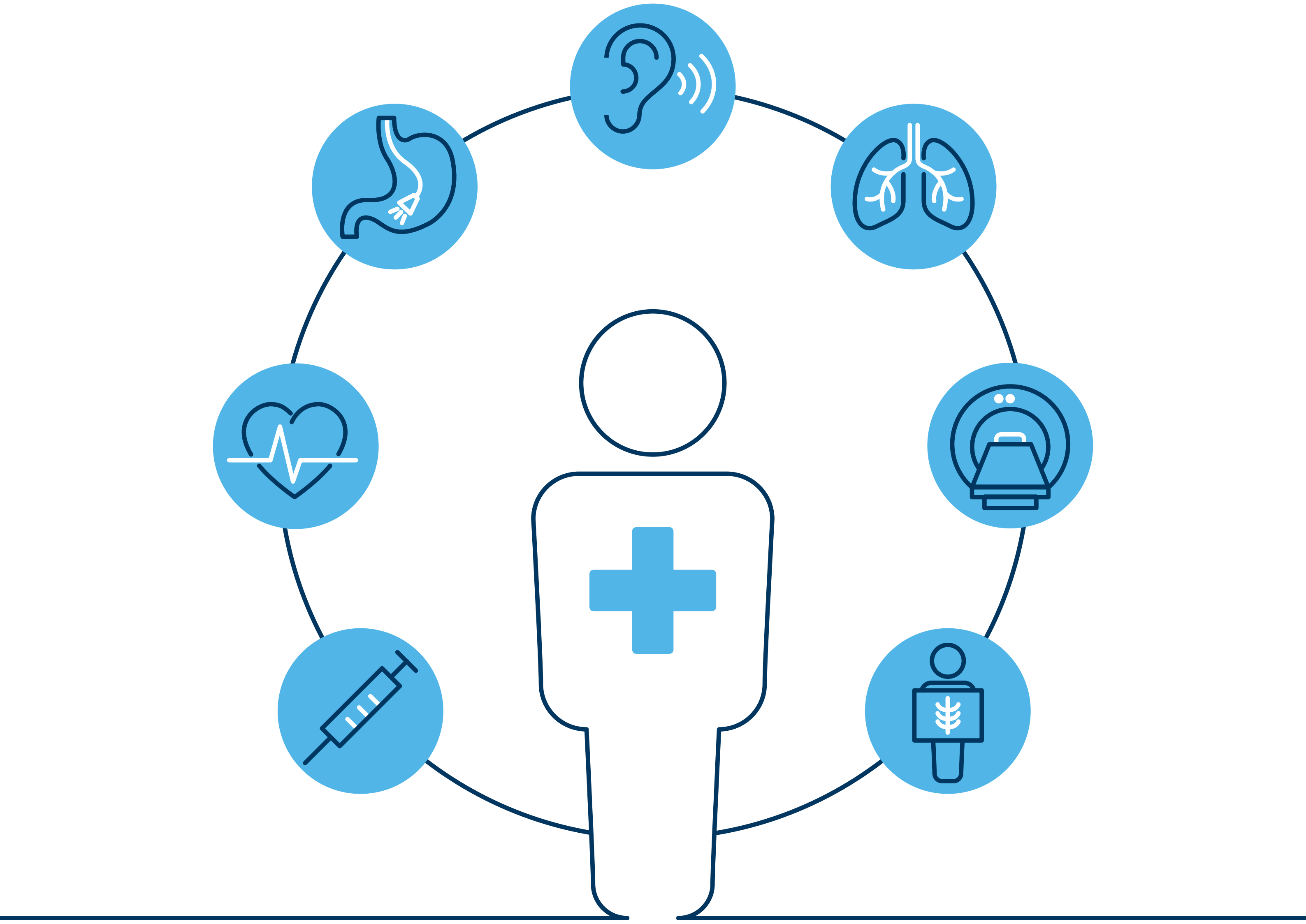
Establishing Community Diagnostic Centres in London

Learning from year one

March 2023



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Acknowledgements

This report was written by Dr Jenny Shand, Rachel Penniston, Sophie Bulmer and Emma Mordaunt.

Many thanks to all the individuals that gave their time, insights and expertise to support the programme and content of this report. Special recognition must be paid to efforts of the clinical and non-clinical staff working to establish Community Diagnostic Centres (CDCs) across the capital.

In partnership with:

UCLPartners

NIHR | Applied Research Collaboration North Thames

Imperial College Health Partners

Health Innovation Network South London

NHS England

Summary

Background

Demand for a wide range of diagnostic tests has been rising year on year, with a growing backlog of tests and scans, requiring a substantial increase in capacity. Nationally there is commitment to delivering Community Diagnostic Centres (CDCs), a new model of diagnostic service provision, aligned with Professor Sir Mike Richards' independent report, **Diagnostics: Recovery and Renewal**.

In 2021, a five-year programme launched in London to create CDCs. It began with early adopter and year 1 sites running in each of the five London Integrated Care Systems (ICSs), alongside planning for years 2-5 of the programme.

From November 2021 to March 2023, UCLPartners worked with NHS England London region, ICSs and CDC sites to gather insights into how the CDCs are developing, what is working well and areas for improvement. This reports shares learning and recommendations gathered from that time.

Summary findings and recommendations

To understand how the CDCs have been established in London, and to gather a full picture of the barriers and enablers to successful implementation, the UCLPartners team focussed on six key areas:

- Aims and programme set up
- Data and impact
- Patient journeys and pathways
- Impact on workforce
- Systems and infrastructure
- Ongoing learning

To focus attention on achieving the aims of the national CDC programme, recommendations have been grouped in this way.

Meeting the programme aims

Finding	Recommendation
There is potential for the aims of the programme to compete, and undermine efforts for longer-term impact. For example, the pursuit of increasing capacity could negatively affect the ability to reduce inequalities.	Provide a decision framework to consider the aims of the programme together, manage tensions, and enable CDCs to concentrate effort where it is most needed.

Improved population health outcomes

Finding	Recommendation
To date the central focus for teams has been CDC set-up and increasing capacity, and there is recognition that the programme needs to move beyond this to have an impact on health outcomes.	Reinforce CDCs as one part of a wider system and pathway, engaging with clinical teams to improve capacity planning, patient flows and outcomes in the longer terms.

Increased diagnostic capacity

Finding	Recommendation
The number of diagnostic tests delivered in London has increased and the proportion of people waiting more than six weeks has reduced. However, the sole focus on activity limits the programme's ability to understand its impact on outcomes and inequalities.	Ensure programme monitoring includes a balanced scorecard, to understand which populations are using which CDC services and the anticipated impact.

Improved productivity and efficiency

Finding	Recommendation
Teams have faced challenges in establishing the staffing groups and systems needed to set up CDCs, some of which are national issues.	As part of the multi-year pan-London programmes for diagnostic workforce and digital infrastructure: • Mobilise solutions to enable access to test results across CDC sites and other clinical teams • Ensure teams are aware and have access to revenue investment opportunities, alongside capital investment • Create training posts and new models of staffing skill mix in CDC service models • Embed reflection and learning into everyday activities

Reduced health inequalities

Finding	Recommendation
Currently, CDCs do not have access to the full patient record, and demographic data collection is not consistent, so teams are unable to analyse who is and isn't accessing services. An issue which is mirrored across England.	Improve completeness of ethnicity and deprivation in data collection as first steps to exploring equity.

Improved patient experience

Finding	Recommendation
Sites informally reported positive feedback from patients, as well as from local populations on the awareness of individual CDCs. There is an opportunity to share data and approaches between sites to build a picture of patient experience improvement across London	Systematically amplify the voices of local populations and service users and embedding this in site level data collection.

Support for integration of care

Finding	Recommendation
The roll out across London has evolved over time and includes a breadth of service offers, which has highlighted the breadth of interpretations of what constitutes a CDC. Defining how the CDCs are embedded in the wider clinical pathways will increase the opportunities for integrated care.	Refine what defines a CDC now – involving clinical and operational stakeholders – and how it fits into the wider pathway of care.

Cross cutting themes

Finding	Recommendation
While there is general support for the cross-cutting themes of the programme; they have so far been given less attention by sites and systems, unless there are direct links to operationalising the CDCs.	Align efforts to operationalise CDCs with programmes that meet the cross-cutting themes.

Next steps

Leaders across the programme are invited to reflect on the learning to date from the programme and identify the specific actions that can be incorporated into the next round of programme planning and implementation for years 3-5.

Very few of the recommendations are quick fixes. Some will require more detailed testing and improvement work, such as developing data completeness and data flows for understanding who the patients are that are using the service. Others may require more fundamental reflection and change, such as the definition of CDCs, their role in the wider system of care, and the impact on inequalities of access. Some of this work is already underway, with clinical teams developing pathways

Communication to, and engagement with, staff, system leaders, and patient and public communities of the overall strategy in London for improving access to diagnostic services and the role CDCs play in that strategy will help build consistency whilst clarifying where there is scope for local adaptation.

Background

Rationale for the work

Demand for a wide range of diagnostic tests has been rising year on year. The growing backlog of tests and scans as a result of the pandemic and worsening patient access requires a substantial increase in capacity.

Nationally there is commitment to delivering Community Diagnostic Centres (CDCs), a new model of diagnostic service provision aligned with the **Richards report**. The five-year programme in London, launched in 2021, includes early adopter and Year 1 sites running in each of the five London ICSs alongside planning for years 2-5 of the programme.

The pan-London CDC programme is central to the system recovery and reset following the COVID-19 pandemic, to deliver a new way of working, build service resilience and deliver direct benefit to patients.

UCLPartners, together with Imperial College Health Partners (ICHP) and the Health Innovation Network (HIN), have been working as learning partners for the programme, implementing a **Learning Health System (LHS) approach** to inform the development of CDCs across London, allowing the system to generate rapid insights that can be acted on by decision makers to inform and adjust the programme as required.

To help the system learn about what was working well and what was proving challenging in the development of CDCs, teams analysed data, created a pathway modelling simulation, conducted site visits and interviews, and held workshops. This learning programme was established as part of the NHS Insights Prioritisation Programme and was delivered in partnership between UCLPartners and the NIHR Academic Research Collaborative (ARC) North Thames.

This document is a learning summary of the findings and insights gathered throughout the set up and delivery of the CDCs in London from November 2021 to March 2023.

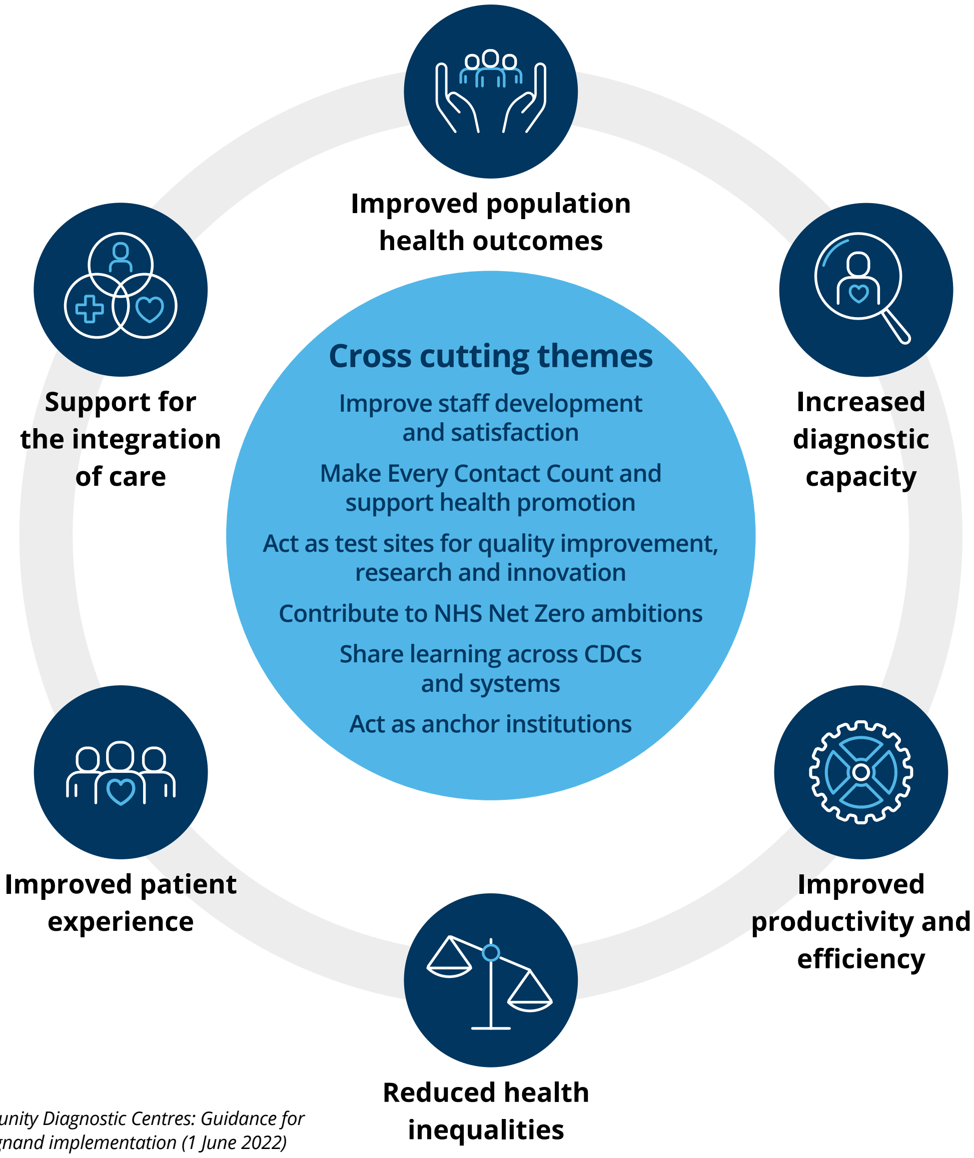
Ambitions for the CDC programme

The Richards report gave key recommendations for the improvement of diagnostics across England, one of which was the development of CDCs to provide separate, dedicated locations for carrying out elective diagnostic procedures.

Richards' view was that, while CDCs should be rapidly established, this should be a long-term and strategic programme that took place over 10-20 years. He cited the opportunity to consider patient needs from a pathway redesign perspective, and to proactively take into account wider health economy ambitions. The Richards report highlights the need for a major expansion of the imaging workforce and improved connectivity and digitisation across all aspects of diagnostics.

NHS England set six primary aims plus cross-cutting themes for the CDC programme nationally (Figure 1).

Figure 1: *The six aims and cross-cutting themes of the Community Diagnostic Programme for London*



Source: Community Diagnostic Centres: Guidance for planning, designand implementation (1 June 2022)

Understanding impact

To understand the degree to which CDCs were making progress towards the six primary aims, UCLPartners worked with the five ICSs and the NHS England London regional team to develop an outcomes framework.

The framework was designed to align stakeholders, agreeing the primary aims of the CDC programme. A metric was agreed for each aim, providing clarity on why it was being measured and what decisions or actions should result. The metrics give an overview of the speed of the diagnostic pathway and the level of activity, alongside consideration of inequalities at a London level by asking ICSs to report on three key measures. The framework also provided additional optional metrics that local ICS and CDC teams could adopt and monitor to assess implementation progress and operational performance, for example DNA rates, appointment utilisation and staff turnover (see **Appendix 1**).

It was proposed that measures were collected at three levels, with questions focused on what those teams could act upon and influence. For example:

1. **London region:** *Have we increased access to diagnostic tests for the population? What impact is the increased diagnostic activity having on capacity along the rest of the pathway?*
2. **Integrated Care System:** *Have we achieved the faster diagnosis standard for cancer patients? What impact does that have on the rest of the system in order to sustain/improve 62-day performance?*
3. **Community Diagnostic Centre:** *Are the available appointments being used? By whom? When cancellations occur is that due to: Staff shortage? Booking errors? Patient communication breakdowns? What actions should we take?*

***Figure 2:** The core measures proposed for the London region*

1
Reducing long waits
Reduction in DM01 >6-week waits at Trust and System level

2
Increasing access
Increased access (tests/100,000 population) across different diagnostic modalities

3
Faster diagnosis
System achievement of 28-day Faster Diagnostic Standard diagnostics for cancer

Reducing inequalities
Reviewed in light of deprivation levels

Reviewed in light of ethnicity

It was recognised that CDCs were not solely responsible for reducing DM01 waits, or speeding up cancer diagnosis rates, however by pooling data from all sites, the intention is to see whether the dial is shifting in the right direction for London as a whole.

