Case Study

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University Hospitals Sussex NHS Foundation Trust moves to paper-light working with ICE

Challenge

To create a near paper-free order, test and results reporting environment for both radiology and pathology tests for acute staff and GPs, and to share results with neighbouring trusts along the south coast.

Outcomes

A significant improvement in the digital maturity of the Trust. Enabling a move from paper to electronic requesting, with a fully paperless process for radiology and a paper-light approach for pathology.

More efficient requesting and review processes.Reduction in transcription errors. Improvements in advice and guidance on diagnostics to users.

Joined up patient histories, leading to faster decisions on diagnosis and treatment: improved patient care.

Customer profile

- 6 million tests
- 368,000 radiology scans per annum
- Three hospital sites
- 7,300 staff
- 450,000 population

Case Study

University Hospitals Sussex NHS Foundation Trust is leading a programme to create a single order communications and results reporting system for its staff and local GPs and to share results with its merger partner, Brighton and Sussex University Hospitals NHS Trust.

The ambitious set of linked projects is using the CliniSys Integrated Clinical Environment, or ICE, to handle imaging and pathology orders and results for acute and primary care and the data sharing application ICE OpenNet to enable clinicians in one trust to see results from the other.

All those involved in the programme had to find new ways to roll-out the technology and train users during the Covid-19 pandemic. However, since July 2020, ICE has been successfully implemented at 15 GP practices, three outpatient departments, the intensive treatment units at Worthing Hospital and St Richard's Hospital, and the emergency floor at Worthing Hospital. 1,484 different clinicians are now routinely using ICE.

Susan Harman, group head of programmes and projects for the two acute trusts, said: "In some ways, the pandemic helped us, because everybody could see that it would be easier to support Covid patients if they could avoid handling paper and work digitally.

"Even so, the small team that has delivered this project has done a great job in very difficult circumstances. The fact that we were able to start the inpatient deployment in ITU and then move onto the emergency floor was very exciting. We recognise that we still have a long way to go, but the project has great momentum, and our clinicians are looking forward to realising the benefits."

The challenge:

Eliminating paper wherever possible

University Hospitals Sussex NHS Foundation Trust serves a population of 450,000 people across West Sussex and runs three hospitals in Chichester, Worthing and Shoreham-by-Sea. It is merging with Brighton and Sussex University Hospitals NHS Trust, which runs the Royal Sussex County Hospital, Princess Royal Hospital, Royal Alexander Children's Hospital, Sussex Eye Hospital and specialist units in Brighton.

At the moment, the two trusts have their own imaging and pathology services. At University Hospital Sussex, these use an independent PACS/RIS system to handle scans and the CliniSys WinPath laboratory information system to handle laboratory tests.

ICE is being integrated with these IT systems, so scans and tests can be ordered, processed, and reported without information being recorded on paper or transcribed from one system into another.

Jemma Stavely, project manager, order communications, at University Hospitals Sussex, said: "In the areas where we are live, radiology is now completely paperless: our ICE requests go straight into the CRIS system without any administration, so they can be reviewed immediately.

"In pathology, we are almost paperless. We have put little label printers in every outpatient room so whoever is requesting can put the request on ICE, print a label, and put it on the sample or give it to the patient if they need to go to phlebotomy to give a blood sample.

