ETHICAL HEALTHCARE CONSULTING

Case study

Diagnostic testing process mapping for Oxford Health NHS Foundation Trust

Synopsis

Supporting Oxford Health to map pathology and radiology diagnostic testing processes across 110 services prior to joining five instances of the ICE laboratory requesting system across the trust.

Background

Oxford Health NHS Foundation Trust (Oxford Health) covers a wide geographical area which includes multiple NHS organisations – each of which have their own IT systems including electronic patient records (EPRs) and individual instances of ICE, the laboratory requesting system. This causes complexity for healthcare workers who order diagnostic tests for patients as the diagnostic test may be processed in a laboratory whose results cannot be accessed by the user.

In these circumstances, test results are only able to be accessed by phoning or emailing the laboratory or GP or contacting a colleague who can access the system. If test results cannot be accessed, the test may have to be repeated.

The need

Oxford Health wanted to simplify the process of ordering diagnostics tests and reviewing the results. To do so, it began a project to join the five instances of ICE together across Oxfordshire University Hospital, Buckinghamshire Healthcare, Milton Keynes Hospital, Great Western Hospital and Royal Berkshire Hospital.

The superhub of these five instances of ICE will be accessible through a contextual link button in Rio (mental health system) and EMIS Community (community health system) and later, Adastra (urgent care). From May 2024, it was possible to view results on the ICE superhub and the team is working towards ordering diagnostics tests electronically by December 2024.

The solution

Ethical Healthcare was appointed to map the diagnostics testing processes across Oxford Health to support the development and deployment of the ICE superhub.

Mapping services and testing processes

We began by mapping the services across Oxford Health to identify which ones were using diagnostics tests and what the ordering process was.

The mapping exercise identified 264 community, mental health and specialist services in Oxford Health and 110 of those confirmed they ordered diagnostics tests. The diagnostics tests considered in the scope of the project included pathology (biochemistry, microbiology and immunology) and radiology (x-rays, CT, MRI, ultrasound and DXA scans).

Interviews were held with 83 people who represented the 110 services that order diagnostics tests.

The interviews were used to map current diagnostics testing processes and align trends identified across services when ordering and viewing pathology and radiology test results.

That insight was used to develop four sets of standardised process maps for the mental health, community and specialist services sectors.

Current process map creation

We developed current diagnostic process maps based on the following standardised activities:

1. A clinical decision was made that identified patient required test(s)
2. The test(s) were requested and ordered
3. The specimen/sample was collected and processed in the laboratory department or the image was taken in the radiology department
4. The results were recorded in the ICE system and added to the EPR system

Roles who conducted each of these activities and the systems used to capture information were recorded as part of this process.

A tailored process map for each service, including the clinicians for activities and the systems/paper used to undertake each step in the process, was produced and confirmed by the service.

Future process map creation

Two proposed future state maps were developed for diagnostic testing including biochemistry, microbiology and immunology tests and radiology tests across Oxford Health. Assumptions have been made about the functionality and operations of the ICE superhub to produce these future process maps as the product has not yet been demonstrated in full working form.

Challenges

The interviews with service representatives identified several challenges in both the diagnostics test ordering process and reviewing of results that had clinical impacts.

1. **Access to diagnostic test results** – multiple systems and sites made it difficult for clinicians to access patients' results in a timely manner. There were also difficulties sharing results between primary care and hospital settings, while hospital staff had restricted access to systems so relied on doctors being on the wards to share results.

2. **Operational issues in collecting the sample or specimen** – limited scheduled collection and drop-off times meant many samples and specimens had to be driven to a lab or were spoilt in transit. Labelling samples by hand also led to transcribing errors which caused clinical risks and loss of results.

3. **Functional issues with tracking diagnostics tests** – there were no alerts to indicate when a patient's test had been completed and results had been made available, and scheduling of regular bloods was not possible in the existing systems.

Several interim solutions were deployed to manage these challenges while the ICE superhub was developed. These included provision of access to Oxford University Hospital web-based case notes to provide access to results in Oxfordshire for staff who previously had no access and arrangement of additional specimen collections from the Whiteleaf Centre to avoid samples being spoilt.

Impact

This project gave advance notice of several issues which would impact the implementation of the ICE superhub and provided an opportunity for those issues to be addressed. This included:

- Identification of three hospitals that were out of scope of the ICE superhub, which OH services sent their tests to.

- Identification of Point of Care (PoC) tests that were provided by services, but whose results were not recorded on ICE.

- Difficulties in accessing an ICE instance including access being revoked regularly, ICE passwords having to be able to be changed every three months and passwords only being able to be changed through phoning the helpdesk which made it very difficult to maintain access.

- GP services who already had access to a direct instance of ICE who did not want the ICE superhub to break existing processes.

- Duplicate patient records being recorded on an ICE instance which made it difficult to find test results.

- Locums were unable to get access to the ICE system which caused issues in getting test results.

- The community bloodspot team were descoped as they had processes which were outside the remit of tests conducted within the ICE system.

- Services were identified who travelled many miles to take tests to an identified hospital rather than dropping them into a GP or community hospital that was nearer.

All these issues were escalated to ensure that operational issues around diagnostic reporting were addressed, as well as addressing issues that would directly impact the implementation of the ICE superhub.

Next steps, sustainability and scaling

The trust is moving forward to implement the ICE superhub, based on the current and proposed future process maps. It is addressing the issues raised throughout the interviews that were conducted as part of the project.

Further process mapping projects have been undertaken by the trust following on from this project.

Contact us

For more information or support in mapping your diagnostics services, contact us at **info@ethicalhealthcare.org.uk.**