



## ODENSE UNIVERSITY HOSPITAL

### ELECTRONIC DOCUMENT MANAGEMENT ADVANCES DENMARK'S LARGEST HOSPITAL

Odense University Hospital (OUH), the biggest hospital in Denmark with 7,500 staff members and more than 1,000 beds, is located on Funen in the region of South Denmark. It annually treats 350,000 inpatient, 60,000 emergency department and 488,000 ambulatory patients, providing care 24 hours per day, seven days per week.

With medical record storage occupying seven kilometres of physical space, OUH needed an electronic document management solution that would greatly reduce costly paper storage and support electronic health records (aka EHRs, electronic medical records [EMRs] or patient journals). The requirements for OUH included the following items:

- EHRs and associated documents must be instantly and securely accessible by Internet at any time of day or night
- The solution must legally comply with national laws for records retention and patient privacy
- OUH required an electronic document management solution that could provide easy integration with any EHR system that might be required in the future.

OUH turned to OnBase for an enterprise document management solution. Developed by Hyland Software Inc., OnBase is an integrated suite of enterprise content management (ECM) software solutions, including core capabilities in document imaging, electronic document management, workflow, COL/ERM and records management.

The Web-based OnBase system allows authorised, authenticated users to view documents of any file format securely and instantly from any location using the secure Web client. Because OnBase documents are electronic, the hospital benefits from being able to securely access needed documents at any time and from anywhere, even in sterile environments.

### INSTANT, WEB-BASED DOCUMENT ACCESS EXPEDITES PATIENT CARE WITH MANAGEABLE MAINTENANCE

OUH assigns the patient's national Social Security number as a keyword to every document associated with the medical record. This keyword can be used to instantly find needed documents. In addition, multiple users can view a document simultaneously. Electronic documents also

contain a history of every user that has viewed or acted upon the document. "You couldn't see the fingerprints on the paper medical record. Now, every record has an audit trail," states Jette Kotsis, Section Manager at OUH.

With instant access to required documents and reduced labour-intensive procedures for records management compliance, OUH is able to decrease patient wait times as well as provide private consultation areas in the hospital space previously occupied by paper storage. "With OnBase, access to documents is 64 times faster than with paper," states Kotsis. "Before OnBase, it took staff seven minutes to retrieve needed documents; after OnBase, documents are retrieved in seven seconds."

By removing paper-intensive tasks that added time and cost to patient encounters, such as filing or manually retrieving paper documents, OUH repurposed multiple secretaries from all departments to other needed secretarial positions. In addition, in-hospital storage space is very expensive, so removing the storage of seven kilometres of paper medical records had a high value.

Paper documents are scanned into OnBase using two Eastman Kodak i640 colour scanners, enabling employees at all hospitals in Region Syddanmark immediate Web access to the documents as soon as they are scanned or electronically imported. Documents that are scanned include all medical record document types, Transfusion records and Laboratorie answers from the Clinical Immunological Department, staff records for the Human Resources Department and invoices. "We have guaranteed, secure access to medical records when we need them," states Kostis. "Because we can now give multiple users simultaneous access to the same charts, with OnBase, the charts are always available."

Unlike OUH's previous document management system that had client software installed on every workstation used for document retrieval, OnBase upgrades can be performed on the server only, instead of on more than 2,000 workstations.

#### AT A GLANCE

Using electronic document management, Odense University Hospital (OUH), Denmark's largest hospital, improves patient care by reducing wait times, increasing employee satisfaction with instant access to required documents and reducing labour-intensive procedures for records management compliance.

#### BENEFITS

- Treats more patients without adding additional staff or resources
- Makes better use of limited and expensive hospital space; repurposed record storage space provides additional rooms for confidential patient care
- Authorised medical staff retrieve necessary documents associated with the patient's EHR 64 times faster than paper processes
- Staff can access records directly from Cosmic in just seven seconds, compared to more than seven minutes before OnBase
- Removed paper-intensive retrieval and filing tasks that added time and cost to patient encounters; repurposed secretaries from all departments to other needed secretarial positions
- Employees have access to documents immediately after scanning or importing into OnBase; multiple authorised personnel can view documents simultaneously from anywhere at any time, even in sterile environments, using secure Internet access
- Reduces costs and supports environmental initiatives by minimising paper production, printing, storage and shipping associated with paper-intensive, document-centric processes
- Maintains compliance with national records retention requirements which require hospitals to maintain records for 15 years
- Well positioned for impending national EHR compliance

#### APPLICATION

- Medical Records
- Human Resources

#### COMPLEMENTARY PRODUCT INTEGRATIONS

- OCR for AnyDoc™
- Cosmic
- Eastman Kodak® i640 scanners

(continued)

**ONBASE INCREMENTALLY ROLLED OUT TO ADDITIONAL DEPARTMENTS, EXTENDS BENEFITS OF CENTRALLY MANAGED METHODOLOGIES**

Odense selected OnBase for its Web-accessible document management capabilities, but has extended its implementation to meet additional hospital administrative needs and records management requirements.

In addition, documents do not need to be scanned in order to import them into OnBase for instant Web accessibility. For example, Odense imports other items directly from CD into OnBase including applications,

digital photos and training materials for the Department for Further Training of Doctors.

Optical character recognition (OCR) is used in the Medical Records Research Department to quickly find information in questionnaires, eliminating the need for doctors to maintain their own research databases.

Other business processes currently being addressed by OnBase include a Workflow to facilitate negotiations between the workers union and the hospital, and a plan to address staffing and human resource requirements. Training for users involved in all of these OnBase processes was minimal. "It is a very user friendly system," Kotsis explains.

**ECM SUPPORTS ENVIRONMENTAL INITIATIVES IN DOCUMENT-CENTRIC DEPARTMENTS**

The OnBase and Cosmic (Odense's EHR system) implementation supports environmental "green" initiatives, as electronic documents diminish the costly impact that paper brings to document-centric processes. Resources and costs associated with printing, storage, shipping and paper production are all reduced with the use of electronic documents.

**EHR INTEGRATION PREPARES FOR FUTURE NATIONAL COMPLIANCE REQUIREMENTS**

OnBase is integrated with Cosmic, so OnBase documents including digital photos, x-rays, correspondence and videos associated with the patient's EHR can be accessed directly from Cosmic. Integration with Cosmic provides the ability to obtain needed documents with very little training. Staff members can log into Cosmic and obtain all needed documents directly from the Cosmic interface. There is only one copy of the document stored, but it can be accessed simultaneously by multiple users from multiple locations.

**"With OnBase, access to documents is 64 times faster than with paper. Before OnBase, it took staff seven minutes to retrieve needed documents; after OnBase, documents are retrieved in seven seconds. Every hospital needs a system like OnBase"**

**-Jette Kotsis**  
Section Manager

Authoring to create a record for disaster recovery purposes, directly from the OnBase system.

Health professionals from all over Europe regularly come to see the forward-thinking OUH processes, using its successful methodologies as a model for future implementation ideas to streamline processes and improve patient care using a true, longitudinal EHR. Kotsis affirms, "Every hospital needs a system like OnBase."

The likely instatement of a common model for EHR to enable compliant integration between all health facility EHR systems in Scandinavia will require every hospital to have its documents managed in electronic form. With its Cosmic and OnBase solution, OUH easily positions itself as a leader in preparation for possible impending national electronic health record (EHR) requirements.

In order to meet the current national law regarding retention requirements for electronic documents, OUH uses OnBase CD