

# OnBase®

a Hyland Software solution

REALSOLUTIONS  
HEALTHCARE



## HVIDOVRE UNIVERSITY HOSPITAL

### DOCUMENT IMAGING IMPROVES PATIENT CARE AT 714-BED FACILITY

Providing fast access to patient records is critical to Hvidovre University Hospitals' mission to provide the highest quality of patient care and safety and fulfill its commitment as a university hospital. Located in Copenhagen, Hvidovre University Hospital is a 714-bed acute surgical care and psychiatric facility serving the southern district of the Capital Region of Denmark, one of five government-mandated healthcare regions. In 2004, Hvidovre University Hospital implemented document imaging and management technology to provide security and fast access to patient records.

Accredited by the Joint Commission according to international standards and Danish laws, Hvidovre University Hospital takes seriously its role in supporting Denmark's long-term goal of being able to provide access to a medical record no matter where a patient receives care. Prior to implementing an electronic solution for managing paper records, Hvidovre University Hospital's Patient Records Department was creating microfiche copies of records related to more than 266,000 outpatient visits annually and more than 232,000 inpatient days each year.

Creating this microfiche archive was very time consuming, as was retrieving the information itself. In fact, by 2004, the Patient Records Department was two years behind in filming records. When a patient was admitted to the hospital, employees would have to determine where the record was stored based on information in the patient information system from Computer Sciences Corp. (CSC). If it was on paper somewhere, a secretary would have to be dispatched to collect it. If it was on microfiche, a copy of the microfilm had to be made and sent to the relevant ward. Outside working hours, staff members from the emergency unit had to go to the basement records room to make copies of the microfiche as the film could not leave the room. As a university hospital, Hvidovre University Hospital is also obligated to provide authorised record access for research studies and didn't want this responsibility to be compromised by manual processes.

The backlog of records to be filmed, potential delays in providing records following an admission and the effect these delays had on patient care prompted Nina Wennich, head of the Patient Records Department at Hvidovre University Hospital, to consider purchasing new microfiche equipment or an alternative electronic system. Hospital administrators required that whatever solution was chosen, it would have to meet the system's permanent retention policy, provide secure record access to all departments and be cost-justified within three years.

In investigating document imaging and management solutions, Ms. Wennich toured sites in Denmark and Sweden where similar solutions were used. The hospitals they visited that were using document imaging to successfully reduce cycle times were using OnBase, an enterprise content management (ECM) suite from Hyland Software that includes core competencies in document imaging and management, automated workflow and COLD/ERM. Authorised OnBase Solution Provider KIBI Denmark AB had implemented these solutions, which include hardware, software and consultative expertise.

### 10 MILLION PATIENT DOCUMENTS INSTANTLY AVAILABLE

Prior to using OnBase, patient records, ranging from a few dozen pages to several centimeters thick would be taken in opaque red envelopes to the Patient Record Department upon discharge and placed on a shelf to await filming. Working with KIBI, Hvidovre University Hospital designed a process for scanning 100,000 documents per week, eliminating the filming backlog and making records available more quickly.

Prior to being scanned using i640 document scanners from Eastman Kodak Co., patient records are sorted and prepared by secretaries and nurses in the departments in which they are generated. Using a Web-based software utility created by KIBI, employees create and print bar-coded separator sheets that

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#### AT A GLANCE

A 714-bed hospital with almost 3,500 employees, Hvidovre University Hospital eliminated a two-year backlog in patient record processes, improving its patient care and its ability to meet obligations as a research facility.

#### BENEFITS

- Improves patient care by speeding availability of patient records
- Provides all departments with immediate, secure Web-based access to patient records
- Cost-justified through a 33% reduction in patient record staff
- Frees resources that can be allocated for patient care
- Improves record availability for authorised research studies
- Meets hospital administration's permanent retention policy
- Eliminated a two-year backlog of patient records awaiting microfiche filming
- Supports record backup and security initiatives

#### APPLICATION

- Patient Records

#### COMPLEMENTARY PRODUCT INTEGRATIONS

- Eastman Kodak Co. i640 document scanners
- Computer Sciences Corp. (CSC) hospital information system
- Sunrise Imaging, Inc. microfiche scanner

indicate the document types and demographic information. The information in the bar codes is used to automatically index the documents with keywords needed to retrieve them from OnBase. When the scanning is completed, an XML message that an electronic record exists is sent to the hospital's patient information system.

No matter what department the patient is treated in, s/he has a single record that immediately provides caregivers with a complete overview of past treatment when the patient is readmitted. If a patient has records that pre-date the OnBase implementation, the patient information system provides the location of those records, which are retrieved and imaged.

Hvidovre University Hospital uses a microfiche scanner from Sunrise Imaging, Inc. to create electronic images with minimal effort. This conversion effort is reducing the amount of storage space devoted to physical records.

Through the OnBase Web Server, patient records are available to every computer in the hospital. In the first four years, approximately 10 million paper documents have been scanned and 1.7 million microfiche records have been converted. Healthcare providers generally enter the patient's Danish Social Security number to access the records they need, and overall the response to using OnBase has been very positive. This is especially true in areas such as endocrinology where the files for patients with conditions such as diabetes can be exceptionally large.

#### IMPROVED PATIENT CARE, BETTER USE OF RESOURCES

"It's hard to measure the value of giving doctors immediate access to patient records," notes Bjarne Andersen, head clerk at Hvidovre University Hospital. "Then there is the effect on patient safety, especially when there's an emergency at night or on the weekend and a record is needed to make doctors aware of any conditions or other factors. When we started this project, we were two years behind in microfiching; now we're beginning to scan existing records."

Fulfilling her commitment to the hospital administration, Ms. Wennich has reduced staff in her department from nine to six, cost-justifying the system and freeing additional resources for patient care. Additional staffing reductions may be possible in the long term.

OnBase may also provide a way for Hvidovre University Hospital to realise other efficiencies that improve patient care and maximise resources. "The main focus is on the patient and the best way to deliver service to the patient is to consolidate data systems," says Christian Arvits, project manager for the Greater Copenhagen Region IT Department. This consolidation would

allow the regional IT administrators (who serve about 40,000 employees) to operate with fewer staff and servers and a smaller help desk. Because it can scale to incorporate thousands of users and be adapted to multiple departments, existing OnBase investments could be a part of this initiative.

Unlike physical files, electronic patient records are much easier to store and secure. No longer vulnerable to loss, unauthorised access or disaster, redundant copies of Hvidovre University Hospital's patient records are stored and backed up on the

hospital's storage area network (SAN). From a purely practical standpoint, the space devoted to storing these records was already in short supply, as the hospital's policy is to store all patient records indefinitely to make them available for research. (The minimum requirement according to Danish law is 30 years.) "If we didn't use OnBase, we would have run out of space by now," says Andersen. "When we are visited by other hospitals, we always suggest that they begin to implement this technology."

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**-Bjarne Andersen**

Head Clerk

Hvidovre University Hospital

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