CDCs across London – Context

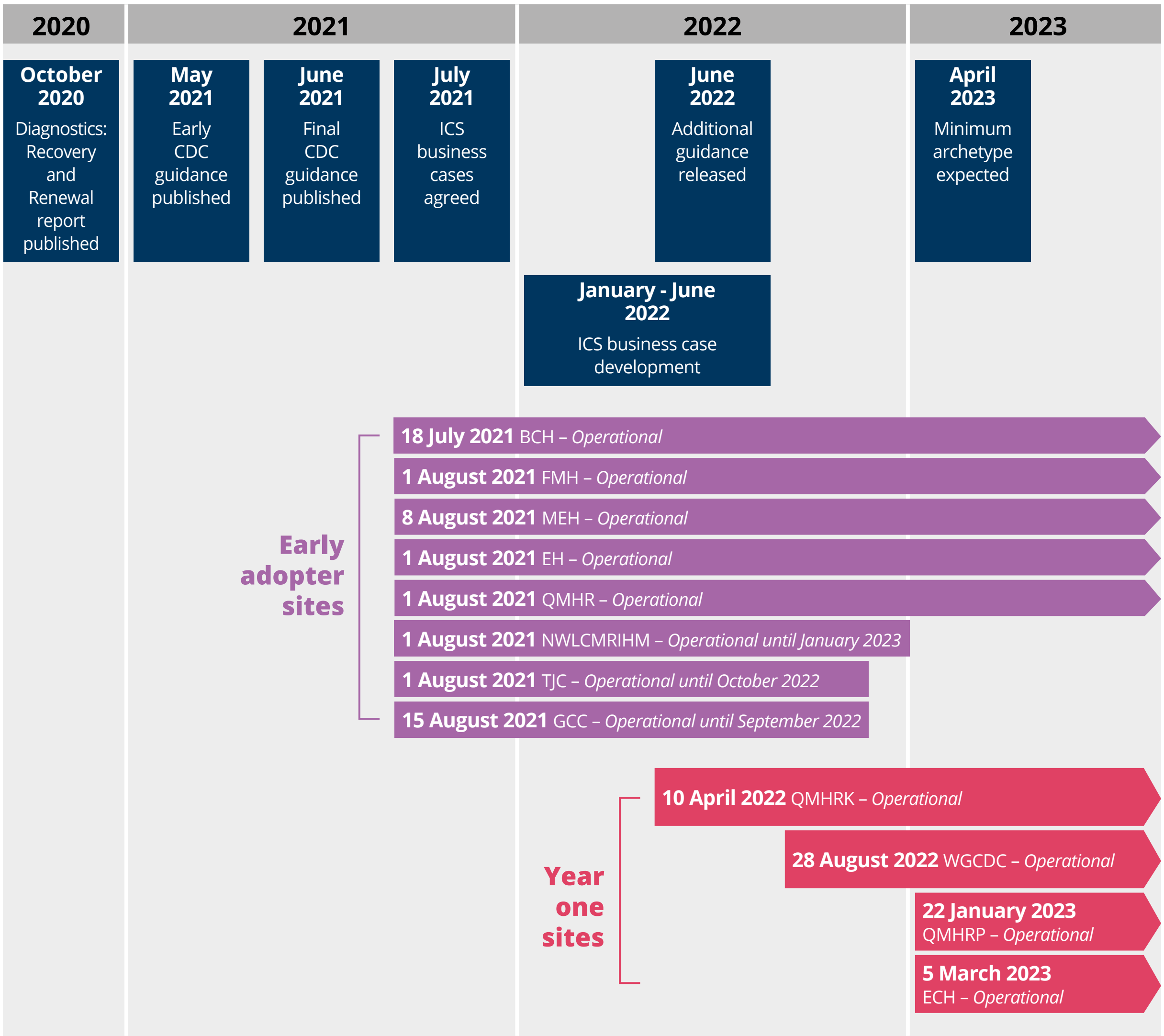
The set up of CDCs in London occurred at a rapid pace, with a focus on capital investment in the physical sites of CDCs. Following the publication of guidance in spring 2021, seven early adopter sites were operational from summer 2021.

Some of these sites have continued activity into 2023, while others have been closed in order for ICS systems to develop longer-term plans for community diagnostics at alternative sites.

At the time of writing, there were nine CDCs operating across London.

CDC development over time

***Figure 3:** Timeline of CDC milestones*



BCH = Barking Community Hospital • **FMH** = Finchley Memorial Hospital • **MEH** = Mile End Hospital
EH = Ealing Hospital • **QMHR** = Queen Mary's Hospital Roehampton • **NWLCMRIHM** = NWL Community MRI Hub Middlesex
TJC = Tessa Jowell Centre • **GCC** = Guys Cancer Care • **QMHRK** = Queen Mary's Hospital Roehampton Kingston
WGCDC = Wood Green CDC • **QMHRP** = Queen Mary's Hospital Roehampton Purley • **ECH** = Eltham Community Hospital

Variation in services provided by CDCs

According to the national guidance a CDC should follow one of the three broad design models: standard model, large model or Hub and Spoke model. CDCs should aim to provide services for at least 12 hours a day, seven days a week, with a set of minimum requirements for all pathways. ICSs across London have taken different approaches to their CDC set up and there is variation in the services provided, and days and number of hours they are operational.

By April 2023, it is expected that the minimum archetype is in place for all CDCs.

***Figure 4:** Minimum expected archetype for CDCs, set out in 'Community Diagnostic Centres: Guidance for planning, design and implementation' (1 June 2022)*

🟦 Service components required for all pathways
🟦 Service components required for some pathways or optional

All CDCs must meet and deliver the following requirements as a minimum:

- Receive and process referrals from primary, community and secondary care. Including clear referral criteria for an agreed set of tests
- Book patients in for a co-ordinated set of tests
- Carry out a full range of diagnostic tests for patients in as few visits/locations as possible (see Figure 7 for the list of minimum required tests)
- Report the results in a timely way to the referrer
- Provide proactive outreach to patients, including health promotion information
- Provide virtual or face-to-face support to a consultant specialist where this supports efficient patient pathways
- Communicate a diagnosis or treatment plan to the patient, where required and appropriate
- Provide onward referral if needed as part of the patient pathway

Types of CDC across London

The national guidance provides definitions of the different models of CDCs that can be implemented in England:

Figure 5: Definition of Standard, Large and Hub and Spoke model CDCs, set out in 'Community Diagnostic Centres: Guidance for planning, design and implementation' (1 June 2022)

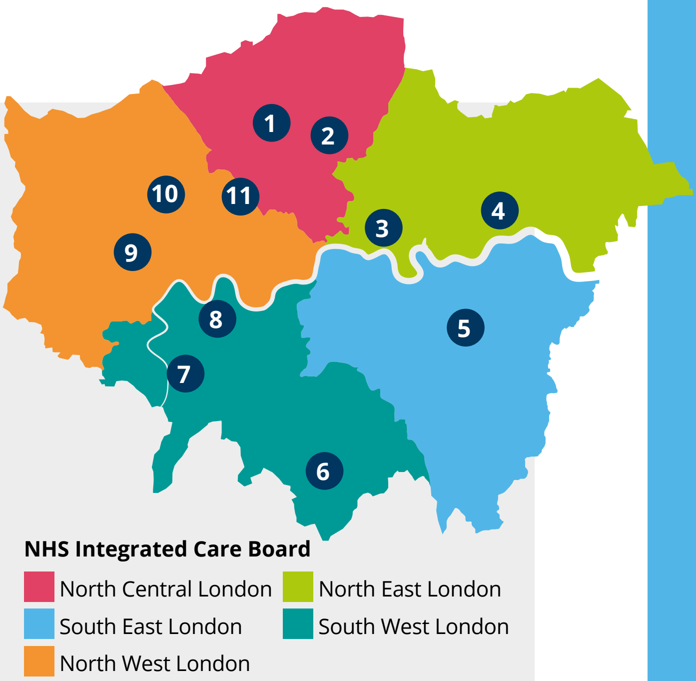
Archetype	Description
Standard model	A standard **CDC provides at least the minimum diagnostic tests** outlined in the guidance (see Figure 7). It may also provide any other suitable diagnostic tests that are deemed to be a priority locally.
Large model	A large **CDC must meet all the requirements of a standard CDC**. It must also **offer endoscopy** and/or any other services/tests required locally (e.g. ophthalmology, audiology, health checks and screening services). It **also** provides other components of the diagnostic pathway (such as outpatient consultations) and co-located services (e.g. radiology). Scalability is an important feature of a large CDC, e.g. centres may have multiple scanners to improve efficiency/effectiveness.
Hub and spoke model	The central 'hub' must provide **at least** the minimum diagnostic tests outlined in the guidance, as per requirements for a standard CDC. CDC 'spokes' provide extra capacity for specific tests or to reach certain populations through a satellite location. A spoke must include more than one modality, including any on the agreed CDC test list, with one large imaging modality and other diagnostic tests, but does not need to include all the core modalities a standard or large CDC site does. They may also help integrate CDC models with other expansions in community diagnostics (e.g. primary case diagnostic services).

As of March 2023, London has nine CDCs in operation. The map below shows the locations of these CDCs and the model they are operating under.

Figure 6: Map of current and planned CDCs in London

1. Finchley Memorial Hospital *(Standard Hub CDC)*
2. Wood Green CDC *(Spoke)*
3. Mile End Hospital *(Large CDC)*
4. Barking Community Hospital *(Standard CDC)*
5. Eltham Community Hospital *(Standard CDC)*
6. Queen Mary's Hospital Roehampton Purley *(Spoke)*
7. Queen Mary's Hospital Roehampton Kingston *(Spoke)*
8. Queen Mary's Hospital Roehampton *(Large Hub CDC)*
9. Ealing Hospital *(Standard Hub CDC)*
10. Wembley Centre for Health and Care *(Spoke)**
11. Willesden CDC *(Spoke)***

**Opening December 2023 • **Opening June 2023*



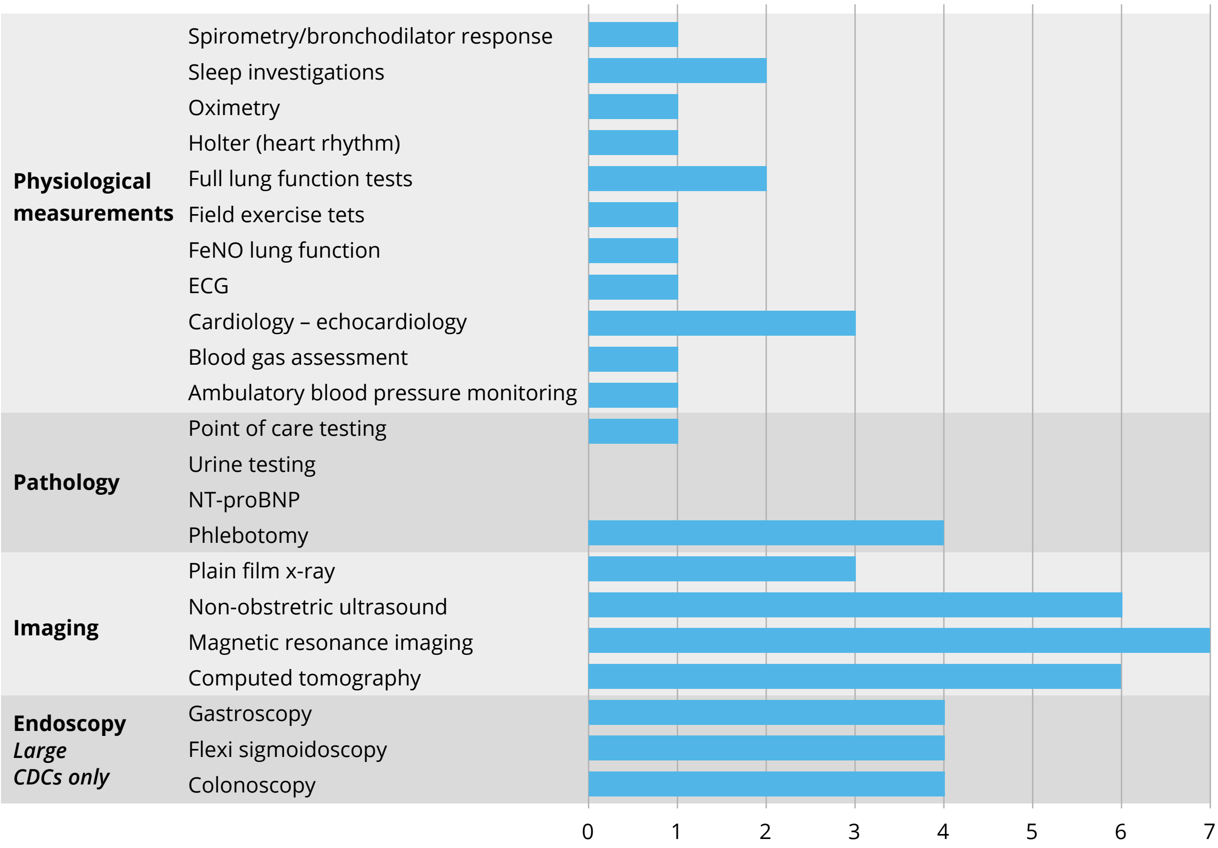
The national guidance specifies the diagnostic tests each CDC model should offer, and there is an expectation that CDCs will have the full suite of tests relevant to their model in operation by the end of March 2025. For London, this means:

- The six sites operating as standard, large or hub CDCs should be offering the full suite of imaging, pathology and physiological measurement tests.
- The two large sites should be offering endoscopy.
- The three spoke sites are expected to provide extra capacity, including more than one modality with one large imaging modality.

Figure 7 below shows the extent to which London is offering the minimum required diagnostic tests (as of March 2023). Currently, CDCs in London are not yet offering the full range of diagnostics, with the progress in establishing physiological measurements and pathology slower than imaging and endoscopy (which more than the expected number of sites are offering services). Through interviews with stakeholders, multiple reasons have been attributed to this variation, for example: respiratory services have been challenging to establish; sites have focused effort on establishing some tests before others; some activity may be underway but is not yet reported, e.g. point of care testing; or activity is reported under a different term due to misalignment in terminology between CDC guidance and reporting templates.

See **Appendix 2** for full list of active services provided by London's CDCs.

Figure 7: *Number of CDC sites offering the minimum required services, as set out in the national guidance as of March 2023*



Data source: Community Diagnostic Centre Activity Report: Week 45, March 2023

CDCs in the diagnostic pathway

There is a level of variation in the degree to which CDCs have been embedded into the wider diagnostic pathway, and the impact this has on diagnostic processes and the patient experience at this stage of the programme. The diagnostic journey varies from location to location, and between clinical pathways, and the reasons for this are explored in the findings of this report.

The national guidance gives freedom to local systems to define what services the CDC offers. While there are set criteria about the minimum services a CDC should offer, how these services are embedded into existing pathways and services is down to local decision making.

Both the Richards report and the national guidance emphasise the opportunity CDCs provide for transforming clinical pathways, *“ensuring that they deliver the right tests, at the right time and in the right place to inform the advice, treatment and support for each patient. Pathways should harness the latest research, digital approaches and technology.”*

Spotlight

Pathway modelling to understand pathway flows

As part of the learning programme, we have developed a pathway model to illustrate how people move through the diagnostic system from first referral to treatment.

The modelling had two aims:

1. **To help staff gauge whether the levels of activity and outcomes they see are in line with expectations.** Activity levels are reviewed in light of the expected range of flows, considering the service capacity and decision making at each stage. Outcomes are viewed in line with expectations based on condition prevalence and the accuracy of the diagnostic technology in use.
2. **To provide a means of exploring the impact on pathway flows and outcomes** that could result from altering the allocation of capacity along the pathway, for example increasing activities within the CDCs.

How it works

The Clinical Outcomes Research Unit at UCL led the development of the model with support from QMUL's Policy Research Unit in Cancer Awareness, Screening and Early Diagnosis (PRU).

The team developed a computational modelling tool to help NHS teams examine the likely performance of their diagnostic pathways. By providing data on their service, such as numbers of patients waiting, the capacity available at each point, the likely number of people being discharged at different stages, the modelling tools can be configured to analyse a wide range of structures.

The model runs a simulation to mimic how the pathway operates – including the build up and dissipation of queues – accounting for day-to-day variability in referrals and case mix. Over multiple runs of the simulation, the tool can illustrate the anticipated performance of the pathway including activity levels, flows, anticipated outcomes and the time people spend in the diagnostic pathway.

Simulation experiments can be designed and conducted to look at the likely impact on pathway performance of altering resource allocation or decision making along the pathway.

Progress

The development of this model has faced some challenges linked to those explored throughout this report. We found that CDC staff were not always able to identify which diagnostic pathways they were providing diagnostic capacity for, and the role of CDCs in the diagnostic pathway was not yet defined. Also, the stage of maturity of CDC planning and delivery and the urgency with which clinical staff and managers were working, limited the meaningful engagement and access to information necessary for model development and use as originally intended.

Clinicians and managers in South West London provided specific input in relation to the diagnostic pathway in place at the CDC there for exploration of suspected colorectal/lower GI cancer. This resulted in the illustrative pathway structure and model findings presented below.

Illustrative findings

The team produced a simplified CDC diagnostic pathway for suspected colorectal cancer through discussions with CDC staff – see Figure 8. To test the model, the team set the referral rates, capacities, service times and branching rules/proportions to be consistent with discussions with staff (these variables are not firmly rooted in evidence).

The modelling tool was then used to explore the potential impact of two sets of changes to resource allocation along the pathway. The three charts below show the distribution of patient time spent on the pathway under the baseline capacity allocations, scenario A and scenario B.

