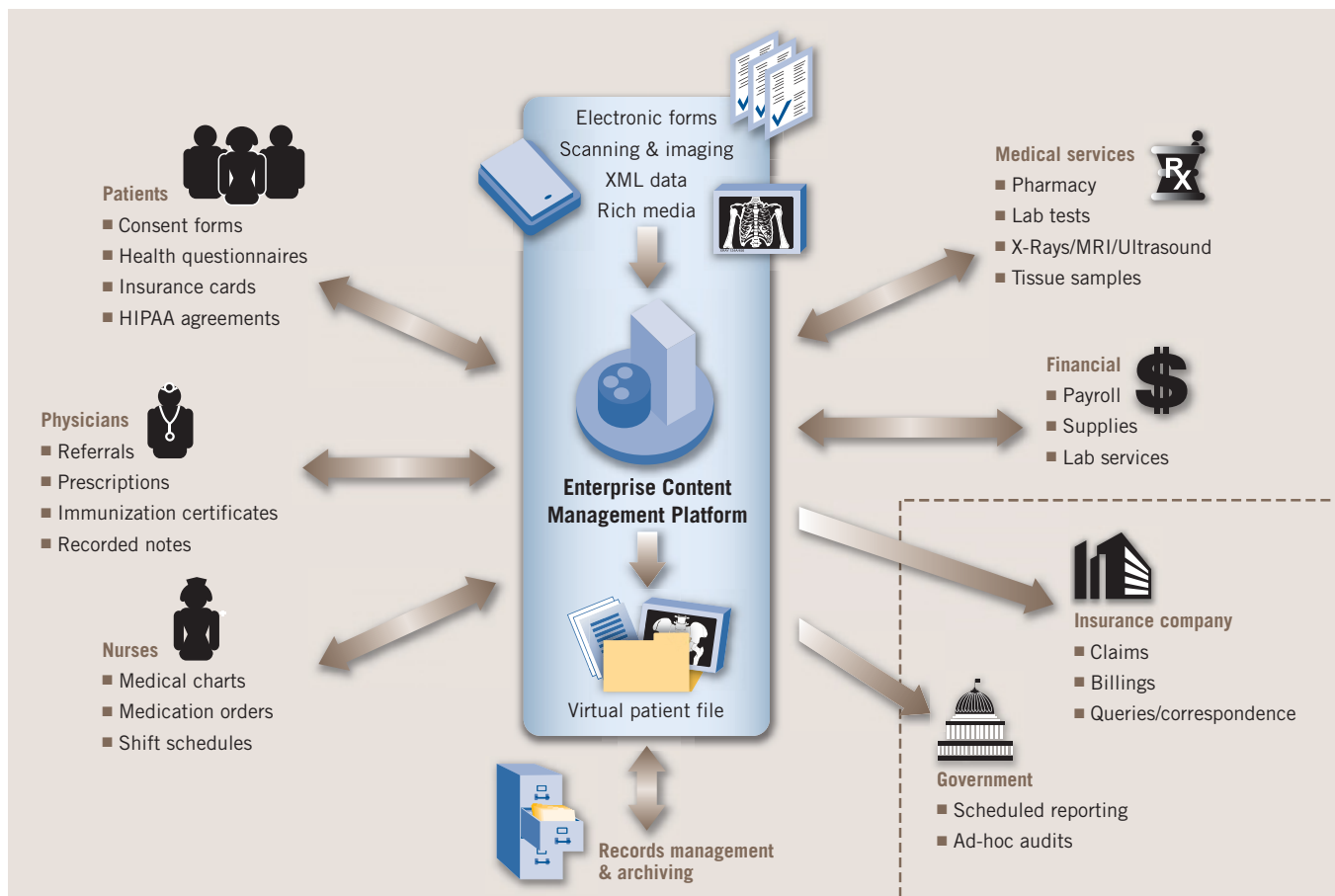
Fujitsu, EMC Documentum, and Adobe have developed a joint solution for healthcare information management that can help healthcare providers streamline processes to improve access to patient information, reduce costs, and achieve compliance.

Fujitsu begins by helping providers analyze their existing processes, such as patient registration, admissions, diagnostic testing, financial management, and medical records management.

This initial assessment helps determine which activities can be improved through greater automation, which ones are working well already, and — arguably most important — which activities should be eliminated altogether because they aren't adding any value to the overall process in the first place.

The solution is then built around EMC Documentum's enterprise content management platform, which lets organizations create, modify, share, and archive all types of dynamic, fixed, and rich media content. Adobe intelligent electronic forms directly integrate with the platform to improve the speed and quality of captured data. The solution delivers content via a portal so that providers have immediate access to information at the point of patient care.

Cost-effective records management is also an essential component of the solution. A typical hospital might keep a patient file "active" in its medical records library for anywhere from 12-24 months after a patient's most recent procedure. In a large hospital, this could mean hundreds of thousands (or even millions) of medical records in an active state, which means paper files often need to be stored offsite. By digitizing the health record, providers can keep more records active and provide easier access to them, while maintaining security controls and supporting an infrastructure for long-term storage that helps meet compliance and operational requirements.



