

Focusing on Patient Convenience for Better Service... The Mammography Screening Portal from Carestream

It's a windy day as we approach the Rigshospitalet, the main hospital for the Capital Region of Denmark, not far from the city centre of Copenhagen—the remnants of a recent tropical storm still passing over the city. The many cyclists seem unfazed as they make their way through the busy streets to start their day. We are here to see Chief physician Ilse Vejborg, Head of the Mammography Screening Program in the Capital Region of Denmark, to find out why the Vue RIS Portal has become the most used web site in the region.



Rigshospitalet
Denmark,
Copenhagen

The Hovedstaden (Capital) region consists of 29 municipalities from the island of Bornholm in the east to Hundested in the west. Rigshospitalet provides healthcare, mental healthcare, regional and national development and research for 1.6m people (approx. 30% of the Danish population). The Hovedstaden healthcare region alone employs 36,000 people—mainly healthcare professionals—making it one of the largest employers in all of Denmark. Of the five regional health authorities in Denmark, the Capital Region is one of three in the country to have introduced the Mammography module with Vue RIS.

A national steering group appointed by the National Board of Health and Danish Regions produces reports annually on the quality and performance of the regional mammography screening programs.

It is with this background and through the 'Voice of the Customer' (VOC) initiative that Carestream identified the need for a more effective patient interface to better meet the needs of women who would benefit from regular mammography examinations.

Carestream has been working closely in collaboration with radiology physicians, specialists and administrative staff in the Hovedstaden region for many years. As they moved towards digital mammography, the need for a flexible system that more closely met the needs of both clinicians and patients became apparent. Evaluation of a dedicated RIS module for mammography screening started in 2005 and was initiated in 2007 across the region.

Vue RIS enables accurate documentation and reporting of all clinical findings. A graphically enabled set of clinical tools captures patient medical and mammography radiology histories, mammography findings, follow-up and patient tracking, pathology results, and includes an automated radiologist report. The detailed capture screen for patient concerns and procedure information includes a drawing tool that allows technologists to convey visual information to the radiologist. This works alongside a single Picture Archiving Communication (PACS) system.

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Reducing Breast Cancer Mortality

The effectiveness of screening programs has been proven through clinical studies undertaken since the 1960s. The studies, borne from many years of experience in mammography screening in European countries such as Sweden, the Netherlands, Great Britain, Finland and Denmark, have convinced medical professionals that screening reduces breast cancer mortality.

Better for the Patients, Better for the Region

Located to the south-west of Hovedstaden, it was the Sjælland region that first raised concerns about the number of women failing to attend screening appointments. They approached Carestream, asking for a solution that would allow women to reschedule their mammography examinations online. Having identified the region's specific requirements, Carestream immediately recognized the value of a portal solution for two other regions in Denmark where the Vue RIS mammography module was in use. It was the Capital Region in Denmark where the RIS Portal was first introduced.

The Vestsjælland and Midtjylland regions also had a close relationship with Carestream, having worked together since the mid 1990s. Although each region is autonomous and able to make its own purchasing decisions, the result is that the portal now covers all three regions, representing 60% of the total target Danish population of women aged 50 to 69. This adds up to approximately 250,000 screenings a year.

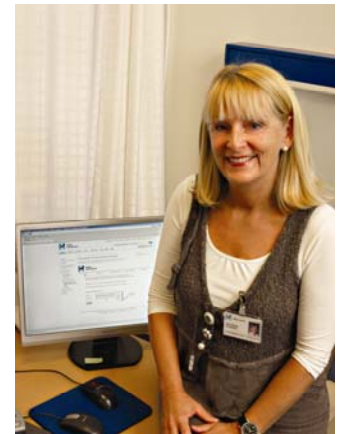
Ilse Vejborg explains that the Capital Region is the largest Mammography screening program in Denmark, covering approximately 200,000 women in the target group of women aged 50- 69 years. Every woman is offered a mammography screening appointment every second year, free of charge. With up to 750 women attending screening appointments each day, the demands of scheduling and changing appointments are enormous. Many individuals were finding it difficult and inconvenient to find time in the working day to make their appointments over the telephone. Add to this the additional administration involved for the hospital in writing to non-attenders, re-booking and dealing with cancellations, and the need for a system that would better suit the patients and save valuable hospital resources was obvious.

Following the introduction of the RIS Portal in 2010, the secretarial staff in the Capital Region saw an immediate reduction in the number of incoming phone calls, allowing for the more efficient use of their time.