***Figure 8:** Illustration of suspected colorectal cancer pathway*

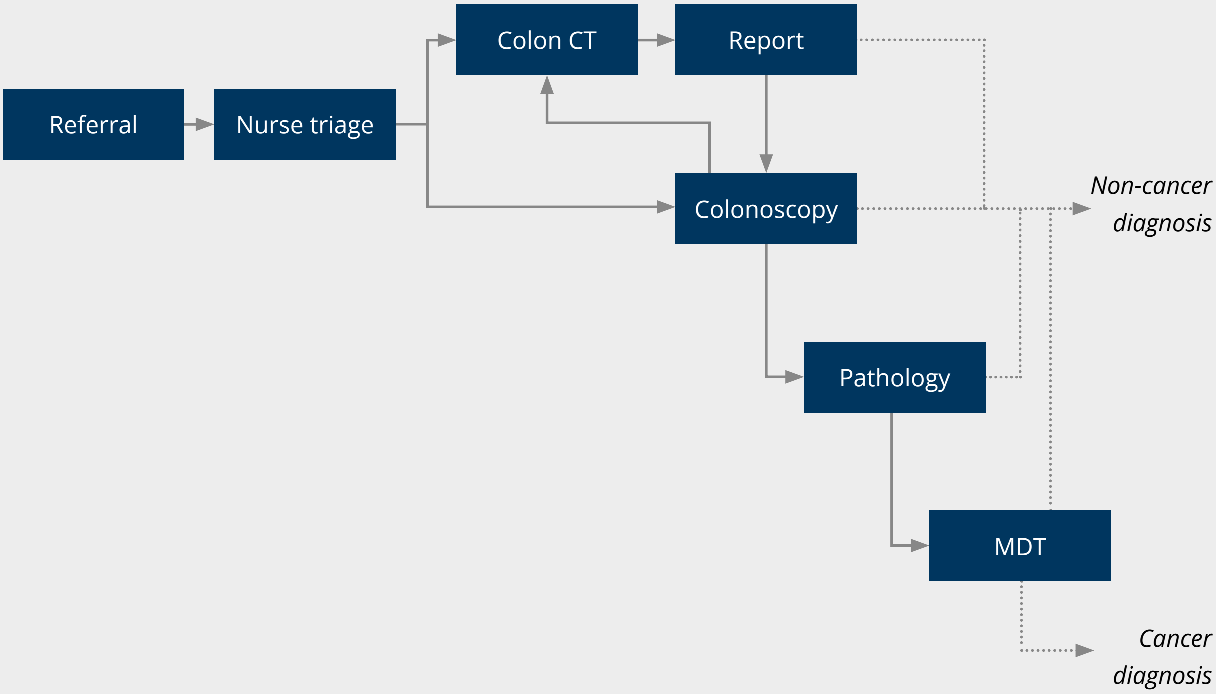
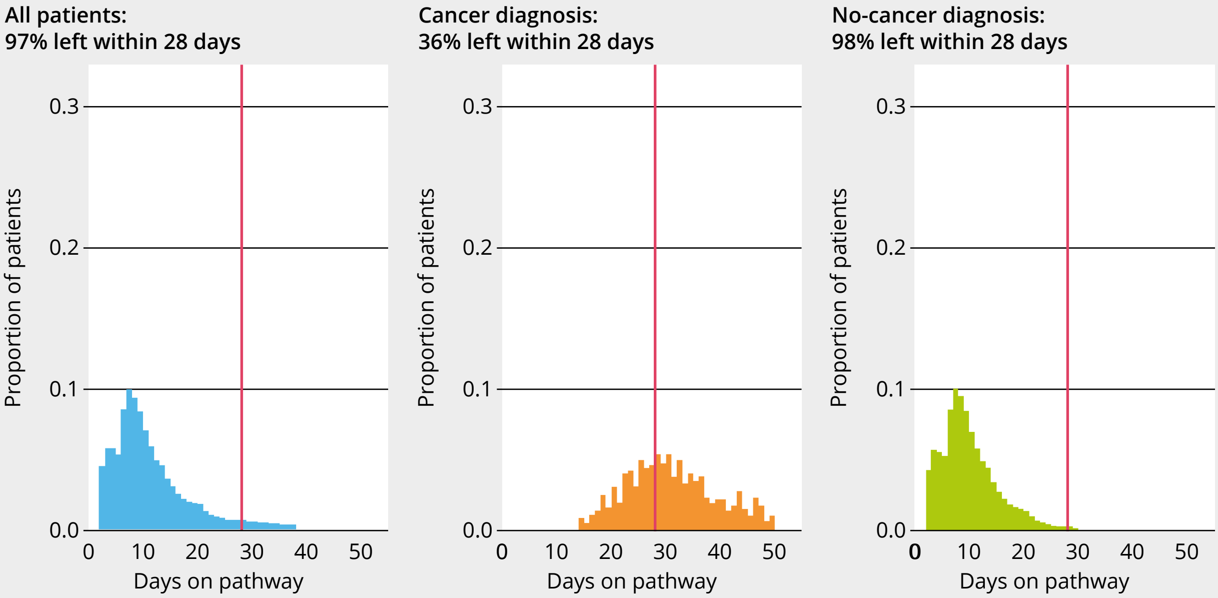


Figure 9 shows the baseline and current time on the diagnostic pathway for suspected colorectal cancer.

***Figure 9:** Baseline*

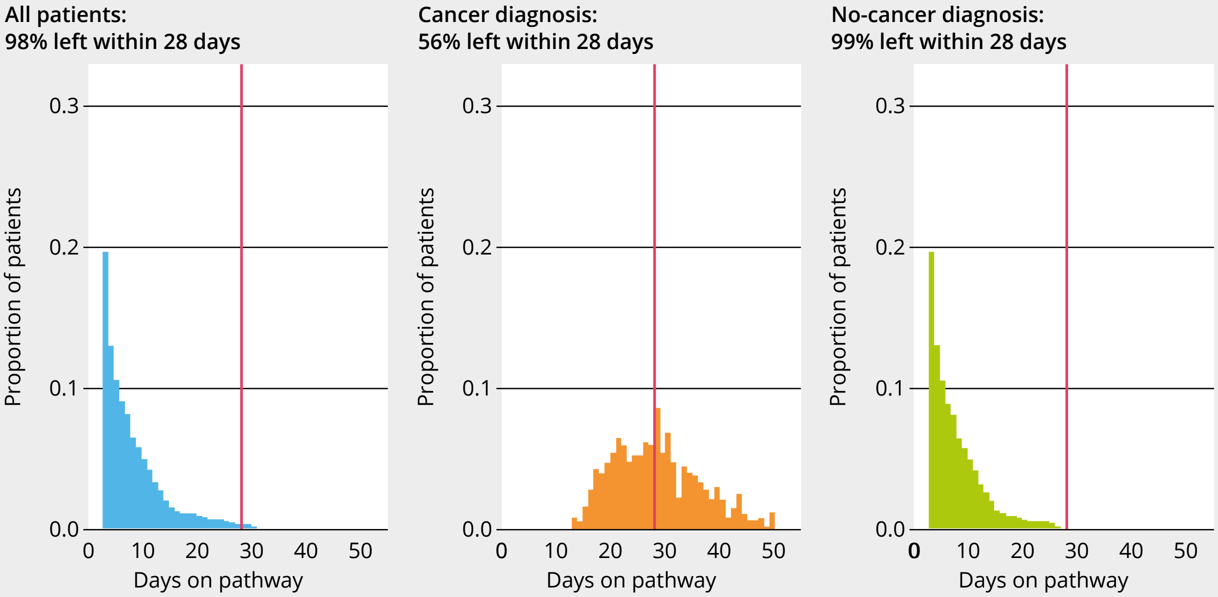

All patients:
97% left within 28 days

Cancer diagnosis:
36% left within 28 days

No-cancer diagnosis:
98% left within 28 days

Scenario A: If the service was to increase the capacity available for conducting diagnostic tests (colon CT and colonoscopy) by 30%, time on the pathway would be impacted as in Figure 10.

Figure 10: *Scenario A*



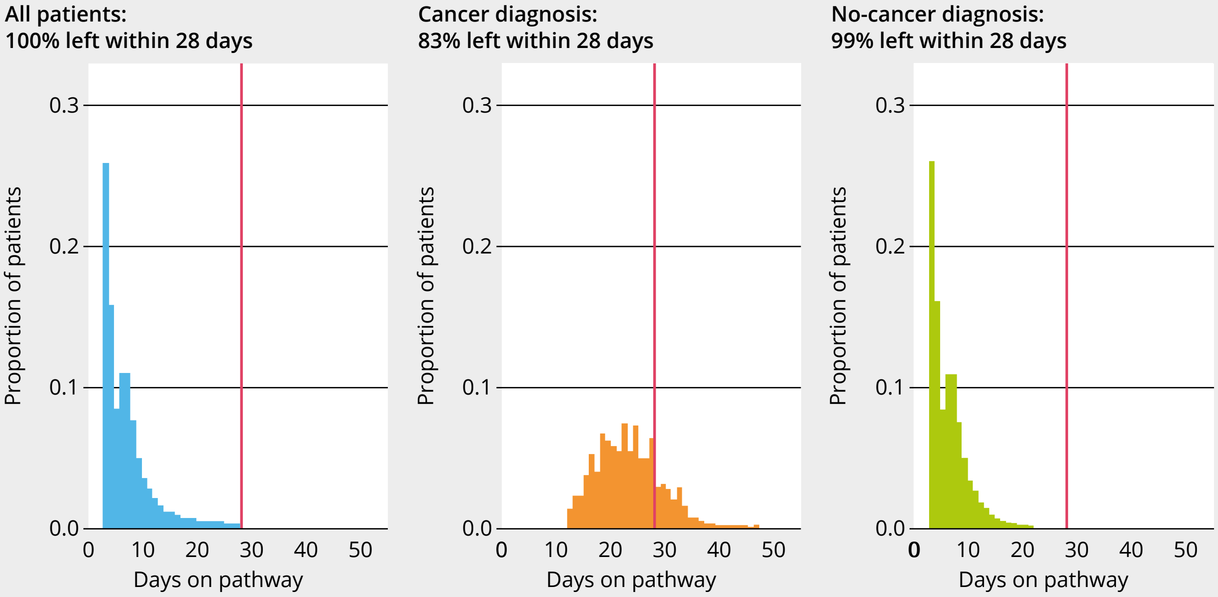
All patients:
98% left within 28 days

Cancer diagnosis:
56% left within 28 days

No-cancer diagnosis:
99% left within 28 days

Scenario B: If the service was to increase the capacity available at every step on the pathway by 10%, time on the pathway would be impacted as in Figure 11.

Figure 11: *Scenario B*



All patients:
100% left within 28 days

Cancer diagnosis:
83% left within 28 days

No-cancer diagnosis:
99% left within 28 days

Using this data, the model has shown that, while scenario A can alleviate the bottlenecks at colon CT and colonoscopy, and reduce patient pathway times, scenario B produces a more balanced increase of capacity along the pathway and has a more beneficial effect.

Lessons from year one

Lessons from year one

Approach to gathering insights

From November 2021 to March 2023, UCLPartners worked with NHS England London region, ICSs and CDC sites to gather insights into how the CDCs are developing, what is working well and opportunities for improvement.

Activities included:

- Site visits to CDCs, involving interviews with staff and patients
- Semi-structured interviews with CDC staff, and ICS and regional teams
- Engaging stakeholders and sharing learning from activities
- Hosting shared learning opportunities e.g. workshops
- Deep-dive evaluation of CDCs in South West London
- Conducting an evaluation feasibility exercise for each ICS

The team regularly met with the CDC team to share the learning gathered, with the aim of enabling decision makers to learn from insights and react in real time.

Limitations and scope

This report aims to share insights gathered from the different evaluation and programme activities, to support short, medium and longer term service planning and improvement for the CDC programme across London. Whilst a breadth of individuals were interviewed, from different roles, organisations and geographic locations, it was not intended as an exhaustive process. There will be individuals that have played substantial roles in the programme whose views may not be reflected in this document.

Findings

To understand how the CDCs have been established in London, and to gather a full picture of the barriers and enablers to successful implementation, the UCLPartners team focussed on six key areas:

- Aims and programme set up
- Data and impact
- Patient journeys and pathways
- Workforce
- Systems and infrastructure
- Ongoing learning

> “*I'll look back at this as one of the best things I've ever done. It's got real potential.*
> CDC lead

Aims and programme set up

The approach to managing the CDC programme on a national, regional and local level has had an impact on how the CDCs were originally established and continue to run.

National programme

Reflections from stakeholders on the national programme covered the following themes:

Rapid pace and changeable guidance – Interviews with stakeholders consistently discussed the rapid pace of the set-up of the national Community Diagnostics Programme and the local creation of centres.

This process was challenging, and it required significant time investment from staff. Along with unclear timelines, and often short deadlines, the changing definitions of CDCs and minimum requirements put significant pressure on planning teams. For example, the retraction of funding part-way through the year was seen to cause instability in services. Local teams were then again under pressure to submit business cases for funding when additional budget was found at a national level towards the end of the financial year.

Restrictive funding model – In the early stages of the programme, heavy emphasis was placed on capital investment in the physical sites and equipment, and revenue, workforce and pathway considerations were therefore secondary considerations. To establish a CDC in a local area, teams needed to submit a business case for each of the developments and a plan for diagnostic activity in Year 1, however, teams reported that the process didn't provide the opportunity for systems to explore existing capacity and adapt their approach to diagnostics in the community locally (whether within a CDC or elsewhere), which was felt could have been simpler to implement and see impact. The focus on payment for activity led to some teams selecting sites that would see high levels of patients, and did not recognise the wider benefits of locating a CDC in a community setting.

> *The capital funding regime has inhibited long-term planning and it may still stop us revising our plans.*
>
> System lead

Narrow performance management – As is explored elsewhere in this report, national monitoring has been focused on delivery of activity (number of tests) vs plan in real terms. While teams appreciated this made sense from a financial perspective, there were concerns early in the programme about submitting planned activity levels for services that were not yet in existence. CDCs were performance managed as though they were static services with predictable activity, and those that failed to deliver to their proposed targets, did see funding recalled. At the time of writing, teams were submitting activity plans for the next financial year without confirmation of funding. This sharp focus on activity by modality, leaves little room for innovative approaches to delivery of the CDCs and system's wider diagnostics pathways. In addition, it risks undermining local efforts to improve equity of access, with no weighting of activity or opportunity to recognise that for some tests and some population groups the diagnostic test may have additional value in terms of future improved health outcomes than for others. As two of the key aims of the programme are to improve population health outcomes and to reduce health inequalities, and with growing attention on the Core20PLUS framework, this is worth further reflection.

> *We could have bid for funding to develop our own facility and provide additional capacity without the need for copious business cases, changing goalposts and revised processes… I think we could have got the same output for a lot less hassle.*
>
> Trust lead

Local set up

Reflections on the local set up covered the following themes:

Variation in local system involvement – There is some variation in the local governance and organisational links around the CDCs. While the ICSs are responsible for the centres, and there are close ties with acute providers, the links are not consistent across all CDCs. For example, links are not consistently made with the broader system infrastructure such as Acute Provider Alliances, Planned Care Boards, Rapid Diagnostic Centres, and Primary Care Networks to ensure CDCs are embedded in the wider care pathway and local service delivery, which could limit the impact made on supporting the integration of care.

As is explored later in this report, interoperability of IT systems and sharing of test results was a consistent challenge, alongside integrating the onward pathway and connection to clinical services for those that need it.

> “ *It falls down to three issues: lack of workforce, lack of capital funding, and digital connectivity issues. Solving these at a higher system level would increase the chances of a successful programme...*
>
> System lead

Primary care engagement – Some CDCs have achieved closer alignment with primary care over the course of the programme, by offering GP direct access as the primary referral route for certain diagnostic services at the CDC. However, disjointed IT connectivity has led to significant challenges for GPs to both refer patients into the CDC and receive reports after the patient attends their diagnostic appointment. While GPs who previously referred patients to the CDC’s host provider are typically configured to the same IT systems, this is not the case for all GPs in the locality. While some ICSs are now benefiting from using a data driven approach to target GP engagement, building awareness and encouraging GP direct referrals before addressing IT challenges risks damaging relationships and future engagement with the CDC.

> “ *It feels like the CDC has been set up to be this thing which can receive referrals from all of over (the borough) and expand our catchment beyond trust boundaries, but the (IT) systems just simply haven’t caught up with that. We’re having to do a lot of work to try and get various things to communicate with each other.*
>
> CDC staff

There was also a recognition from primary care leads of the time needed to build trust and awareness among GPs and practice managers, to fulfil the ambitions of GP direct access pathways.

> “ *It takes time to build good communication, building up trust... Over time it will become default (to refer patients to the CDC).*
>
> GP

Feedback from GPs also highlighted that they value forms that can be easily integrated into their systems; digital infrastructure and interoperability; transparency of information around waiting times for appointments and results; and ideally, a point of contact to discuss progress and results (similar to Advice and Guidance).

Site selection – Some areas report doing extensive research into the best locations for CDCs, reviewing population health needs, accessibility, transport and other services in the local area. Others focussed on existing assets as the starting point. One system reported evaluating 50 sites using the Richards report as guidance, and finding their early adopter sites would not provide the longer-term population benefits they wanted to achieve.

The majority of CDCs are co-located with an existing acute or community hospital site. Only North Central London ICB has established a CDC outside of traditional health locations by creating a CDC in Wood Green shopping centre. Teams report the cost of developing new sites, and the national payment for activity model as key limiting factors in location selection. Co-location brings benefits with regard to sharing of staff, common IT infrastructure, and established transport links. However, it may limit the ability to access different population groups.

> *CDCs could be smaller, more flexible and more interesting, and then you'd genuinely reduce access issues.*
>
> CDC lead

Spotlight

Evaluation readiness

The national guidance states that *"Systems must evaluate their CDCs at appropriate intervals to understand how well they are complying with and delivering against the stated aims of the programme, including their impact and performance, and to identify areas for improvement."*

While the expected approach for this was not yet prescribed, there was appetite from the ICS teams to explore what an evaluation would involve for their CDCs, and how to approach this.

South West London CDC Evaluation

South West London ICS approached NHSE London region and UCLPartners for assistance in conducting an in-depth evaluation of their hub and spoke model CDC services after 12 months of operation.

The Queen Mary's Hospital CDC Roehampton (QMH) was set up in 2021 as a large hub CDC, and the spoke in Kingston launched in April 2022. The spoke in Purley opened in January 2023 after the evaluation exercise. SWL was aiming to deliver simple and high-volume diagnostics that support primary care or triage pathways closer to patients' homes and communities, as a 'one stop' service. UCLPartners supported the evaluation of the progress to date, aiming to understand whether the SWL CDC programme increased access to high quality, fast diagnostics for all patients with improved patient experience across SWL. UCLPartners used a mixed-methods approach where quantitative and qualitative data was collected and analysed to address the evaluation objectives. Our approach utilised insights from staff and secondary care data analysis to provide insights into evaluation objectives. The findings from the evaluation activities are intended to support improvements in South West London, as well as contribute to London-wide learning.

