

Hospital-wide access to patient documents helps to drive efficiency with Centricity™ Clinical Archive solution¹



University Hospital Antwerp (UZA) is a university centre providing tertiary care, academic training and international scientific research. Approximately 600,000 patients visit its 38 departments every year, which all benefit from organisation-wide access to medical imaging and scanned documents using the Centricity Clinical Archive (CCA) solution from GE Healthcare.

UZA employs approximately 2,800 people including 400 doctors and 1,400 nurses. CCA provides vital support to over 1,350 professionals at the hospital in the roles of clinicians, administrators and accounting staff.

At UZA, CCA is deployed as a Level 3² Vendor-Neutral Archive (VNA) to store images and documents with full XDS standard support. XDS stands for cross-enterprise document sharing and is an integration profile for document based information sharing defined by Integrated Healthcare Enterprise. Clinicians and other staff regularly access the information in CCA via the Universal Viewer ZFP (Zero Footprint) from virtually anywhere³ and at any time, helping to improve departmental efficiency and access to data.

In summary:

Organisational Challenges

- 38 highly-specialised departments spread throughout the hospital
- Large amounts of patient data held in a variety of formats and locations, including paper

Goal

- Implement a solution to improve access to data throughout the enterprise

Actions

- Select Centricity Clinical Archive to power departmental efficiency and productivity
- Migrate proprietary scanned documents archive to a standards-based XDS Document Repository

Results

- Clinicians benefit from a time saving of circa 30%⁴, helping them to see more patients and to increase the time they can spend with each patient
- Accounting staff find patient data they need within two minutes, enabling rapid reimbursement
- Improved IT workflow with enhanced upload and technical applications thanks to innovative VNA
- Cross-departmental collaboration achieved having moved from silos of data to a single, unified source



Benefits for clinicians: Increasing productivity

Improvement in clinical workflow with rapid access to patient data⁵

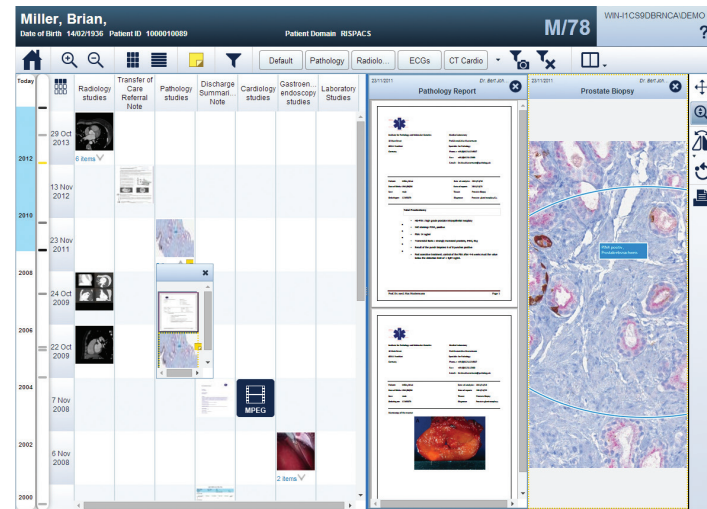
"Previous systems prevented us from working as rapidly as we would have liked. With Centricity Clinical Archive, we have seen a significant improvement and can work about 30% more efficiently, giving us time to see more patients. Productivity has improved in the department with CCA thanks to the time savings made, but also due to the complexity and quality of data available. The benefit is experienced by doctors, social nurses, physiotherapists, speech therapists and other care providers."



Dr. Sandra Kenis
Senior Neurology Staff, UZA

Clinical efficiency has been on the rise since the implementation of Centricity Clinical Archive solution at University Hospital Antwerp. Workflow efficiency improvements have been experienced by clinical staff that are rapidly able to access patient reports, images and other data through the Universal Viewer, Zero-footprint (ZFP). GE Healthcare's Centricity Clinical Archive enables care providers at UZA to access a longitudinal patient record of clinical information from across the hospital, helping prevent unnecessary patient transfer, duplicated tests or scans and loss of information.

"Using the Universal Viewer ZFP, we can easily locate data from within or outside the hospital, improving workflow. That could include reports needed for consultations, or results from examinations such as ultrasound of the kidneys or urinary tract. This enables effective care decisions to be made as rapidly as possible, without the need to refer to a specific, secluded workstation," states Prof. Dr. K. Van Hoeck, Head of Clinic in the Paediatric Department, UZA.



Benefits for clinicians: Cross-departmental connectivity

"Cross-departmental collaboration is key as we often need to work closely with other departments such as radiology, paediatrics and a number of specialist sub-departments within paediatrics. Multiple departments and clinicians can access the required patient information via CCA, with only a simple phone call needed if we want to discuss with colleagues in detail."

Dr. Sandra Kenis,
Senior Neurology Staff, UZA

Connecting care across UZA

With 38 departments producing an average of 3,500 patient documents a day, collaboration and cross-departmental connectivity are key to enabling clinicians and care providers at UZA with access to the relevant information. Centricity Clinical Archive consolidates clinical documents and images from multiple departments into a single reliable system. Universal Viewer Zero Footprint interfaces with the electronic patient record to provide a single point of access to patient data.