**By bringing all types of content together and creating a secure healthcare information file, providers can get the right information to the right people at the right time.**

## Capturing Information How and When You Need It

In most organizations today, gathering data is still a paper-intensive process. Just look at the number of forms sitting in any supply cabinet: patient consents, HIPAA acknowledgements, medical questionnaires, insurance coverage, requests for procedures, and so on. And even when those forms are posted online, most of them still end up being printed out and filled in by hand. As a result, much of the information ends up being entered again and again into multiple systems, which frequently results in delays and errors.

At the same time, forms often need to be accompanied by supporting documentation. In the healthcare industry, these can include such things as medical charts, prescriptions, immunization records, X-ray/MRI/ultrasound images, proof of insurance, and physician referral letters.

The joint solution enables organizations to integrate scans of these various pieces of paper with related digital content, such as electronic forms and rich media files (for example, audio recordings of a doctor's notes), to create a virtual health record that can be easily and securely distributed to those who need to access it.

## Intelligent Electronic Forms

Because they're delivered in PDF format, an Adobe form can look exactly like the paper version of the same form. They can also be delivered through any channel—Web, e-mail, mobile device, or printer—for the user's convenience. Forms can include fields that are dynamically calculated and validated as they're being filled in—for example, you can enter a patient's weight from a previous and current exam and the form will automatically calculate the change. Intelligent forms also include built-in security features, such as password protection or action restrictions, that help prevent unauthorized access or modifications.

Once a form is completed online, organizations then have two options for getting the data into their business systems. The person entering the data can click a button on the form to electronically submit the XML data for automatic system integration. However, sometimes you still need a paper version of the form, such as when an original signature is required. In that case, the form can include a 2D barcode on it that dynamically updates whenever a field changes. When the form is printed out and mailed or faxed, it can then be scanned and the data extracted directly from the barcode. In either case, the organization significantly cuts down on the time spent on manual data entry, which in turn reduces errors and frees up resources for more valuable activities.

Another advantage of intelligent forms is that once the data is captured, it can be used to trigger automatic workflows, such as sending a form to the correct department for further processing or approvals. And the appropriate process can actually be determined by the data entered. So if a doctor checks off a specific laboratory test on a form, it will automatically be routed to the correct department.

## The Solution in Action

A leading U.S. healthcare organization is known for its innovative multidisciplinary approach that brings physicians, nurses, therapists, and other support staff together to provide personalized treatment plans for each patient.

But because of the large number of disconnected back-end systems that housed patient records, clinicians found it difficult to access the information they needed in a timely fashion. Fujitsu, EMC Documentum, and Adobe worked together to design and implement a custom solution, delivered in phases, for improving the organization's health records processing.

The first phase involved putting the enterprise content management infrastructure in place, converting paper forms into intelligent forms, and automating processes in four areas: Nursing, Admissions, Records Management, and Financial Services. Other aspects of this phase included patient barcoding and a federated patient information search capability.



The second phase expands the infrastructure to include a portal interface for physicians and other staff to access patient information at the point of care. It also includes a records archival, storage, and management capability for accessing patient information across multiple repositories.

## Projected Results by the Numbers

- Investment break-even in year three
- Nursing labor, inside and outside paper and film/image storage, and medical records expense reductions of over \$7 million in the first five years
- Ongoing savings of more than \$4 million annually
- Cutting time spent by nurses on paperwork in half, giving them over an extra hour per day to spend with patients and reducing the need to hire "agency" nurses
- Development of electronic medical records, which will allow them to double the capacity of their medical records department

## Secure Archiving

Once a particular process is finished — a patient has been discharged, the insurance claim check paid out — all the content that was involved needs to be archived. But it's not just a matter of sticking it in a file folder somewhere.

For example, metadata needs to be added to the content to make it easier to locate and access in the future. The joint solution makes it easy to add that information, either through automatic extraction of embedded data like patient ID numbers and modification dates or by user input, such as adding keywords for cross-referencing. And different rules can be applied, depending on whether the file is still active or whether it has been transferred to long-term records storage.

Content also has an end of life, which is determined by an organization's policies as well as by government regulation. Information about how long records need to be kept and disposal instructions can also be applied to the content at this point.

Finally, to turn content into a record, it needs to be "locked down." So whereas when a form came in, the data could be extracted or changed as it moved through the system, it now needs to be secured so that if people need to review the form in the future, they can be confident that what they're looking at accurately represents what happened. This is important for putting patients' minds at ease and also to comply with government regulations like HIPAA and Sarbanes-Oxley.

## Partnering for Success

By working together, Fujitsu, EMC Documentum, and Adobe have created a solution for healthcare organizations that recognizes the ongoing need to process paper, while reducing the problems associated with it. With the joint solution, you will be able to:

- Improve patient care through faster and more convenient access to personalized data at point of care
- Increase data accuracy by reducing errors introduced through manual data entry
- Reduce operating costs by eliminating redundant processes and minimizing the use of paper
- Document adverse events through forms workflow and collaboration in compliance with the Patient Safety and Quality act passed in July 2005
- Achieve a measurable return on your investment within six to nine months
- Use a common interface for creating, managing, delivering, and archiving patient data across multiple existing systems
- Simplify your IT department's workflow with a solution that is based on open standards and that integrates with existing technology investments

**For more information on the joint solution, please visit [www.healthcare-cio.com](http://www.healthcare-cio.com).**

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