Evaluation feasibility exercise for London CDCs

To support future evaluation and monitoring activities for CDCs across London that were not yet ready for a complete evaluation, UCLPartners designed and delivered an evaluation feasibility exercise.

The purpose of the evaluation feasibility exercise was to determine to what extent an activity or project can be evaluated in a reliable and credible fashion. Different domains of evaluation activities can be explored through the exercise, including:

1. *What would we like to learn from the evaluation/what would the aims of the evaluation be?*
2. *Is it possible to evaluate the project as currently described?*
3. *Is the relevant data available? Is there sufficient capacity in the system to make the data available?*
4. *How useful would an evaluation be to the key stakeholders?*
5. *What would be the preferred design of an evaluation?*

The exercise can take place at various stages of the project, including at project design stage and after projects have been in operation for some time, before they are evaluated. Performing the exercise early may have wider effects on long-term evaluability especially when it leads to putting data collection processes in place but performing it later may provide the most up to date assessment of evaluability.

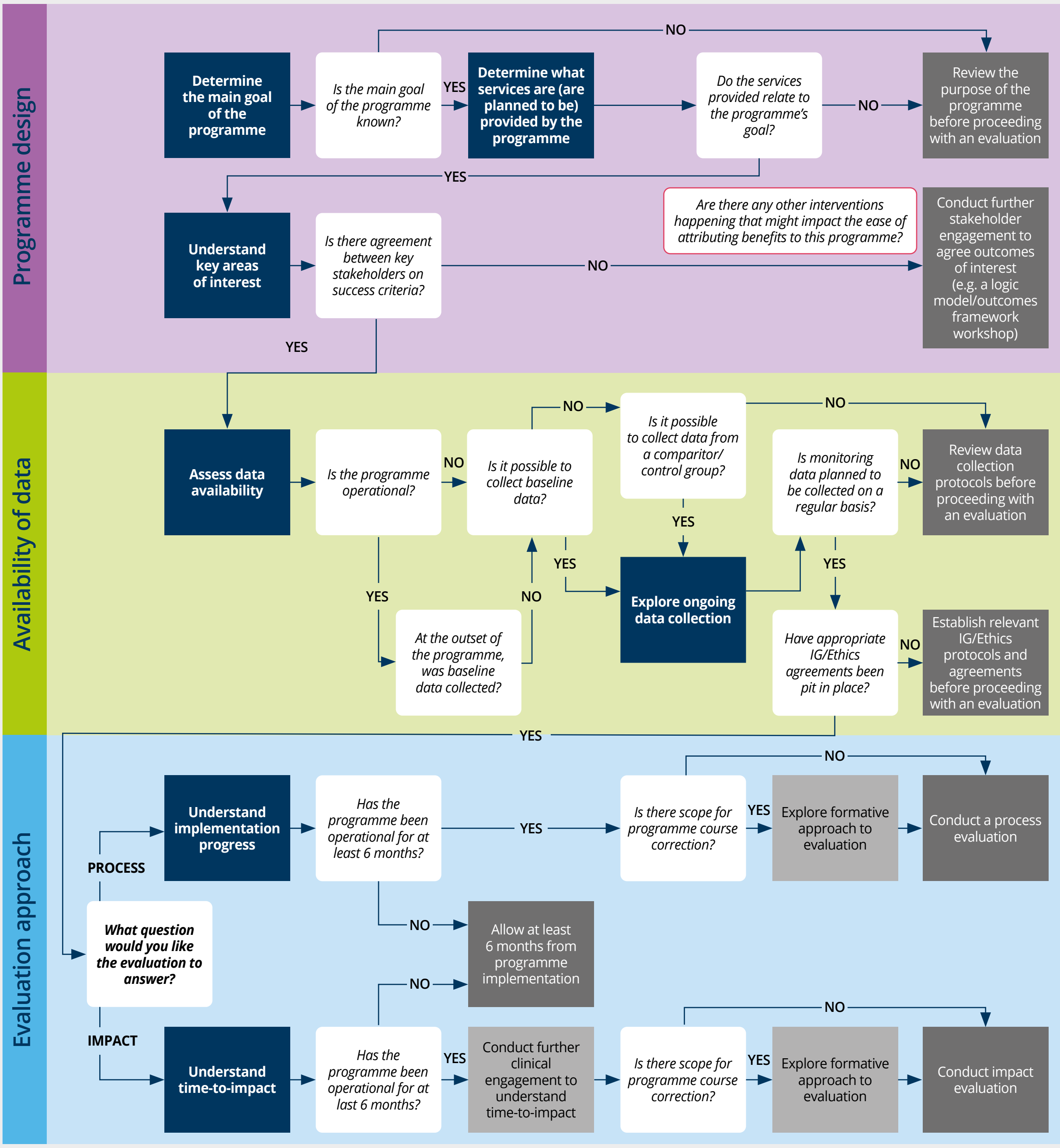
Evaluability assessment for CDCs

We held focus groups with key programme managers from each CDC. The assessment covered three key areas of interest:

1. The CDC programme design from a local perspective
2. Availability of information for monitoring and evaluation
3. Wider context

The assessment was designed to support project and programme managers consider their future evaluation and monitoring activities. The flow chart below illustrates the guidance for teams considering evaluating their CDC services. Each ICS was provided with a local version, specific to their service.

Figure 12: Evaluation readiness flow chart



Insights gathered through the focus group have been synthesised in the three key areas of interest for the evaluation feasibility exercise, and can be used as a starting point when planning evaluation activities.

Key findings

Programme design

- As illustrated in Figure 6, CDCs across London are operating under different models. Although there is variation in models, all CDCs have shared a similar main aim of improving access to diagnostics by increasing diagnostic capacity.
- CDC sites across London will be live at different timepoints, with all sites expected to go live with all modalities by April 2024.

Availability of data

- All CDCs have collected baseline data at the inception of the programme. Some CDCs have also performed local reviews of the diagnostic demand and staff acceptability before implementation.
- Staff have noted that post COVID-19, there will be other interventions with similar aims to the CDC programme, which might make attribution difficult.
- A key next step to prepare for the evaluation should include confirming how activity data will be captured at each site and acquiring relevant IG agreements for accessing the activity data from each CDC site.

Evaluation approach

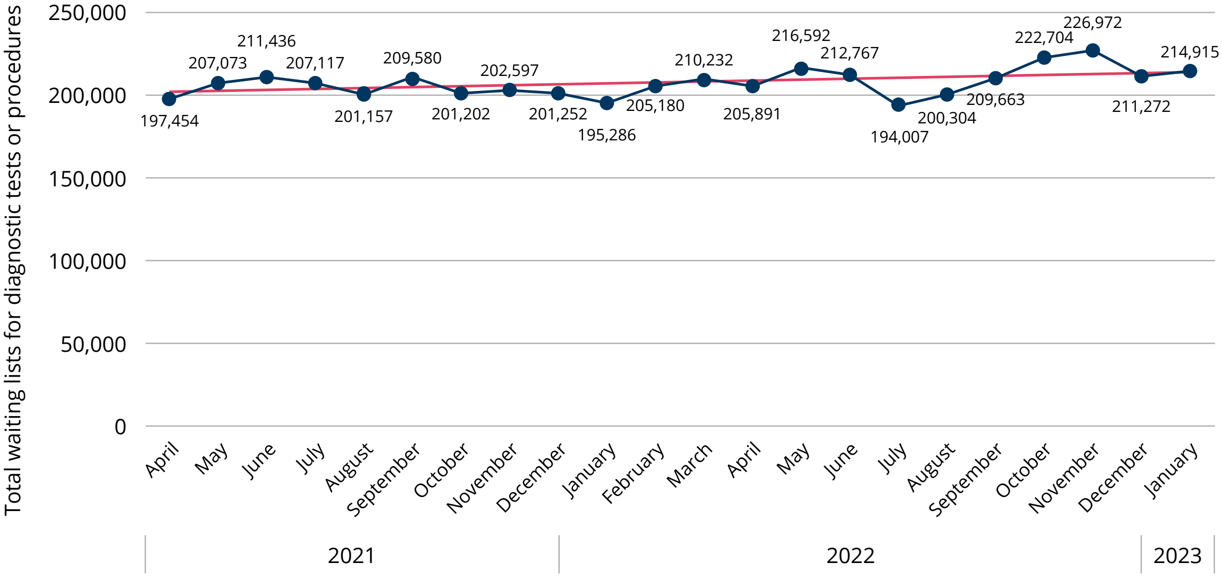
- All CDCs should conduct a mixed-methods process evaluation, building on learnings from the pre-implementation stage if available. Ensuring staff and patient feedback is captured will be key to understanding the acceptability of the CDC programme.
- If CDCs are planning to do a staged approach to implementation, an interim review of progress could be beneficial. The interim reviews could be conducted throughout Q4 2023 and Q1-Q4 2024. The full process evaluation should take place 6 months after all modalities are live.

Data and impact

CDCs and ICSs have been reporting activity data since the launch of the programme in July 2021. The following analysis has been conducted using **Monthly Diagnostic Waiting Times and Activity** published publicly each month, and the data returns of CDC activity submitted to NHS England.

During the course of the programme, the number of people in London waiting for diagnostic tests, or procedures, has slightly increased from 211,436 in June 2021, to 214,915 in January 2023.

***Figure 13:** Total number of people waiting for diagnostic procedures in London*



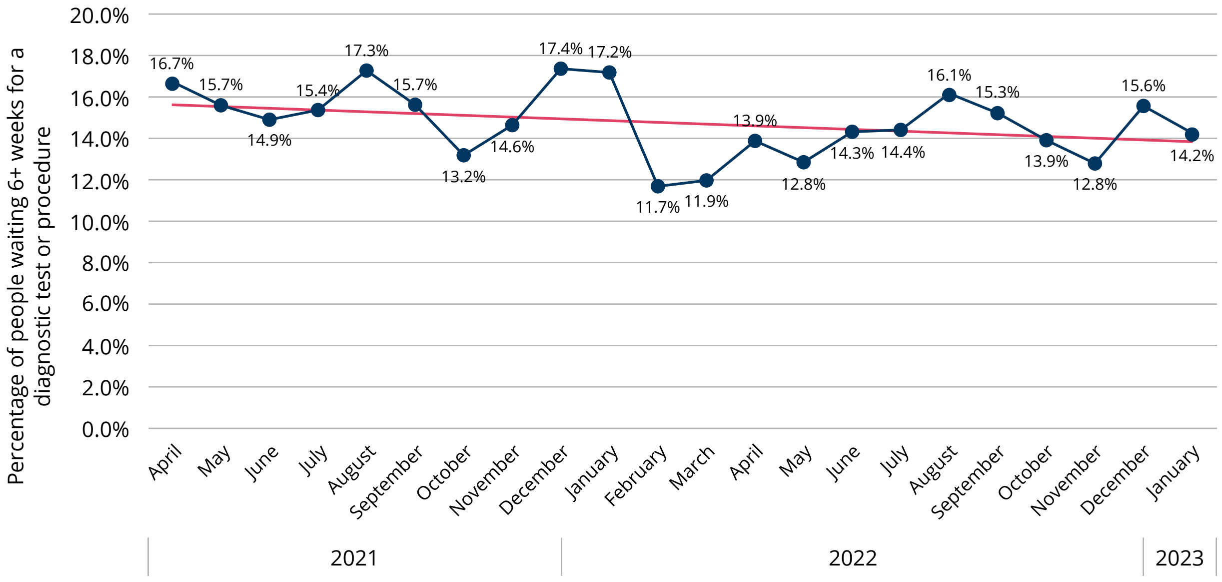
*Data source: **Monthly Diagnostic Waiting Times and Activity**, © NHS England and NHS Improvement*

Reduction in 6 week waiting times

The proportion of people waiting more than 6 weeks is trending downward, showing that more people are being seen for a diagnostic procedure within 6 weeks as time goes on. The average percentage of people waiting more than 6 weeks was 15.7% in April-December 2021 and 14.2% in all of 2022, showing an average overall reduction of 1.5%.

In addition, when comparing month-by-month, the proportion of people waiting more than 6 weeks is lower in 2022 vs 2021 (with the exception of October). January 2023 sees a 3% decrease compared to January 2022.

Figure 14: Percentage of people waiting more than 6 weeks for diagnostic procedures in London

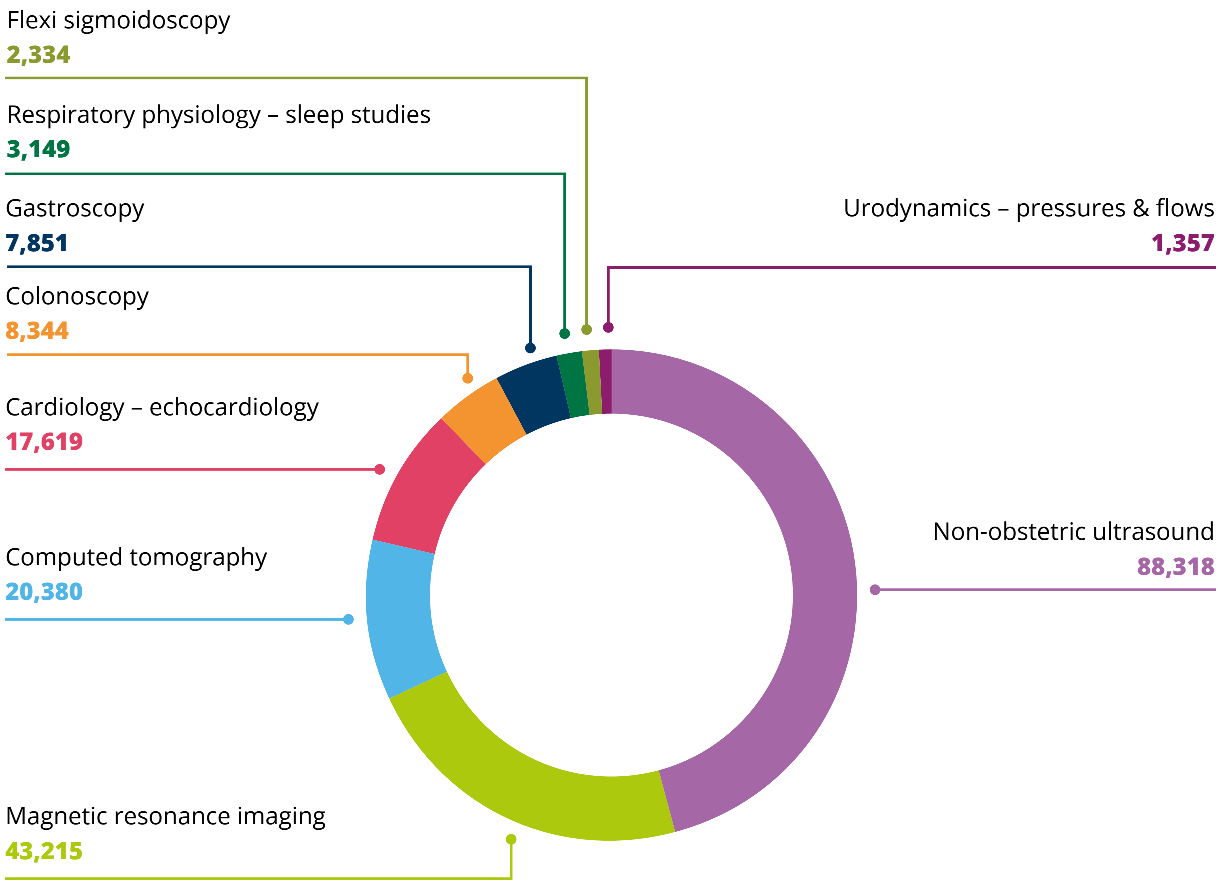


*Data source: **Monthly Diagnostic Waiting Times and Activity**, © NHS England and NHS Improvement*

Diagnostic service demand

Of the total number of people waiting for diagnostics in January 2023, 78.9% were waiting for just four types of test: echocardiography, ultrasounds, CT or MRI scans.