"The ability to view documents and images throughout the hospital is critical as we frequently share information with other departments. I work closely with paediatric urologists and when deciding whether to operate or not, it's vital they have fast access to reliable data such as scans of ultrasound images. Whether I'm in my own department, with a paediatric urologist or working from home, I have the reassurance that CCA is there when I or my colleagues need it," states Prof. Dr. K. Van Hoeck.

Rapid access to the patient history

With CCA, UZA has rapid access to a history of patient documents. Data can be shared between departments, but clinicians also benefit from enhanced access to information from sites outside the hospital as paper reports are scanned and accessible via CCA. The clinical information viewer within Centricity Clinical Archive is IHE XDS compatible and offers a web-based zero footprint client, offering a highly intuitive matrix view of the patient's history, along with thumbnails for fast and easy access.

Key metrics at UZA

- Number of patients in the XDS archive: 1,219,271
- Most documents for a single patient: 2,673
- Average amount of documents per patient: 341
- Documents scanned per day and registered into the XDS archive: 5,000

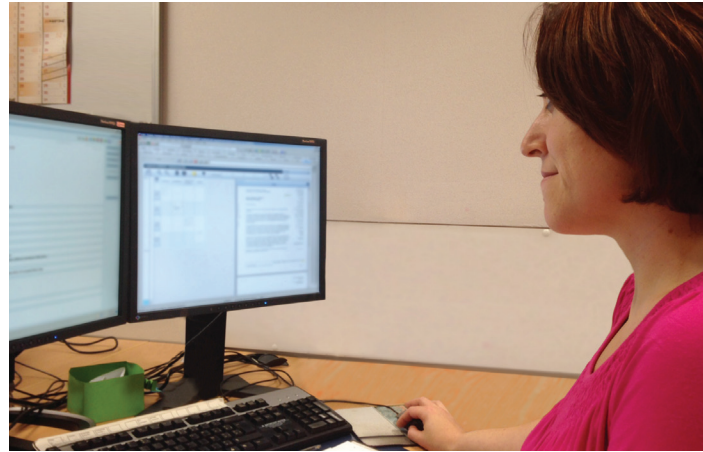
Benefits for administrators: Enhancing workflow

Administrative and accounting workflow streamlined – all information processed within two minutes⁶

“CCA gives us access to relevant patient information to help ensure we get the appropriate reimbursement for cath lab work. The technology is a lot faster and clearer than previous systems. We can put documents side by side so they are easy to cross-reference, plus we can easily find information by date and type using the timeline and filtering features. Previously, we had to search and scroll to find data, slowing down the reimbursement process, while now it just takes a few clicks.”

Vicky Somers

Medical Secretary, Cardiology, UZA



Mariska Sel, Medical Secretary, Accounting, UZA

Centricity PACS with Universal Viewer, ZFP, tightly connected with University Hospital Antwerp's information system (HIS:C2M), provides administrative personnel access to patient records in a digital format, consolidated in a single viewer. The timeline and filtering functionalities enable relevant diagnostic data to rapidly be accessed by accounting and administrative staff, enabling it to be smoothly incorporated into accounting processes.

“We must correctly register a patient's stay at the hospital. CCA enables us to fill any gaps in information enabling departmental records to be kept up to date and the correct billing for services rendered. When we open a patient file, it is extremely simple to access the data we need. Previously, we would have to spend large amounts of time searching for information, while data can now be accessed from a single source. Typically, I can locate all information needed within two minutes, and the quality of that data is also improved thanks to its enhanced visibility,” states Mariska Sel, Medical Secretary, Accounting, UZA.

Benefits for IT departments: A single data source

“Previously, only our scanning facility was connected to a digital medical archive viewer. With CCA, a large number of medical devices are connected, with images and documents all accessible from a single source. The average patient has around 350 documents – so it is important the relevant data is easy to access. The IT department has also benefitted, as now we only need to integrate and maintain a single viewer as compared to three before.”

Katleen Smedts

Project Leader, IT Department, UZA

Streamlining IT processes

UZA digitises all paper-based patient records via an internal 'scanning street' facility. The information is then equipped with XDS metadata before being sent to Centricity Clinical Archive. This process makes the patient record available digitally in CCA and viewable with Universal Viewer ZFP. Centricity Clinical Archive supports IT administrators by offering a choice of virtual server deployment to save data centre space, enabling disaster recovery by connecting to cloud storage, and enhancing reliability with standardised configurations.

“Previously, patient reports and other documents went into different systems, depending on whether they were scanned via our central 'scanning street' or within the department itself. This resulted in silos of data, with clinicians or administrators often unable to locate data that had been created in another department. Now, those files are all registered into the XDS Registry of CCA, meaning they can be viewed through CCA and its Universal Viewer – reducing any gaps in data records and allowing everything to be viewed from a single terminal. Looking to the future, UZA will import movies from endoscopy, pictures from dermatology and ophthalmology, digital slides from pathology and much more,” states Katleen Smedts.