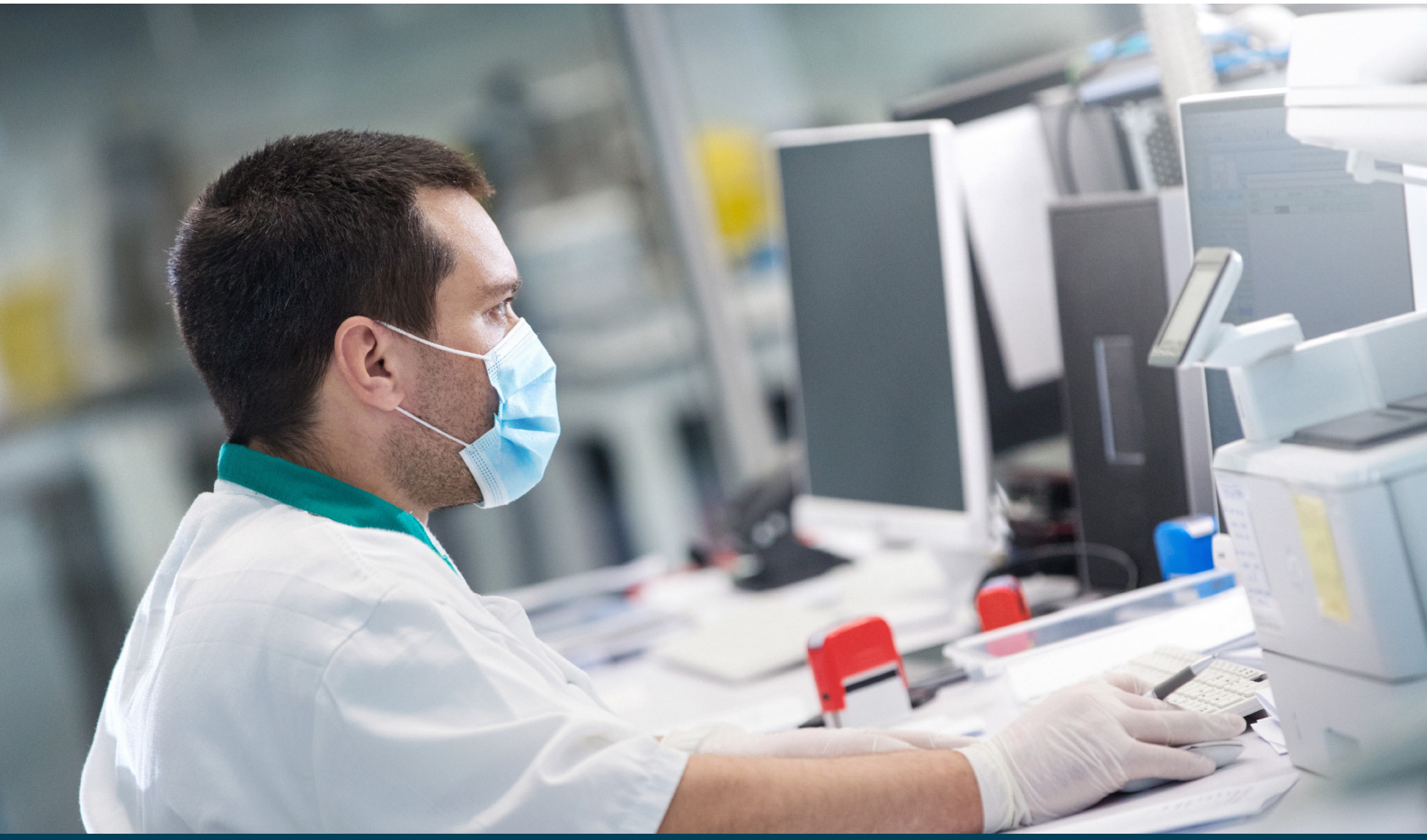
"We have also bought mobile printers for inpatients, so labels can be printed at the bedside. It all reduces administration, which means the time from request to result should be faster. It also improves safety, because the system collects all the information that is required, there are no lost requests, and there are no issues with reading the handwriting on the labels."

The approach:

Rolling out a truly Integrated Clinical Environment

Outpatient clinics at the trust's three hospitals went live with ICE in July 2020. Since then, the project team has been working with GP practices, some of which use the EMIS management system and some of which use TPP SystmOne.

GP practices were already able to order pathology tests electronically through a different order comms system, so it has been relatively straightforward for them to move over to ICE: the 15 EMIS practices went live in January - March 2021. SystmOne practices needed TPP to make some changes before they could follow suit: but the aim is for the 30 SystmOne practices in the area to start using ICE in March - April 2021.



GPs should also start to receive results electronically this year. Meanwhile, the project team has been working with inpatient services. With ITU live, the roll-out across Worthing Hospital's emergency floor started in March 2021. The next steps will be to roll out ICE to wards, A&E, theatres and sexual health services.

Simon Darrington, order communications lead for University Hospitals Sussex and Brighton and Sussex, said:

"One of the key things on the acute side is that we want to be paperless - or as paper-light as possible. Previously, if someone wanted to request a series of tests, they would fill out a lot of forms, probably very fast, and possibly not that clearly.

"The information on the forms would be used to create labels. Then the lab would transcribe the information into WinPath and add its own labels. Now we are doing labels at the bedside, they can be printed as the tests are requested, and used by the lab as well. We are taking things to that higher tech level, which is much faster and safer."

Benefits for clinicians working in pathology and radiology services

Clinicians working in the Trust's vitally important testing services have already seen benefits from the programme, Kate Shipman, consultant chemical pathologist and ICE pathology clinical lead, said:

"The big benefit is that we get the right sample containers and correct tests first time."