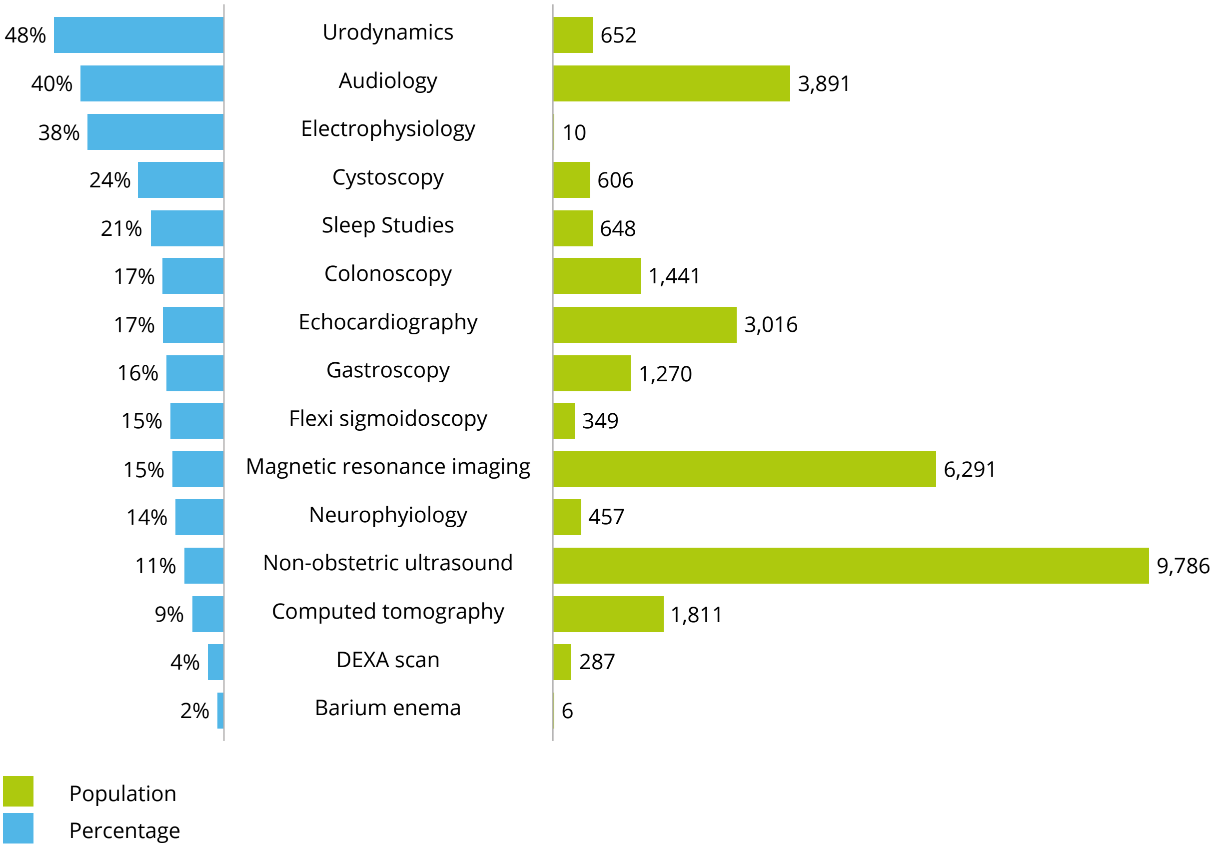
Figure 15: The number of people waiting for diagnostics offered within CDCs



*Data source: **Monthly Diagnostic Waiting Times and Activity**, January 2023, © NHS England and NHS Improvement*

Across all diagnostic tests there is large variation in waiting times. In January 2023, the largest proportion of people waiting more than 6 weeks were waiting for urodynamics (48%), whereas 11.1% of people waited more than six weeks for a non-obstetric ultrasound. However, when looking at waiting lists, this equates to 651 people waiting for urodynamics compared to 9,803 people waiting for ultrasounds. It is important to review these percentages in line with the number of people waiting, as this is crucial for service provision planning. This should tie closely to the prioritisation of reviewing and conducting diagnostics based on clinical need, above waiting time, as stated in NHS England's **Clinical Prioritisation Programme**, in May 2021.

***Figure 16:** Percentage of people waiting >6 weeks for each test vs. total number of people waiting >6 weeks for each test*

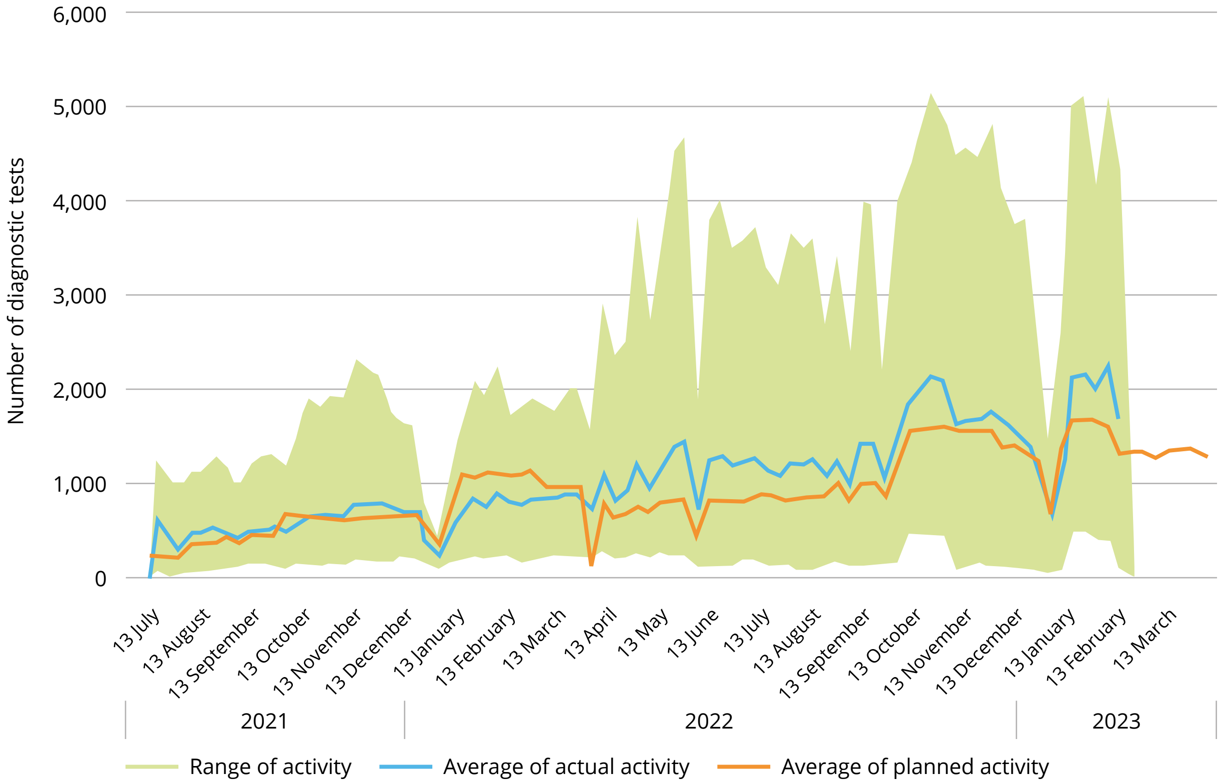


Data source: ***Monthly Diagnostic Waiting Times and Activity****, January 2023, © NHS England and NHS Improvement*

Reporting activity vs plan

Since July 2021, CDCs in London have delivered 411,170 diagnostic tests, and are, on average, delivering activity to plan. Figure 17 shows that while London, on average is delivering to plan (blue line), the green area shows the full range of activity reported by the different sites; highlighting that some are delivering above and some are delivering below planned activity levels.

***Figure 17:** Range of CDC activity across London from July 2021 to March 2023, including the average and planned activity for London*



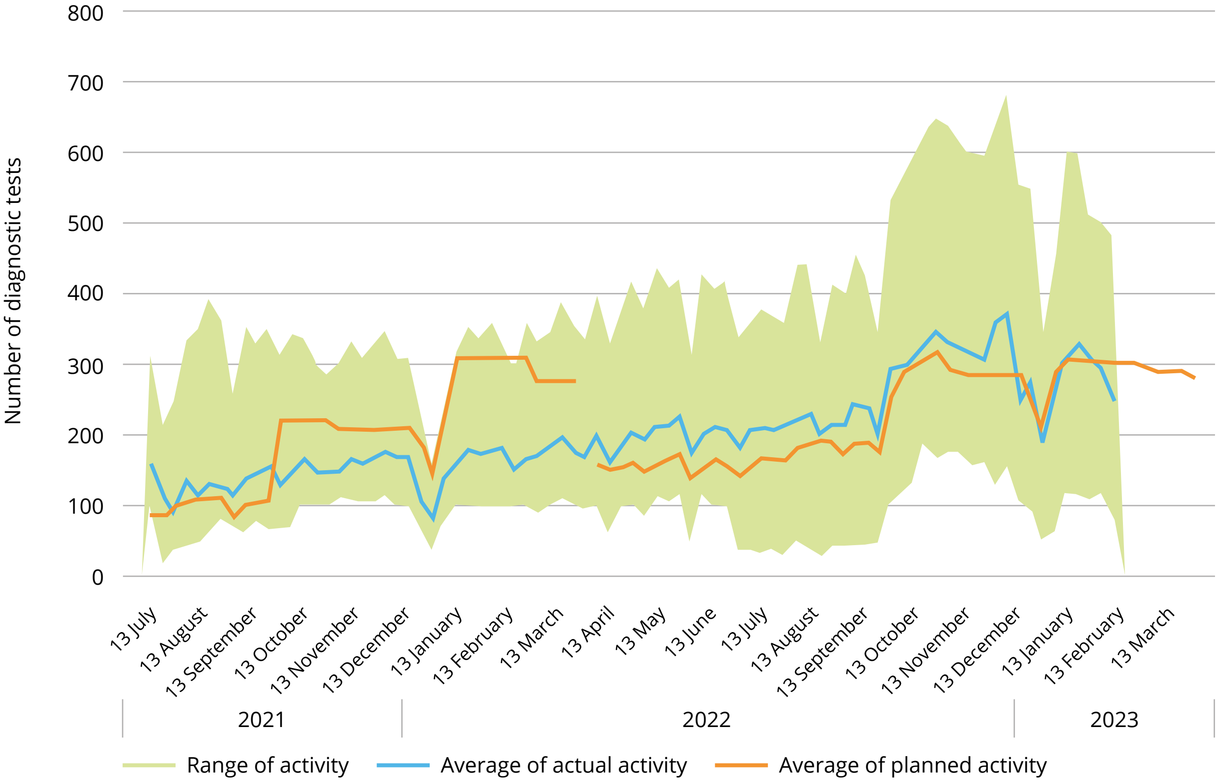
Data source: Community Diagnostic Centre Activity Report: Week 45, March 2023

Reviewing this data in more detail, it can be seen that some modalities and sites have experienced more delivery challenges than others.

Figure 18, on the following page, shows activity vs plan for MRI scans, where London sites were behind target for much of 2021/22. Stakeholders highlighted that low activity was due to multiple factors, including delayed delivery of MRI machines, delays to increasing the power needed at sites to run the scanners, and staffing challenges; the latter of which are ongoing. A shift occurred in April 2022, where activity began to meet and exceed planned activity levels.

> *The [planned activity] number was unrealistic for a number of reasons, including: we didn’t have any equipment… and there was a six month run in for it; we didn’t have any staff; and budgets hadn’t been agreed and signed off.*
>
> Clinician

***Figure 18:** Range of MRI activity in CDCs across London from July 2021 to March 2023, including the average and planned activity for London*



Data source: Community Diagnostic Centre Activity Report: Week 45, March 2023.

**Please note the planned activity for MRI was not reported for w/c 03/04/2023. This has been presented here as a gap in the data.*

Measuring activity vs plan provides a good assessment of the level of activity taking place in CDCs, and enables sites to receive payment for activity. However, ICS areas operating with blended models (where CDC activity happens alongside non-CDC diagnostic activity) have experienced some challenges in attributing activity directly to CDCs, especially when services were already in operation and when other initiatives to increase elective activity are taking place. In North East London, they are confident 12,000 additional diagnostic tests have been completed due to the CDCs, but clarity is not available for all areas.

There are also limitations to this approach. Measuring activity alone does not provide the full picture required to understand the impact of CDCs as outlined in the aims of the programme, such as speed of diagnosis, and reducing healthcare inequalities.

As funding for CDCs is focused on activity vs plan, this has become the focus of data collection, and there is little incentive to do more than this.

The national guidance (June 2022) states that the consistency and availability of reliable national data on diagnostics is often limited, and better for some areas (e.g. imaging) than others (e.g. physiological measurement). A programme of work to improve and integrate diagnostic datasets is underway at a national level to address this.

Limited health inequalities and population data

In order to meet two of the programme's aims – improved population health outcomes and reduced healthcare inequalities – systems need to understand who is and who isn't accessing their services, and the outcomes for these people. At a minimum this would include sub-group analysis by deprivation and by ethnicity. Learning from the COVID-19 vaccine programme in London suggests further domains that could be important to capture the breadth of variation in access across different cultural and social contexts. For example, the needs of people with learning difficulties, those experiencing homelessness or with precarious migration status. Analysis at the current ethnicity sub-group level also masks some crucial difference in needs, for example "any other white background" doesn't differentiate between those who speak English as a first language and those who don't.

Some systems expressed their overarching aim as increasing early diagnosis of disease, particularly in more deprived communities, but they currently do not have the data to measure this. Improved access would be part of this aim, which is why system leaders have placed emphasis on the location of the CDCs.

What's working well

- Some ICS teams conducted in-depth work to understand their local population needs and select the best site for the CDC to aide access and acceptability for target population groups.
- Teams are working with voluntary sector groups, e.g. Public Voice and their own patient and public involvement panels to consult and co-develop plans for CDCs where possible.

> *If the answer to the challenge is increasing capacity as quickly as possible, there are easier ways of doing this. This feels more sustainable…it's true community-type facilities.*
>
> System lead

Challenges

- Data systems are not currently connected in a way that enables ICS or CDC teams to understand who is attending the centres (and who is not) to be able to understand the impact on healthcare inequalities.
- We also heard that there are gaps in the data collection, particularly for ethnicity, which is a known issue across England. Feedback from staff suggested that some felt uncomfortable asking a patient about their ethnicity, and some patients did not want to provide this information for fear of discrimination.

Spotlight

Adopting a data driven approach to support agile learning and address healthcare inequalities at the Wood Green CDC

Healthcare inequalities occur across the diagnostic pathway, from access, experience, to outcomes, therefore establishing data streams and monitoring metrics in relation to these domains is essential to identify and monitor the impact of a CDC on healthcare inequalities.

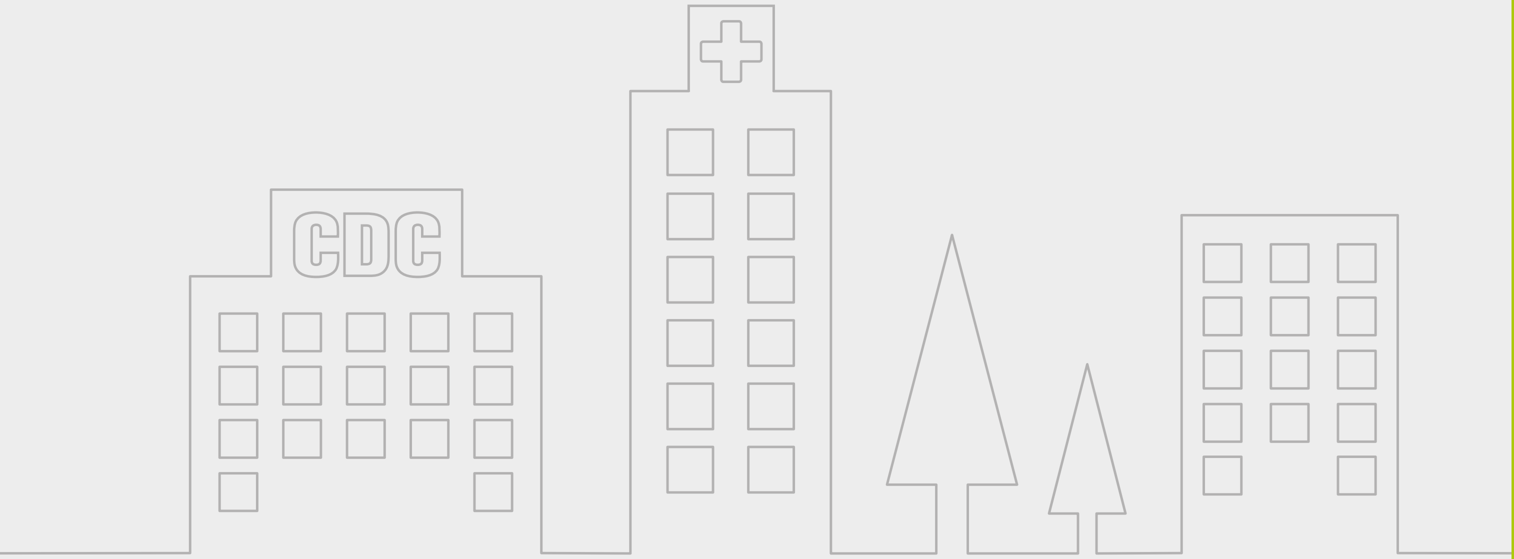
To meet its ambitions of reducing healthcare inequalities, the Wood Green CDC is adopting a data driven approach and triangulating insights and metrics from multiple sources to support agile learning and decision making.

Examples of how they have implemented this approach to date include:

- Gathering insights on the enablers and barriers to patient access and experience at the Wood Green CDC, with 30 service user interviews conducted
- Developing a GP dashboard, designed to triangulate data from multiple sources to inform targeted GP engagement and aid decision making around GP direct access

> *This dashboard gives us an almost real-time insight into who is referring to the centre. It offers up an opportunity to track by modality and account for distance, deprivation, and system configuration – all of this in a simplified and accessible way.*

- Creating detailed pathway visualisations to understand new ways of working (e.g. around IT interoperability and workforce), as well as the patient journey (see Figure 20 on page 37)
- Conducting a health equity audit and reviewing current data sources relating to access, experience and outcomes for accessibility and completeness
- Co-producing a data strategy to improve the measurement and monitoring of data relevant to healthcare inequalities



Care pathways and service provision

The national CDC programme aims to improve patient outcomes and experience, and to improve productivity and efficiency of diagnostics. In order to achieve these aims, CDCs should be seen as one part of the diagnostic-to-treatment pathway; not operating in isolation to the wider health system.

Whole pathway perspective

The national guidance states *"CDCs offer the opportunity to transform pathways, ensuring that they deliver the right tests, at the right time and in the right place to inform the advice, treatment and support for each patient. Pathways should harness the latest research, digital approaches and technology."*

Throughout the programme it has been difficult to identify clinical pathways that have changed following the introduction of the CDCs, and there is national recognition that there has been less progress on pathway development than anticipated. The majority of sites and systems have integrated the centres into existing pathways, and used the centres to increase diagnostic capacity, but they have not taken a whole pathway approach to implementing the CDCs.

Reasons for this include:

- The speed with which the CDCs were established, focussing on operational and logistical priorities, including planning, designing and building CDCs, as well as recruiting staff to run them
- The perspective that CDCs are simply adding capacity to an acute provider-led service and therefore the pathway doesn't change
- The pressure to clear the diagnostic backlog and initial use of CDCs to meet this demand

Staff described having to prioritise the operational elements first, before looking to update the clinical pathway. Now the CDCs have been established for some time, teams are looking at their clinical pathways and what changes and improvements can be made to ensure positive patient outcomes and experience, and an efficient service. Insight from clinical leaders outlined that the relatively low level of focus on clinical pathways was to be expected at this stage of the programme.