Key metrics at UZA

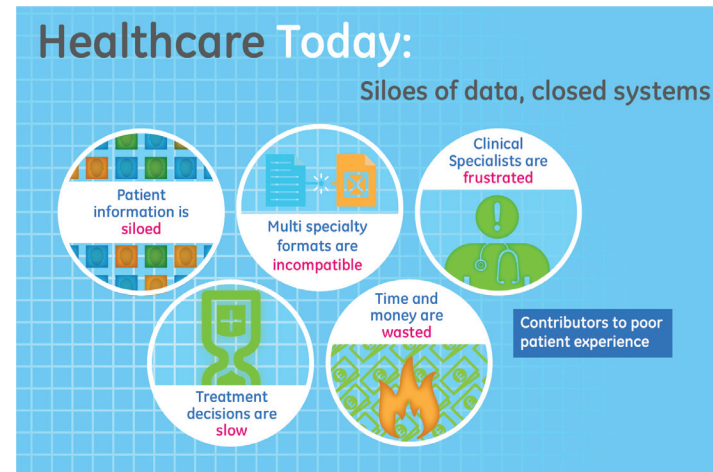
- DICOM Archive: 1,382,816 studies
- Non-DICOM Archive (XDS): 4,161,337 documents
- New documents per day: 3,500 on average
- Documents migrated to XDS before go live: 3.5 million
- Universal Viewer ZFP is opened on average: 260 times per day

Benefitting from a Vendor-Neutral Archive (VNA)

As diagnostic capabilities and availability of medical imaging continue to advance, healthcare IT executives face the daunting task of managing vast amounts of data created by the modalities and devices in their facilities across the network. At UZA, care providers continue to require more comprehensive patient information, not just imaging but multi-ology data at the point of care. A growing number of -ologies is introducing increasingly complex storage and management requirements from different technology vendors, formats, and standards.

The concept of siloed data runs counter to the general expectations of “integrated anywhere, anytime” data access. There is a growing urgency to manage clinical images and other documents at the enterprise level and make meaningful connections between the disparate data sources and the clinicians who require access to them. The IT department at UZA and at other leading medical centres are increasingly seeking solutions that offer a unified approach combining both flexibility and a high degree of control for the internal IT team.

This complexity makes it difficult to provide access to the right images and documents at the right time throughout different stages of patient care. This is why forward-thinking hospitals such as University Hospital Antwerp have chosen to migrate from multiple proprietary departmental repositories to a single Vendor-Neutral Archive, enabling the rapid, organisation-wide sharing of data.



“As a university hospital, it is important we make the best use of technology to remain innovative. With GE Healthcare’s VNA, Centricity Clinical Archive solution, in place, we have taken solid steps in preparing ourselves for the future. It integrates with everything we need.”

*Katleen Smedts,
Project Leader, IT Department, UZA*

Centricity Clinical Archive solution – the journey to a Vendor Neutral Archive

A VNA is a crucial platform for consolidating and sharing imaging and other clinical data efficiently. When selecting a VNA, it is important the solution is looked at holistically, keeping in mind enterprise-wide consolidation and sharing of imaging (DICOM) as well as other clinical document formats (non-DICOM).

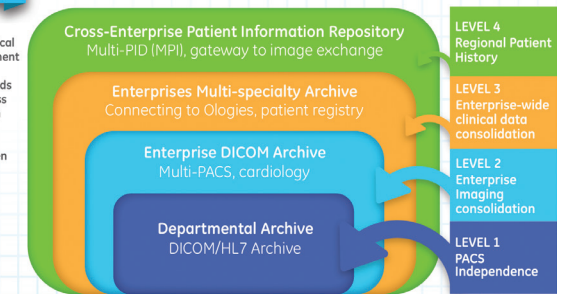
An efficient VNA comes with built-in flexibility and adoption of industry standards such as DICOM, HL-7, and IHE-XDS, along with IT standards such as HTTPS, web services, and XML. It should also offer security features for authentication, encryption, auditing and logging to protect data and documents within the system. University Hospital Antwerp required this type of flexibility and security in order to connect a variety of devices, meet evolving departmental needs and help ensure information was accessible from anywhere and at any time.

“The ability to access both DICOM images and non-DICOM information with XDS support places us as a pioneer in the adoption of this technology in Belgium. We hope other hospitals will follow suit and use the technology to improve efficiency, ease of use and quality of care. Our key advice to anyone going through a similar implementation is to prioritise meta data – good quality meta data will ensure your VNA and its filtering functionalities can operate as efficiently as possible,” concludes Katleen Smedts.

Healthcare Tomorrow:

What it is

- 4 level model for medical information management
- Interoperable standards enabling unified access to patient information
- Innovation from a company with a proven track record



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¹ Centricity Clinical Archive solution includes the following product components: Centricity Enterprise Archive, Universal Viewer ZFP, Caradigm™ eHIE, Centricity Clinical Gateway, NextGate MatchMatrix EMPI, and PACSGEAR PacsSCAN™.

² Centricity Clinical Archive Level 3 VNA is a DICOM and XDS capable, multi-departmental archive

³ Where an internet connection is available

⁴ According to the estimation of UZA

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⁶ According to the estimation of UZA on average



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