

Functional Capabilities V2

National Imaging Registry

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1 Executive Summary:

The National Imaging Registry (NIR) connects existing imaging systems together, enabling connected Trusts and Networks to share imaging data and reports with each other, to support and inform critical care pathways that rely on accessible imaging data.

2 The NIR Vision:

Imagine that, a patient in your care recently had an x-ray or scan at an external location, meaning that the imaging data is stored somewhere else. Now imagine, in your existing imaging system, you can simply ask NIR "What imaging data and reports do you have for my patient?", and what you get back is a list of all imaging data from the NIR network that matches your patient. No waiting times for sharing agreements to be drawn up, no repeat scans needed, no paper request forms. With just a few clicks in a system you already know, the data is there, ready to be used, so you can focus on what really matters, time with the patient.

Clinically: NIR connects trusts and networks to each other, such that imaging care pathways are better informed on what imaging data is available for their patient

Technically: We leverage existing systems, using standards based interoperability frameworks, to get the data where it needs to be.

Operationally: Less admin overhead, quicker turn-around times, cost-saving alternative to existing solutions.

3 Private Beta Scope:

Current Capabilities:

- Cross-organisation Document Discovery
- Cross-organisation Document Retrieval

3.1 A note to networks and trusts on testing functional capabilities of NIR:

- Your supplier(s) test against the NIR platform and get a technical conformance certificate.
- You as an organisation test against your supplier's implementation of NIR for the version you use.
- i.e. How suppliers choose to display information in the user interface may differ depending on the supplier, the version of the system you use, the framework they implement against and other factors which are left open to the suppliers/orgs to resolve in terms of expected behaviour.
- NIR processes existing information, as such, we send the data, but don't validate the clinical workflow beyond a transactional level, instead this is covered as part of your onboarding process.
- For each capability, please test success and failure scenarios accordingly, noting that how errors are presented may differ depending on your supplier and version.



Current capabilities relate to the XCA endpoint only.

4 Functional Capability Catalogue:

Name (What)	Description (How)	Value(Why)	Additional Information
Cross-organisation Document Discovery (XCA)			
Search for imaging data across other systems connected to NIR for a given patient providing a valid NHS number	A search can be: - Federated across all connected systems - Restricted to one to many networks by their home community id - Restricted to a specific timeframe to only include documents created in the given period A search must be: - For a valid patient NHS number - For documents with the "Approved" availability status Search results will contain the aggregated results from all downstream connected systems. Both successful and failed searches will be reported, with consolidated error codes for readability.	A clinician wants to see what is available for a patient in NIR overall (Must have) A clinician wants to see what is available for a patient in NIR provided by a specific network or trust (as specified)(Should have) A clinician wants to see what is available for a patient in NIR within a specified date range (if specified)(Should have)	https://digital.nhs.uk/developer/api-catalogue/national-imaging-registry-api Currently XCA only. For a more technical view, see: https://digital.nhs.uk/developer/api-catalogue/national-imaging-registry-api#post-/xca/iti-38 https://profiles.ihe.net/ITI/TF/Volume2/ITI-38.html Please ask your supplier for further information on how they have implemented the specified network/trust and date range behaviour in their user interface. Availability status may be subject to local governance, including but not limited to a patients right to opt out and or be forgotten.
Search for imaging data across other systems connected to NIR for a given patient providing a valid NHS number, excluding consumer results.	In addition to the above capability An exclusion: If you are connected as both a producing and consuming system, performing a federated search, then the Home Community ID that made that search is filtered out by default. Such that, only external matches are returned.	A clinician wants to see what is available for a patient in NIR, exclusively in external systems. (Must have)	Please ask your supplier for further information on how they have implemented the exclusion behaviour in their user interface.

Cross-organisation Document & Image Retrieval (XCA)			
Retrieve imaging reports from other systems connected to NIR	A document/report download must be: - Requested using home community id, repository id and document id - For a document/report discovered as part of a search via NIR A document/report download cannot be: - Scheduled or prioritised “Streamed” from the source	A clinician finds a report in NIR they want to retrieve, using NIR they retrieve that report. (Could have)	Here "report" covers: - Documents - Reports - KOS objects Currently XCA only. For a more technical view, see: https://digital.nhs.uk/developer/api-catalogue/national-imaging-registry-api#post-/xca/iti-39 https://profiles.ihe.net/ITI/TF/Volume2/ITI-39.html Please ask your supplier for further information on how they have implemented their UI to present reports.
Retrieve imaging data from other systems connected to NIR	Imaging data referenced by a KOS object retrieved by NIR can be downloaded to the local system. An imaging data download must be: - Requested using home community id, repository id, document id, series id and study id - For images referenced by a KOS object retrieved via NIR An imaging data download cannot be: - Scheduled or prioritised etc “Streamed” from the source	A clinician finds a report in NIR with an image available, using NIR they retrieve that image. (Could have)	Currently XCA only. For a more technical view, see: RAD-75 API docs, IHE XCAI RAD-75 spec. https://digital.nhs.uk/developer/api-catalogue/national-imaging-registry-api#post-/xcai/rad-75 https://www.ihe.net/uploadedFiles/Documents/Radiology/IHE_RAD_TF_Vol2.pdf Note that your connected system will need the ability to view images OR there exists an integration between your connected system and an image viewer.



For MHD/S, and other future capabilities, when available to test, will be added to the above table. Below is the list of future capabilities that are confirmed for NIR.

Future Scope/ Future Capabilities:

- Imaging Study Image Retrieval
- Modern standards based Search and Retrieval
- Modern Web based Image Retrieval
- Central National Registry Index
- Direct Registration by Producing Systems
- Legacy Repository Integration

Out of Scope:

- Replace PACS or RIS systems
 - NIR is a cross-boundary registry, not an operational workflow engine. Replacing local PACS/RIS would require an impossible level of customisation for every individual hospital or clinic. Instead, NIR sits *on top* of these existing networks, acting as a bridge so they can communicate with one another.
- Act as a clinical viewer
 - NIR provides the secure data plumbing to locate and fetch imaging histories, but it doesn't render the final pixels on a screen. By remaining "viewer-agnostic," NIR pipes the retrieved data directly into the clinician's existing, already-approved local viewing software or Electronic Health Record (EHR) interface.
- Store imaging centrally
 - NIR utilises a **federated data model**. It only stores a lightweight index of metadata pointing to where an image lives. When a doctor needs to see a scan from another hospital, NIR locates it and facilitates a secure transfer in real time, leaving the heavy files safely anchored at their original source
- Change diagnostic workflows
 - NIR is built to be essentially invisible to the end user, integrating quietly via background APIs. The workflow remains identical to what the clinician is used to; they simply gain the ability to see external historical scans pop up right inside their native local worklists.
- Modify images or reports
 - NIR operates strictly as a read-only at this point in time. It fetches historical records exactly as they were authorised by the originating facility. Any further annotations, new secondary reports, or adjustments must happen within local systems, leaving the historical record unaltered.
- Make clinical decisions
 - It does not interpret data, flag anomalies, or offer diagnostic suggestions. Its sole job is to ensure the right historical data is available to the clinician at the point of care. The clinical

evaluation, risk assessment, and ultimate decision-making remain entirely the responsibility of the human medical professional