Now that CDCs have established their services and are achieving appropriate levels of activity, there are efforts underway to review clinical pathways more closely and embed CDCs within them. This is happening at a London regional level, and within ICS areas. Sharing learning from the development of these pathways will help groups to understand how to do this well. For example, see the spotlight on page 36 for North Central London's work on mapping their ultrasound pathway.

The national guidance (published in June 2022) suggests there will be nationally developed pathways that can be adapted to meet local need, prioritising:

- Imaging requested from primary care
- Imaging requested from secondary care
- Breathlessness and some cardiorespiratory pathways

At the time of writing this report, the breathlessness pathway has been developed and piloted and is available for systems to use. The national programme has also identified a pathways development fund for 2023/24 to support ICBs and CDCs in developing and piloting locally owned pathways.

Beyond clinical pathways, system capacity and the time taken between each step on the pathway needs consideration. With the long-standing backlog for diagnostic tests, a focus on delivering increased diagnostic capacity is likely to skew the ability for the system to deliver impact for patients. Access pressure could be shunted down the pathway, creating a “bulge” in the form of increased need for test interpretation, follow-up appointments, treatment initiation, etc., where capacity increases have not yet been put in place. While fewer patients may be waiting for diagnostic tests, the pressure on the system may be moved to another part of the pathway.

Collaborative approaches

There are examples of stakeholders coming together to understand the needs of specific pathways. The London Endoscopy Programme continued the collaborative approach it developed during the pandemic to review innovative options as a network for the endoscopy service. In September 2022, UCLPartners supported the Endoscopy Clinical Leadership Group to deliver a workshop to explore the potential for a new combined Upper and Lower GI diagnostic pathway. The workshop brought together clinical and operational staff from primary and secondary care to share innovative diagnostic methods that could support new pathways, review established pathways, and agree an approach for London. The outcome of the workshop was consensus on an approach, ideas on implementation, and tangible next steps.

Stakeholder involvement

The level of engagement of stakeholders across the pathway has been variable. Some sites reported working with general practitioners to understand how they would use the CDCs, but this was more common at a senior strategic level within an ICS, rather than testing the pathway and interactions with practitioners who would be referring patients to CDCs. Interviewees cited not having the appropriate contacts to co-develop the service, for example one pathology staff member recalled seeing an influx in tests without knowing a CDC had been established in their area.

These low levels of engagement and involvement have exacerbated interoperability issues along the pathway. For example, referrals were tested with one GP system, but not others, which impacted GP experience in referring patients to the CDC. Involvement of primary care is particularly important when considering that CDCs should be providing direct access to GPs from year two of the programme.

Space for innovation

Interviewees were positive about the potential for CDCs to have a larger impact on diagnostics, if they were given the scope. As covered above, there is a sense that the set-up of the national programme (particularly around funding and timing) has limited systems’ abilities to be innovative and make changes to the wider diagnostic pathway.

One example of this is the potential for at-home diagnostic tests. The COVID-19 pandemic showed the public capacity to self-administer tests that previously were only conducted by healthcare professionals. With a growing market of innovations and public confidence in conducting tests, systems could see an increase in testing capacity.

More systems could also consider the opportunity for diagnostic tests to take place in non-traditional health settings – as the COVID-19 vaccine was delivered, and diagnostic centres have been established in Wood Green and Brent Cross shopping centres – increasing accessibility for people less local or comfortable attending hospital sites. However, these options should be considered in the round, to ensure systems are maximising the utility of existing sites, e.g. community hospitals and pharmacies.

> *If money were no object, I'd create a dedicated diagnostic centre separate to a main hospital in the heart of community. Not just x-ray and ultrasound, but also ENT diagnostics, and other specialties – also looking at midwife led services, obstetric ultrasounds. Diverting some of the hospital appointments closer to patients' homes.*
>
> CDC clinician

Reducing inefficiencies

Staff reported inefficiencies in the pathway particularly around referrals and the duplication of tests.

Sites and trusts report seeing an increase in the proportion of urgent referrals creating pressure in the diagnostic pathway. Whether this increase is due to legitimate (e.g. primary care seeing a higher number of people presenting with suspected cancer symptoms after avoiding care during the pandemic) or illegitimate (e.g. noting referrals as urgent in the hope of jumping the non-urgent waiting list) reasons, systems say they currently have no mechanism to reduce the number of inappropriate referrals.

Interviewees also reported seeing a change in the types of tests being requested, with higher rates of CT and MRI scans as the gateway for diagnosis, rather than utilising x-ray and ultrasound. While there is benefit in conducting more detailed tests, they take considerable resource and are not always necessary. It may be worth exploring the data related to this qualitative feedback to understand the scale of the issue and the impact on capacity.

> *We need to treat scanners, especially MRI, as a precious resource and use it really efficiently.*
>
> CDC clinician

There is frustration surrounding the number of duplicated tests. Several stakeholders mentioned instances where tests conducted at a CDC site were then duplicated. Various reasons why this occurred were stated, including: the time taken for reports to reach clinicians; time taken for clinicians to review the reports, time taken to re-do tests and trust in tests being conducted elsewhere. Blood tests were also being repeated because the test was conducted too long ago and clinicians were concerned that things have changed.

There is optimism that as the systems now focus on the set up of the clinical pathways and the IT systems to support them, they should see a reduction in the inefficiencies caused by inappropriate referrals and duplicated tests.

Spotlight

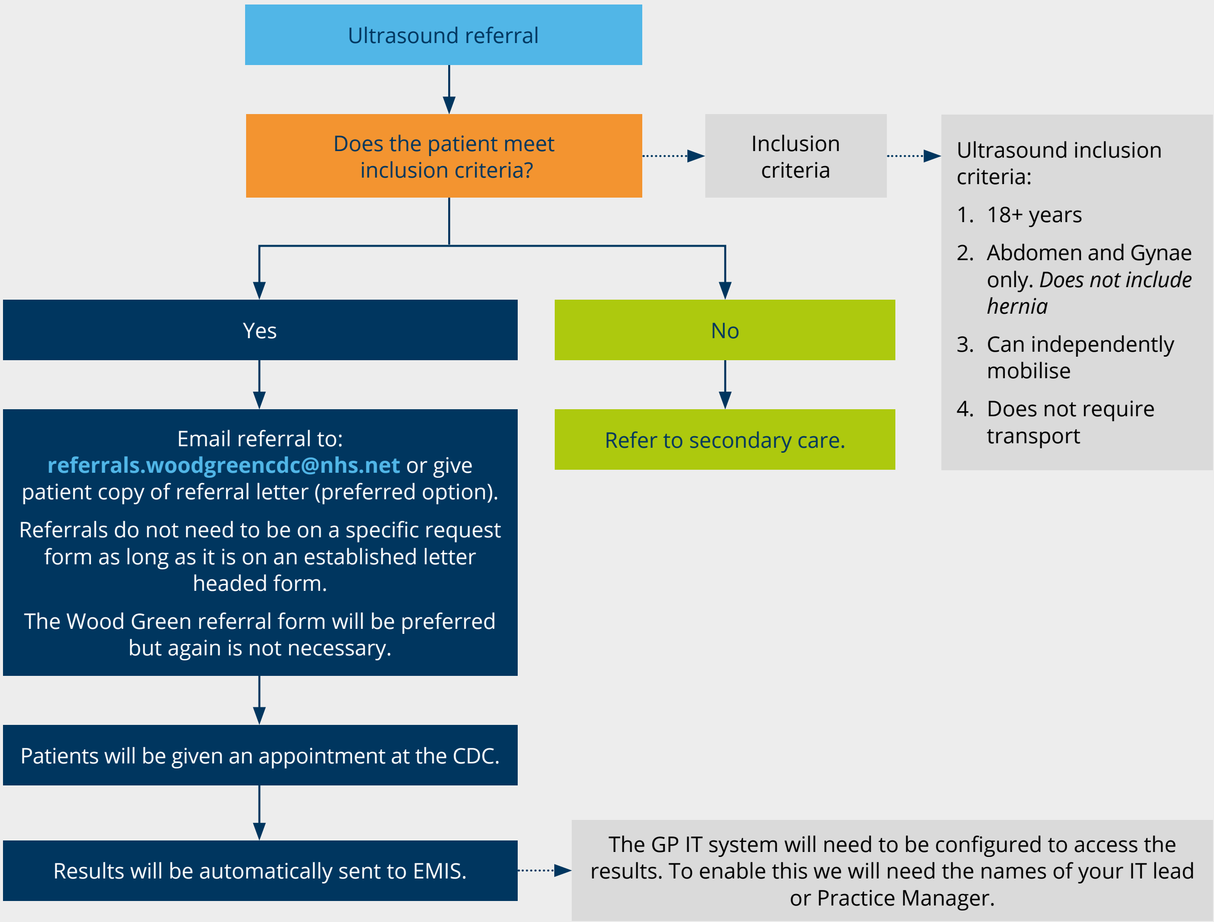
Using pathway blueprints to better understand services

North Central London ICS are using pathway mapping visualisations to understand the diagnostic pathway for patients and to learn about the areas that are working well, and where there are opportunities for improvement. They provide clarity on who does what in each of the interactions with patients and in between interactions. By placing the CDC within the broader pathway, they are able to understand the new ways of working (e.g. around IT interoperability, workforce) that may be required for the services to run smoothly. The aim is to use these visualisations and update them over time as the services mature and challenges are addressed.

At the beginning of the programme, the ultrasound pathway was visualised as Figure 19. Through a combination of on-site conversations and one-to-one interviews with GPs, administrators and CDC staff, as well as on-site and follow-up interviews with patients, the ICS was able to create a richer view of the pathway (Figure 20), in which particular focus was paid to capturing the patient and practitioner journeys, as well as IT connectivity across the pathway.

Engagements with staff and patients produced insights on the challenges and opportunities for improvement across each stage of the pathway which were layered onto the blueprint. A number of challenges highlighted through this activity have since been addressed e.g. optimised booking slots during Freedom Pass travel hours and improved signage for patients, demonstrating how mapping a detailed visual of current practice can support agile learning and rapid improvements.

***Figure 19:** Original visualisation of the ultrasound pathway for Wood Green CDC*



Ultrasound inclusion criteria:

1. 18+ years
2. Abdomen and Gynae only. *Does not include hernia*
3. Can independently mobilise
4. Does not require transport

Email referral to: **referrals.woodgreencdc@nhs.net** or give patient copy of referral letter (preferred option).

Referrals do not need to be on a specific request form as long as it is on an established letter headed form.

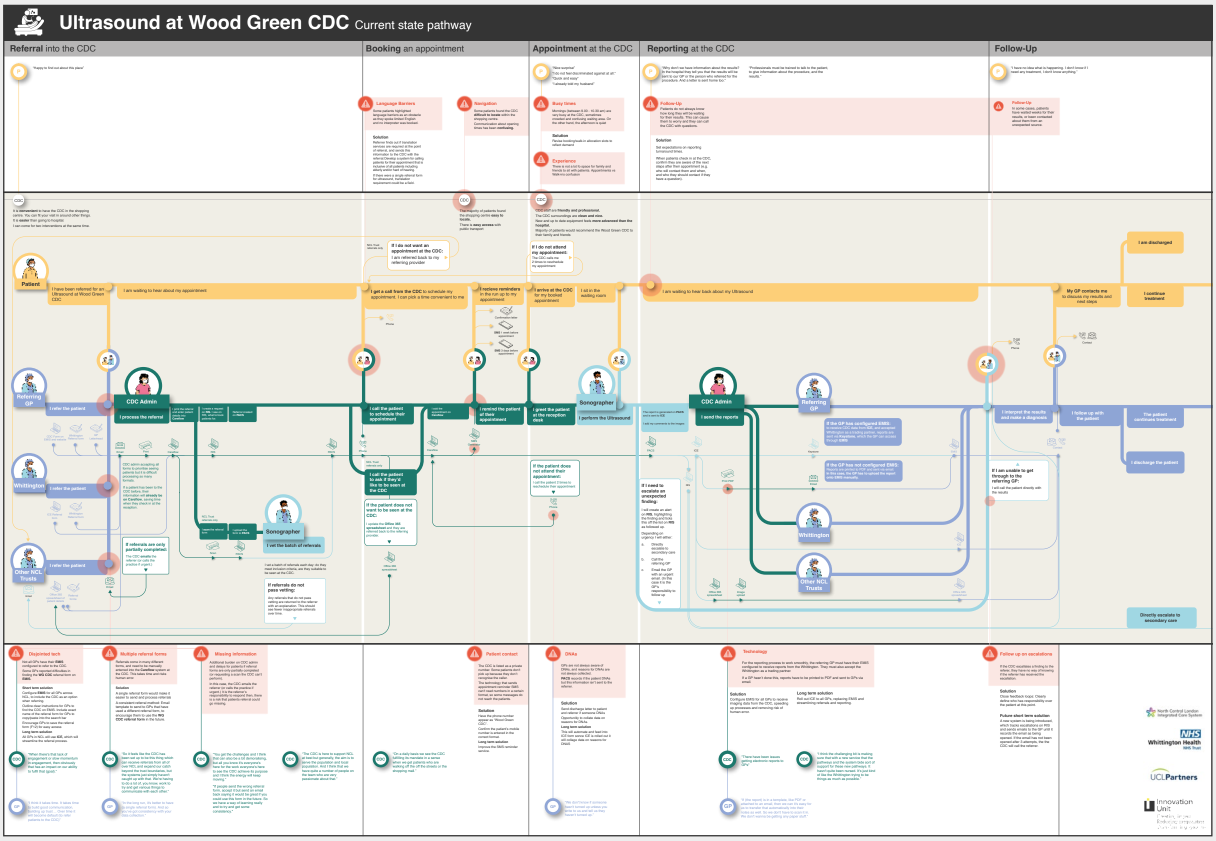
The Wood Green referral form will be preferred but again is not necessary.

Patients will be given an appointment at the CDC.

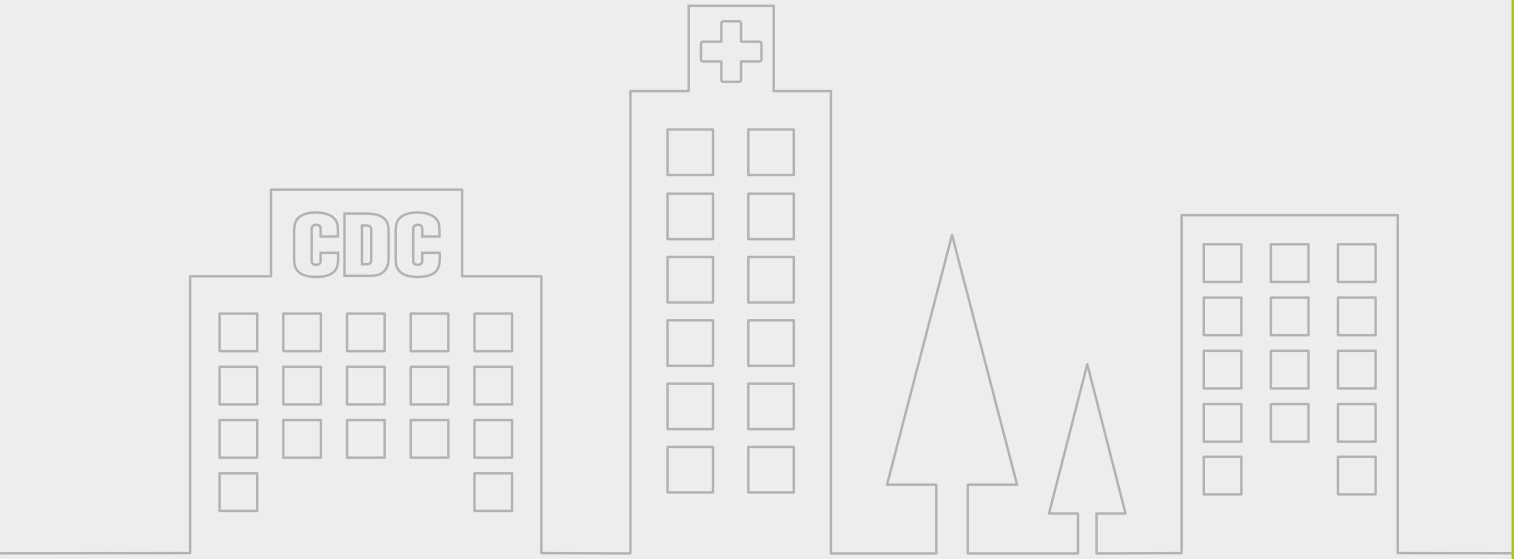
Results will be automatically sent to EMIS.

The GP IT system will need to be configured to access the results. To enable this we will need the names of your IT lead or Practice Manager.

Figure 20: *Developed pathway visualisation for ultrasound at Wood Green CDC, showing patient and practitioner journeys*



View large version of the pathway ***here****.*



Impact on patients

The national CDC guidance outlines that a core benefit of CDCs should be to reduce the health inequalities across local populations that are driven by unwarranted variation in referrals, access, uptake, experience and outcomes of diagnostic provision. As well as the core aim of improving patient experience, CDCs should also be looking to Make Every Contact Count and support health promotion. *"In implementing CDCs, systems must focus on ensuring equitable access, excellent experience and optimal outcomes for all patients."*

Interviews with staff and patients have highlighted successes and areas for improvement in centres across London.