"We had a lot of demands and we've been working together with Carestream to develop and refine this program. When the RIS Portal was taken into use, we had a well-functioning product, and it has been very well accepted. From day one, women have been very happy to use it."

Additionally, the RIS Portal allows patients to make comments. Consequently the hospital can track why some women are choosing not to attend their screening appointments.

"The RIS Portal for mammography has quickly become the most used web site in the Capital Region," Ilse Vejborg explained. *"As might have been expected (using data derived from the Portal), we have found a bias towards younger women using the Portal more than those at the top of the age range."*



The smooth introduction of the portal was no accident. The clinical team at the Capital Region worked closely with Carestream experts from Canada, USA and Italy who regularly visited the region in order to fine tune the RIS Portal to various specific regional requirements.

Better Attendance Rates

There are five fixed Mammography screening sites spread across the Capital Region at Bispebjerg, Bomholms, Herlev, Hvidovre and Nordsjællands Hospitals. Double-blind reading takes place at the two University Hospitals, Herlev and Rigshospitalet. Women who are recalled for assessments are asked to come to one of these two hospitals where surgery also takes place. During the initial go-live period it became clear that many women went online in the evenings and

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weekends to reschedule their appointments—previously they had been required to phone the hospital between 8 am and 3 pm. Although no attendance statistics are currently available on the RIS Portal's impact on attendance rate, it is believed that the Portal's introduction has had a beneficial effect on attendance rates. With participation now at around 75% of those invited, the politicians are satisfied with the program.

How Does it Work?

Women invited to attend a screening appointment are sent a letter, questionnaire and leaflet explaining how to access the RIS Portal. The letter contains a unique, password-protected, secure ID number that utilizes electronic patient signature technology. Only they (and the RIS coordinator at the region) can access their information. Once they have accessed the Portal, the patient navigates through a simple, intuitive process, which allows them to modify their appointment time, day or location as many times as they like for a period of up to three months. At the same time, the Portal seamlessly communicates with the hospital RIS to facilitate the booking. Once they have selected their chosen appointment, they are taken to a summary screen that displays the details of the date, time and address; they can print this out for future reference. Patients can also choose to cancel their appointment for the current screening round, or altogether if that is what they prefer, giving them complete flexibility and freedom of choice. The feedback from the patient is also important, continues Ilse Vejborg: *"It's nice to know what the patient is thinking if they choose to cancel their appointment. The RIS Portal gives us this opportunity."*

From a regional IT perspective, by using a Microsoft .NET framework, the thin-client platform simplifies system management, while also enabling full Windows functionality at each workstation. Updates can be downloaded and installed across a single facility or a large multi-site enterprise, and the same features can be made available to any authorized user, whether they are using the Internet or a network to access the system.

Quality Assurance

The Danish National Clinical Guidelines for Mammography Screening are developed in accordance with other European guidelines. Eleven quality indicators have been chosen and defined. European

Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis demand rigorous quality control throughout the entire technical and medical screening chain. All participants in screening undergo intensive training, and double-reading diagnosis by two independent radiologists is the rule. Regular quality-control measures ensure the sound technical quality of the systems in use, and a periodic data evaluation verifies if the high quality requirements of mammographic screening are being met.

Moving Forward

As part of the continuing enhancement of the RIS Portal, Carestream and Rigshospitalet are developing an online patient questionnaire.

"This will change the way our radiographers work," affirms Ilse Vejborg. "Currently it's the radiographers who complete the questionnaires for patients, so this should achieve further efficiencies in the way their time is spent."

Conclusion

As healthcare providers endeavor to deliver quality care to increasing populations in a timely fashion, the patient experience can sometimes be frustrating, as we attempt to coordinate busy home and work lives with hospital appointments. Healthcare professionals offering screening programs need robust clinical tools at the point of care, and patients need to attend their appointment at a time that is convenient to them. The Vue RIS Portal offers this opportunity for mammography screening. It harmonizes the requirements of the clinicians—who need access to relevant medical and radiological data—and the patient, who benefits from the ability to book appointments at a convenient time and location. This is all done in a secure and seamless way, linking with the CARESTREAM Vue RIS, and with the added advantage that audit data can be collected through questionnaires. In essence, the Vue RIS Portal provides an efficient, effective system of comprehensive care for patients requiring mammography screening. Looking at the success of the general approach—using web-based technology for efficient, secure, and well-received solutions—the Vue RIS Portal is just the beginning for the medical environment. The technology and concepts can be applied to CT, MRI, etc. for more patient-centric healthcare solutions in the future.