"So, although the electronic process may take a touch longer for requesters, the time saved in having to chase missing results, because the wrong tests were booked in, or the wrong samples taken, or the wrong patient conditions indicated, should make the process more efficient and better for users and patients."

While, in imaging, Dr Nadia Boulougouri, consultant radiologist and ICE radiology lead, said she had seen two types of improvement. First: "Not handling paper forms allows booking and vetting to be done remotely, which facilitates the timely scheduling of scans."

And second, the new ICE forms pull in critical information or make sure that requesters include it: and do it legibly. "This facilitates faster, more accurate and safer vetting," she said. "It also supports our clinical governance and allows for easier communication between imaging and clinicians for urgent clinical matters and in general."

Delivering in a pandemic

The Covid-19 pandemic has affected the way the project has been run. Meetings and training sessions have been held remotely, with GP training taking place over Microsoft Teams. It has also impacted the project timescale.

As it prepared for an influx of very ill patients, University Hospitals Sussex put the inpatient roll-out on hold in January. However, it soon realised that managers and clinicians needed more support from digital technology and the project board backed its resumption.

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The project started with ITU as the first inpatient area because its clinicians were committed to ICE, even though they were under considerable pressure. "ITU has its own IT system with computers at the end of the bedside, so its staff are used to electronic working," Jemma Stavely explained.

"They also run a lot of tests, because they do bloods for every patient, every day. So, they could see the benefit of being able to see all the requests for their patients, and their status."

The emergency floor at Worthing Hospital went live in early March and was chosen for similar reasons; it does high volumes of tests and often needs to act quickly on the results so the results tracking will be very useful in this area.

Benefits for clinicians working in busy wards and clinics

Clinicians working in the Trust's busy frontline services have already experienced benefits of this kind. Dr Tim Martindale, a consultant intensivist and anaesthetist at St Richard's Hospital, said: "ICE lets us keep a closer track of what tests have been ordered and when.

"It also allows us to make fewer mistakes, by helping us to fill the correct blood bottles for the test, and it feels as if we have had fewer samples rejected because of poor handwriting! While, for radiology, the ability to safely order tests without having to walk around the hospital with paper forms is long overdue; and will address many historic patient safety issues."

His colleague Gareth Jones, a charge nurse in ITU, simply said: "ICE has completely sped up the process from bedside to results. ICE has been implemented so smoothly – and nursing staff cannot see how we ever managed without it."

Beth Porter, a midwife, said: "I am very happy with the system, which is very user-friendly. It can make sure the scans have been requested, and I like the fact that you can write comments to provide more information. The blood tests and swabs are easy to process and will reduce written errors. I think using ICE has created a quicker process for both scans and tests."

And her colleague, Charlene Younger, a maternity care assistant, agreed: "We have all said how efficient it has made our scanning process," she said, "and not having forms misplaced or lost has cut down on the filing side of things, also. We view the system as a massive success, here in the antenatal clinic at St Richard's Hospital."

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The wider approach: Sharing results with ICE OpenNet

The final part of the programme is to enable clinicians in one trust to see results from another. ICE OpenNet, which enables one instance of ICE to exchange results with another instance of ICE.

Being able to share results in this way has many potential benefits. A clinician thinking of ordering a blood test for a patient can see if one has already been run. If it has, they can avoid a duplicate test and make a faster decision on diagnosis or treatment using the result.

Or, they might go ahead and order the test, but compare the old and new results to see how the patient's condition has changed. The deployment of ICE OpenNet has been enthusiastically received. One of the Trust's Consultants tweeted "miracles do happen" when he was able to pick up results from tests done at one site while working at another.

In fact, ICE OpenNet is already working so well for University Hospitals Sussex and Brighton and Sussex that its use is being extended to another two hospital trusts, which serve Portsmouth and the area around Hastings.

Ambitious plans to close the loop

The deployment of ICE is an important step for University Hospitals Sussex and Brighton and Sussex, neither of which have deployed an electronic patient record from a single vendor. However, Susan Harman said that now the organisations have started on their digital journey they are ambitious about its end point.

"We want to get to the point where everything is digital," she said. "Eventually, we want to be able to do 'closed loop' reporting, which means the test result is tracked back to the patient, we know it was acted on, and what the outcome was.

"Only a few trusts in the country have that capability at the moment, but we think we have an opportunity to develop a roadmap to do it. It is the next thing that clinicians want to see, to deliver the best possible care for patients."