> *CDCs are so valuable because they remove that pressure... People treat electives as if they're less important, but they're for the people with cancer etc...*
>
> CDC lead

Access

What's working well

- **Analysing population need** – Some sites were identified as the most convenient location following independent reviews of the potential options within an ICS, and advice from patient advisory groups. These reviews took into account a wide range of factors including: distance from acute hospitals, travel time using public transport, and the population health needs.
- **Improving DNA rates** – At the beginning of the programme, CDCs experienced higher than average DNA (Did Not Attend) rates for diagnostic services. Teams have worked to understand the reasons for this and to address them accordingly, for example increasing communications to improve awareness of CDCs and their purpose, highlighting the benefit of CDCs.
- **Patient choice** – Often sites provided patients with a choice at the point of referral and provided information on waiting times so that patients could make an informed decision. Some sites also tried to arrange appointments at times most convenient to patients where possible.
- **Tailored communications** – Sites are continually adapting and improving their patient communications. Administrative teams provide reminders via text and phone calls to patients, provide directions and maps prior to their visit, secure translational services and follow up with DNAs to understand reasons for not attending their appointment. Some sites mentioned ambitions to put in place an effective automated patient recall system to further support the patient journey.
- **Flexible timing** – People appreciated being able to attend appointments at a time convenient to them and was seen as a benefit of the CDCs. Examples of this include: People over 60 having the option to have their appointment during Freedom Pass travel hours; walk-in services *"made life easier"* and people were happy to wait to be seen by a technician if required; extended opening hours beyond 9am to 5pm.

Opportunities for improvement

- **Public hesitancy** – Some sites reported a reluctance to attend the CDC due to the location not being convenient, or because they wish to maintain care within their current secondary care setting. These patients have opted to remain on the waiting list at their home trust site.
- **Capturing the impact of patient choice** – Some CDCs have found that it can be difficult to report 'patient choice' in their impact data and having to note patients as DNA, which limits the understanding of the success of engagement with the service. Anecdotal reasons for not attending CDCs include wanting the NHS to focus on the COVID-19 vaccine roll out, wanting to remain at their home trust and preferring to wait and 'give their appointment to someone more in need'.
- **Public awareness of CDCs remains low** – Some patients are not aware they are visiting a CDC, as the centre is co-located with a hospital site and the communications with patients refer to the hospital site and are sent by acute provider booking teams.
- **Location** – Some sites recognise that their CDC accessibility is limited by being co-located with existing services; receiving complaints from patients about the cost of trains and car parking.

Experience

What's working well

- **High patient satisfaction** – All sites reported highly positive feedback from patients, with particular appreciation for being seen quicker and the efficiency of the service. Patient feedback mechanisms used included Friends & Family test, JAG, survey links sent by text message, paper forms on site and collecting feedback using volunteers.
- **Physical environment** – Where feedback has been received on the site space, patients have appreciated free parking, accessibility, more navigable sites, privacy, a welcoming environment and efficient experience.
- **Supportive staff** – Receptionists at the CDC play a key role in supporting patients to locate and access the service if they are having difficulties. They frequently respond to patients, both in-person and over the phone, to clarify questions around directions to the CDC and opening hours.

Opportunities for improvement

- **Systematically gather feedback** – While CDCs are using several methods to collect patient feedback, current methods lack consistency and don't capture their impact on the wider patient pathway. There is an opportunity to develop systematic ways of collecting patient feedback that feeds into decision making and ongoing development of the service.
- **Little change to previous experience** – Staff perceived that service user experience of the diagnostic pathway as a whole has changed very little. It is worth exploring this in more detail as the clinical pathways are developed.
- **Care navigators** – National guidance recommends a care navigator role to support patients through appropriate pathways (*Community Diagnostic Centres: Guidance for planning, design and implementation,* page 15). A version of this role is in place in some, but not all, CDCs.

- **Language barriers** – Some patients highlighted language barriers as an obstacle, and many were unaware that they could access an interpreter through their GP or consultant. Patients often arrived with a referral letter without fully knowing what their appointment was for, while others opted to bring a friend or family member with them, to act as an interpreter. Data on the primary language spoken by patients is not routinely collected, making it difficult for staff to tailor patient communications.

Outcomes

What's working well

- **Clear focus on outcomes** – Commissioners and providers clearly articulate the aim of improving outcomes for their local populations, as well as providing additional capacity. While they currently face challenges in evidencing improvements with data, they are working towards this.
- **Understanding the population need** – Some ICS teams have conducted in-depth analysis of their populations and services to better understand the diagnostic needs. For example, South West London commissioned a review of the diagnostic waiting list with an inequalities lens, exploring what are the demographics of patients on the waiting lists by provider.

Opportunities for improvement

- **Lack of connected data** – It is expected that the impact on outcomes will take years to be observed, however the system is not currently set up in a way to enable this observation. Without linked data and a whole system view of the diagnostic pathway, CDC sites and ICS teams will not be able to measure the degree to which CDCs have impacted outcomes.
- **Misalignment in goals** – Some thought there was a misalignment between the criteria and local needs of the population and inequalities. Due to the pressures on the system at the time of set up, the decisions were guided by increasing capacity and reducing the backlog in the short term, rather than improving population health outcomes.
- **Delays remain** – Feedback from staff and patients highlighted that delays to receiving results were still experienced.
- **Empowering CDCs to speed the pathway** – Primary care stakeholders recommended that if an onward referral is needed, ideally this would be led by the CDC taking ownership of abnormalities and onward diagnostics. The criteria for this would need to be clearly defined and will look different for different services.

Workforce

The creation of CDCs has required significant efforts in establishing a workforce to deliver diagnostics in these new centres, while not creating pressure in the wider system. The Richards report recommended an expansion of the imaging workforce – an additional 2,000 radiologists and 4,000 radiographers nationally – an ambition which will take years to realise. A stable workforce plays a crucial role in supporting the aims of the programme, particularly in increasing diagnostic capacity, improving productivity and efficiency. It should also be noted that a cross-cutting aim is to improve staff development and satisfaction.

Interviews with staff have provided the following insights when considering workforce models for CDCs. It should be noted that there is a London Diagnostic Workforce Programme in operation, led by NHS England London region, with ICS colleagues.

Recruitment and retention

What's working well

- **Working closer to home** – Some modalities have reported better staff retention due to staff having the choice to work closer to home and within a community setting versus a bigger, busier tertiary centre.
- **Working across sites** – CDCs have taken different approaches to their staffing models, those who are experiencing fewer issues have a rotation model where staff work across the CDC and acute sites; gaining broader clinical experience.
- **Predictable hours** – staff reported appreciating the clear shifts and increased likelihood of finishing work on time within the CDC setting. At one site, staff have expressed a preference to consolidate their hours into 3-4 days per week, and are looking to extend service hours and recruit additional staff to make this possible.

Opportunities for improvement

- **Staff shortages** – Recruitment has been a challenge, both trying to recruit substantive staff and work with the independent sector or agencies, for coordinators and clinical staff. This issue is not specific to London, the wider NHS is struggling with staff recruitment and retention. This was particularly noticeable for radiographers, as these skills are in high demand across the NHS. It is not currently possible to view the vacancy rate for CDCs as the data is held within trusts.
- **Competition** – Systems report facing competition from the independent sector, which often offers higher pay and more flexibility for staff.
- **Limited breadth of clinical exposure** – Sometimes it is proving difficult to recruit into a CDC setting, as newly qualified staff prefer to work in a bigger, tertiary centre, for exposure to different situations and diagnosis. Along with this, there are challenges in recruiting and retaining staff due to limited incentives compared to the tertiary sector.
- **Team resilience** – Challenges with team resilience were highlighted due to staffing constraints e.g. difficulties covering staff sickness and pressure on lead radiographers/technicians to take on service management tasks.

Training and development

What's working well

- **Formal and experiential training** – Sites are making considerable efforts to provide professional development opportunities to staff, including: funding for master's qualifications, secondments, in-house training academies, as well as rotating staff with acute sites to maintain skills less used in the community setting.

Opportunities for improvement

- **Creating room for professional development** – The current model for radiographers is proving challenging for CDCs, as there are very limited opportunities for career progression within the setting. Teams are exploring the development of assistant practitioners in imaging and apprenticeships for radiographers in a bid to grow the workforce and retain them for longer.
- **Balancing training with activity incentives** – There is a desire to establish training posts in CDCs to create a pipeline of staff for the future. The challenge is that this impacts the real-time productivity of existing staff in the short term, which is how the centres get paid.
- **Short-term funding** – The annual funding cycles, such as those of Health Education England, make longer-term training ideas difficult to implement.

Workload

What's working well

- **Improved patient contact** – The CDCs provide protected time for elective care, without disruption from urgent and emergency requests. Staff mentioned enjoying spending more time with patients, compared to working in an acute setting. They also felt they could give some patients additional time if they required extra support.

Opportunities for improvement

- **Increased booking complexity** – With the additional capacity being available across modalities and sites, increased coordination efforts are needed to ensure all the capacity is being utilised appropriately. The booking teams and the coordinating teams are responsible for booking the appropriate test at the appropriate site, as well as matching it to patient's address/mode of transport, which is an increased workload.
- **Increased administrative burden on clinicians** – Although clinical pathways have largely stayed the same, there is a general sentiment that the impact on clinical staff to deal with incoming referrals was underestimated. Staff have to consider the age and capability of equipment to ensure they can conduct the correct tests, spending additional time sorting through referrals and matching patients to scanners to required tests.

Systems and infrastructure

As previously discussed, the early stages of this programme laid heavy emphasis on capital investment and the creation of new sites and facilities for diagnostics closer to home. Teams worked to identify and establish CDCs in a short time period, which should be seen as a success for London. However, set up has been hampered by system and infrastructure challenges. Stakeholder feedback covered the following themes:

Estates

Some CDCs based in new locations struggled to launch due to estates not being suitable to run the equipment needed. Staff reported high levels of bureaucracy and difficulty navigating different partners within the NHS infrastructure who did not have the same priorities for CDCs. One CDC experienced delays to opening their site because the electricity supply upgrade required, took much longer than anticipated and cost £150,000, rather than the £20,000 initially quoted.

Equipment

CDCs were also affected by global supply chain issues, having ordered equipment in summer 2021, one site reported not receiving their MRI scanner until October 2022.

Staff reported having to consider the age of machines when booking patients. Some staff reported that older machines produce lower quality images and so the scan and reporting process can take longer. Another cited older endoscopy machines require manual cleaning and so the process takes longer and they can fit fewer patients on the work list. These differences mean staff have to match the tests requested to the availability of specific machines.

Utilisation of the independent sector

There are varying levels of risk and capability agreed with independent providers, and staff report that locations run by independent sector take lower risk patients, which has a potential impact on the aim of reducing inequalities.

IT and interoperability

Interviewees explained the challenges faced around the effective utilisation of CDCs when IT systems do not necessarily connect.

For example, some systems struggle to effectively utilise CDC capacity because there is no shared waiting list, nor system that displays appointment availability across CDC sites. Some sites were facing a backlog of patients, where others were under-utilised. Some sites resorted to using Excel spreadsheets and even paper lists, posing a data governance risk. It was perceived that systems could work more efficiently if they had real-time capacity information.

Conflicting IT systems and departments, as well as governance between organisations, has limited the optimal utilisation of shared equipment between different sites. The timelines for resolving differences were not recognised in the implementation of the CDC timelines, and teams are using workarounds where needed.

The lack of joined up IT systems has also affected reporting, with one CDC site describing a process of saving scans to CD-ROM and having them couriered to the acute site for uploading to the system.

> *There's absolutely no doubt that the information flow about patients is fragmented and doesn't lend itself to efficiency.*
>
> Clinical lead

Spotlight

Pan-London digital infrastructure programme

Since the set up of the CDC programme, a regional digital diagnostics strategy has been developed for London and is in its implementation phase.

The aim of this work is to *"Totally digitalise and connect all components of diagnostic pathways, from referral to result, through the use of digital standards and services… Following the execution of this strategy, London will become the most connected diagnostic city globally, with pathology and imaging available "any time, any place, any where" within the capital."*

The region has the following six strategic goals for 2025:

1. Remove all paper from diagnostic workflows
2. Ensure all services can communicate seamlessly across the region
3. Digital equity for all modalities and disciplines
4. Provide patient choice for localised access to diagnostics
5. Drive the development and adoption of artificial intelligence
6. Use analytics to drive optimisation and utilisation of diagnostic services

These goals are set for diagnostics as a whole and there is more to be done to clarify what exactly is needed for CDCs and what good should look like in terms of a seamless journey for patients, clinicians and administrative teams. The regional team are exploring using one CDC as a test bed, to then articulate what the digital programme can deliver for CDCs across the capital.

What's working well?

- The technical standards for interoperability are set regionally, however there is flexibility in which provider each ICS selects.

What are the challenges?

- **Capacity** – Teams are having to make time for this work around other major digital and IT projects. For example, EPIC implementation, which takes large teams months of work.
- **Funding restrictions** – This programme is restricted to capital investments only. ICBs must source revenue funding, and some have not been able to secure this.

Ongoing learning

An important component of the learning health system approach is to provide opportunities and space for those delivering the work to come together to share learning on what works well and collaborate over challenges.

Proposed activities for learning programme

Our aim with the London CDC programme was to establish a learning community offering a range of activities that would support rapid sharing of learning around implementation for wider uptake. Following our initial visits to CDCs across London, we knew there was appetite from staff at many levels working in the sites to meet with colleagues and peers from different locations and hear from each other about their experiences delivering this work. We had also identified themes that were shared across the sites that offered a good opportunity for collaboration.

Our proposal for the learning network formed the following activities:

- A core **learning community** for individuals immersed in the day-to-day operation of CDCs, to meet four times over the year and collaborate over improvement activities
- **Virtual workshops** open to a wide range of stakeholders to enable rapid sharing of learning around common challenges identified on site visits
- A series of **topic-focussed sessions**, sharing learning around knotty issues

Our aim was to begin the activities with the workshops to capitalise on the themes that emerged during the site visits. These would then be followed by establishing the learning community, who we envisioned would surface some of the knotty issues that we could support through the topic-focussed sessions. In addition, with a view on sustaining this activity beyond UCLPartners' involvement, we invited people to become community convenors, who would receive additional development support to lead the sessions.

Reflections on establishing shared learning approaches

Despite receiving broad support for the approach in principle, our efforts to establish these activities were largely unsuccessful. On reflection we think there were multiple factors that contributed to this:

Reaching the right audience

We knew from site visits and evaluation interviews that people working in CDCs were keen to collaborate with others across London. However, our limited access to contact details for staff meant that we struggled to reach the people we felt would benefit most from this activity. The majority of the forums and meetings we attended to present this approach were attended by senior clinical and operational leads, who felt they already had adequate opportunities for collaboration and sharing learning and so our proposed activities were unnecessary.
Recommendation: To engage a broad spectrum of stakeholders in shared learning in the future, targeted stakeholder mapping may be a helpful activity to include in future similar approaches, and creating **bespoke communication channels** to ensure access to audiences.

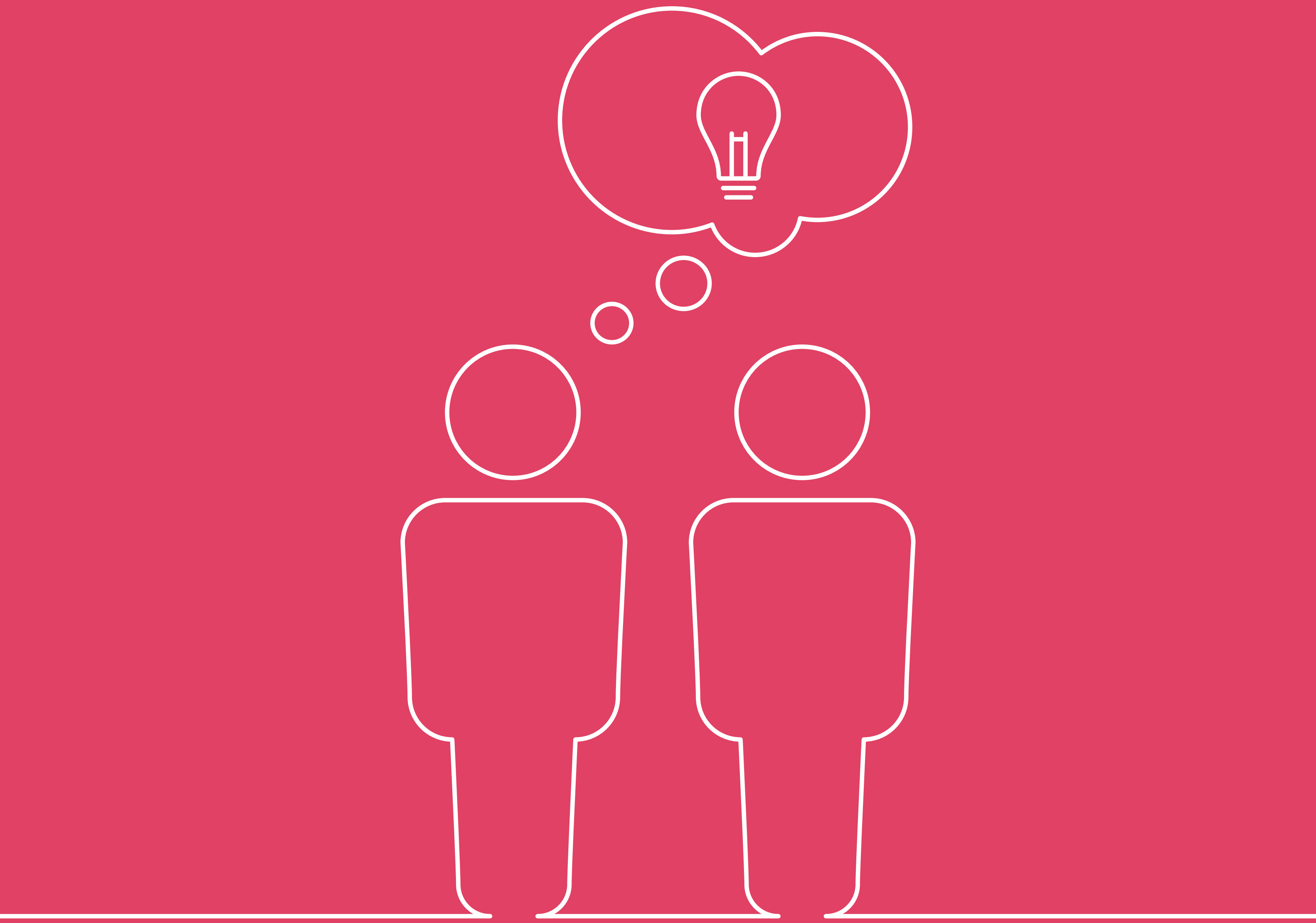
Staff capacity

The diagnostic services are highly stretched, with significant demands on staff capacity. Senior clinical and operational leads were understandably reluctant to overburden CDC staff by making additional requests to attend shared learning activities and it was difficult to make the case that collaboration could reduce staff burden. **Recommendation: Embedding reflection and learning into everyday activities,** such as adding a 5-10 minute standing item in operational meetings to consider questions such as "What have we learnt that requires a change? Who and how can we make that happen?" can widen participation in learning activities without adding additional meetings and time pressure. **Developing value statements** to help individuals, and their managers, understand what they may gain from taking part could be a helpful approach in future.

Complexity and timing

During the learning programme, there were delays and challenges in setting up the CDCs, which meant that many of the staff involved were not ready to engage in shared learning activity as it required participants to think beyond their individual immediate priorities to the bigger picture. **Recommendation: Embed a shared learning approach into the culture of a programme from the outset, and be mindful of the evolving context of complex programmes** such as this; starting with small groups to identify where the greatest need (and enthusiasm) is and then build activity around it.

Reflection and recommendations for the future



Reflection and recommendations for the future

The Community Diagnostic Centre (CDC) programme is nested in a wider programme of improvement of diagnostic services across the NHS, as outlined in the Richards report. The CDC programme in London has made considerable progress since inception in July 2021, setting up diagnostic services across London in new settings with varying service offers, nesting those diagnostic services in the wider pathway of care, to increase access for patients.

Reflections and recommendations for the next phase of the programme aim to support long-term success and are aimed at the spectrum of decision makers involved in commissioning and delivering CDCs. There are several questions for reflection the findings have raised:

- *Given how CDCs have evolved over time, should we stepping back to consider the wider aims of the diagnostic programme – **What role do CDCs play the wider pathway of care?***
- *What are **sustainable funding models** and how can they ensure more balanced investment across capital and revenue spend?*
- *How should we build more explicit links to the **Core20PLUS5** programme?*
- *What **metrics** do we need to see, and what decisions will we make as a result?*
- *What are the **operational "must haves"** we need to get short term action on?
  e.g. IT interoperability, data collection, patient and staff feedback and improvement insights*
- *How do we **set public expectations** on what services are available to them and how different user groups might access them?*

The insights in this report have been gathered by a dedicated team. Learning networks had been planned to create the mechanisms for gathering insights and providing sustainable data collection for the ongoing programme. These gained little traction during the programme, largely due to capacity constraints of key staff, but there is a clear appetite for sharing learning from those working within the CDCs who do not currently have access to peers.

To focus attention on achieving the aims of the national CDC programme, recommendations have been grouped into the six aims of the programme.

The challenge of meeting all programme aims

As there are several aims for the programme, there is the potential for competing priorities, which could undermine longer-term impact

An example of competing priorities can be seen in the pursuit of increasing capacity, which could be at the expense of targeting capacity at communities that would benefit most, providing access to under-served communities to reduce inequalities. The impact of an individual test will be different for patients in different diagnostic pathways and from different social and demographic backgrounds. Providing a clear framework for how to identify and manage tensions, as well as reinforcing that in management metrics, would enable CDCs to concentrate efforts where it is most needed. An overarching recommendation is to **provide a decision framework to consider the aims of the programme together.**

1. Improved population health outcomes

The programme recognises the need for longer term investment to affect an impact on population health outcomes and that this aim extends beyond the remit of CDCs to the whole pathway – from tests through to treatment. In order to benefit from increasing diagnostic capacity it needs to facilitate timely access to tests, lead to faster and earlier stage diagnosis, and faster access to onward treatment. As such, the CDC programme should be continually viewed in the wider context of the local system.

In the next phase, the programme in London is moving beyond its initial focus on set up and increasing capacity, towards clinical pathway development. As part of this work, we recommend:

- **Reinforcing CDCs as one part of a wider system, to improve capacity planning, patient flows and outcomes in the longer term**. Giving systems the scope to work more innovatively to improve diagnostic services for their populations, bringing the full spectrum of system stakeholders together (clinical, operational and community), with CDCs playing an integral part in that provision, will enable local tailoring according to where there are specific gaps in provision, or target populations that need different approaches. All approaches to increasing diagnostic capacity, improving outcomes and reducing healthcare inequalities should be reviewed and assessed in the round, and learning should be shared across London to speed effective implementation.

2. Increased diagnostic capacity

Data analysis for the programme shows that the number of diagnostic tests delivered in London has increased over the course of the programme. In addition, the number of people waiting more than six weeks for a diagnostic test has reduced by 1.5%. However, focussing solely on activity and capacity limits the programme's ability to understand the degree to which it is meeting other aims, namely: improving health outcomes and reducing healthcare inequalities. We recommend:

- **Ensuring programme monitoring includes a balanced scorecard, to understand which populations are using which CDC services and the anticipated impact**. National monitoring has focused on activity levels, with payment to CDC providers directly linked to the number of tests delivered against plans. However, if wider aims of the programme regarding equitable access to services and creating models for under-served communities are a priority, there are broader outcome metrics that should be considered. The national

Core20PLUS5 framework provides further clarity on why that should be done and how to do it. This would better enable the programme at all levels to understand whether it is having the desired impact on equity ambitions alongside stepping up more diagnostic capacity.

3. Improved productivity and efficiency

In these early stages of the programme, teams have necessarily focussed on establishing the CDCs and the staffing groups and systems needed to make them work well. Teams have experienced challenges in recruitment, due to national staff shortages for some of the roles, and particularly highlighted interoperability challenges in reducing the efficiency of systems. There are multi-year, pan-London programmes looking at both diagnostic workforce and digital infrastructure. We recommend a particular focus on:

- **Mobilising solutions to enable access to test results across CDC sites and other clinical teams (e.g. GPs and hospitals)**. A continued focus on improving IT interoperability will be crucial for success in creating more efficient services. Sharing test results and rapid access to health records ensures a smooth onward path for treatment, monitoring or management or discharge. Additional resource may be required in order to meet the ambitions of the London digital infrastructure programmes, where systems are prioritising the installation of other systems, such as e-patient records.

- **Ensuring teams are aware and have access to revenue investment opportunities, alongside capital investment**. Teams reported the strong focus on capital investment skewing the focus for where to initiate efforts. There are machines and facilities that could be mobilised that may not have been perceived to be in scope for the initial programme due to requiring revenue investment rather than capital investment to get them up and running. Balancing the programme focus and investment model beyond capital investment will empower teams to prioritise pathway considerations, workforce models and innovative approaches to expanding diagnostics capacity.

- **Creating training posts and new models of staffing skill mix in CDC service models**. There is a staff shortage across the system, however, CDCs offer an opportunity to both create a new pipeline of staff and to thinking differently about skill mix. Establishing training posts within CDCs can help to create a pipeline of staff for the future. This could include making provision for assistant practitioners in imaging, apprenticeships for radiographers, as well as reflecting on opportunities to widen roles of administrators and technicians which take less time to train and can help with the volume of tests conducted. Independent sector partners have also developed flexible models of accessing supervision and clinical interpretation of test results.

- **Embedding reflection and learning into everyday activities**. The diagnostic services are highly stretched, with significant demands on staff capacity. However, current operational and clinical meeting agendas do not always give space for teams to consider what is working well and what could be improved. Adding a 5-10 minute standing item in operational meetings to consider questions such as “What have we learnt that requires a change? Who and how can we make that happen?” can widen participation in learning activities and increase opportunities for and commitment to improvement without adding additional meetings or time pressure.

4. Reduced health inequalities

Currently, CDCs do not have access to the full patient record, and demographic data collection is not consistent, so teams are unable to analyse who is and isn't accessing services. While this challenge is one faced across the country, and is not specific to London services, we recommend:

- **Improving completeness of ethnicity and deprivation in data collection as first steps to exploring equity**. Data collection requires further improvement if it is to collate insights on the breadth of programme aims, particularly regarding consistent coding of ethnicity and deprivation as first steps to exploring equity. Ensure regular review of data to understand who is accessing services and who is not, and therefore where adjustments need to be made to engagement with health services for different community groups and make progress towards reducing inequalities of access to diagnostic services.

5. Improved patient experience

Sites informally reported positive feedback from patients, as well as from local populations on the awareness of individual CDCs. There is an opportunity to share data and approaches between sites to build a picture of patient experience improvement across London, as well as consistent methods. We recommend:

- **Systematically amplifying the voices of local populations and service users and embedding this in site level data collection**. There were several short-term initiatives that gathered deep insights at specific moments in time, but few tools were embedded for ongoing insight gathering. Family and friends tests were widely used but do not provide the data required to understand more holistically user experiences and areas for improvement.

6. Support for integration of care

The CDC programme provides an opportunity to further support integrated care efforts, through bringing diagnostics closer to peoples' homes and communities, and providing different access models, such as longer opening hours, and drop-in clinics. Defining how the CDCs are embedded in the wider clinical pathways will increase the opportunities for integrated care. We recommend:

- **Refining what defines a CDC now, and how it fits into the wider pathway of care**. The roll out across London has evolved over time and includes a breadth of service offers, which has highlighted the breadth of interpretations of what constitutes a CDC. Confirming the definition of CDCs now they are established, where there are fixed elements, where there are gaps in meeting those requirements, and where there is scope for local design and definition, will aide understanding of impact as well as public understanding and expectations of diagnostic services and how they fit with the wider pathway of care.

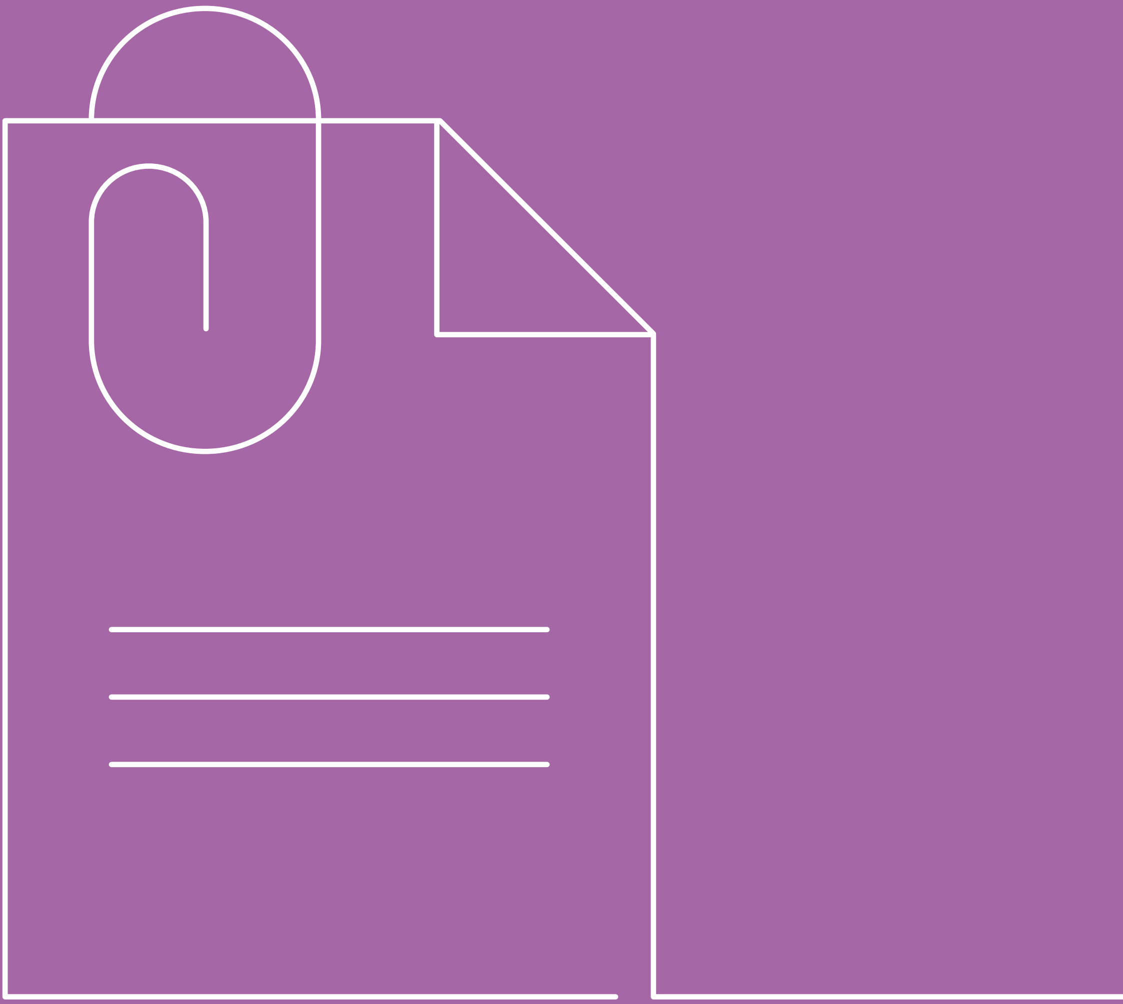
Cross-cutting themes

The cross-cutting themes of the programme have so far been given less attention by sites and systems, unless there are direct links to operationalising the CDCs. For example, there has been a focus on improving staff satisfaction and development, as this was seen as part of the solution to the staffing challenges the CDCs faced and a London-wide programme on the diagnostic workforce has emerged. However, while there is general support for, for example, Making Every Contact Count, acting as Anchor institutions and being test sites for quality improvement, research and innovation, the approaches to these appear to be less embedded and systematic. We recommend:

- **Aligning efforts to operationalise CDCs with programmes that meet the cross-cutting themes**. By harnessing the focus and investment placed in programmes such as the NHS Net Zero ambitions, and Anchor institutions, the CDCs will have further opportunities to embed themselves within the wider system and local communities, thus having a greater impact on the longer term goals of improving population health outcomes and reducing health inequalities.

As the second year of the programme ends, there are further opportunities for systems to work in partnership across services to consider how the CDC programme moves from a pilot and testing approach to business as usual. Identifying actions that can be implemented in the next phase of the programme will reinforce commitment to improvement and the need for ongoing reflection and adjustment if the programme is to achieve its ambitious aims.

Appendix



Appendix

Please click on the links below to access more information on:

1. **Outcomes framework**
2. **Table of CDC services by site**
3. **CDC site visit learning summary**

Appendix 2

Services offered by operating Community Diagnostic Centres, as of March 2023

			NCL		NEL		NWL	SEL	SWL		
			FMH	WGCDC	BCH	MEH	EH	ECH	QMHR	QMHRK	QMHRP
Min req.	**Modality**	**Test**	SH	S	SCDC	LCDC	SH	SH	LH	S	S
✓	**Endoscopy** *Larger sites only*	**Colonoscopy**			✓	✓			✓	✓	
	Endoscopy	Cytoscopy	✓						✓	✓	
✓	**Endoscopy** *Larger sites only*	**Flexi sigmoidoscopy**			✓	✓			✓	✓	
✓	**Endoscopy** *Larger sites only*	**Gastroscopy**			✓	✓			✓	✓	
	Imaging	Barium enema							✓		
	Imaging	Breast screening							✓	✓	
✓	**Imaging**	**Computed tomography**	✓		✓	✓			✓	✓	✓
✓	**Imaging**	**Magnetic resonance imaging**	✓		✓	✓	✓		✓	✓	
	Imaging	Mammography									
✓	**Imaging**	**Non-obstetric ultrasound**	✓	✓	✓	✓			✓	✓	
✓	**Imaging**	**Plain film x-ray**	✓	✓						✓	
✓	**Pathology**	**Phlebotomy**	✓	✓				✓	✓		
✓	**Pathology**	**NT-proBNP**									
✓	**Pathology**	**Urine testing**									
✓	**Pathology**	**Point of care testing**	✓								

Key

SH = Standard Hub • **S** = Spoke • **SCDC** = Standard CDC • **LCDC** = Large CDC • **LH** = Large Hub

FMH = Finchley Memorial Hospital • **WGCDC** = Wood Green CDC • **BCH** = Barking Community Hospital
MEH = Mile End Hospital • **EH** = Ealing Hospital • **ECH** = Eltham Community Hospital
QMHR = Queen Mary's Hospital Roehampton • **QMHRK** = Queen Mary's Hospital Roehampton Kingston
QMHRP = Queen Mary's Hospital Roehampton Purley

			NCL		NEL		NWL	SEL	SWL		
			FMH	WGCDC	BCH	MEH	EH	ECH	QMHR	QMHRK	QMHRP
Min req.	**Modality**	**Test**	**SH**	**S**	**S CDC**	**L CDC**	**SH**	**SH**	**LH**	**S**	**S**
✓	**Physiological measurement**	**Ambulatory blood pressure monitoring**	✓								
	Physiological measurement	Ambulatory heart rate	✓								
	Physiological measurement	Audiology							✓	✓	
✓	**Physiological measurement**	**Blood gas assessment**	✓								
✓	**Physiological measurement**	**Cardiology echocardiography (ECHO)**	✓						✓	✓	
	Physiological measurement	Cardiology electrophysiology									
	Physiological measurement	Dermatology							✓		
	Physiological measurement	Ear, nose and throat tests									
✓	**Physiological measurement**	**Cardiology – ECG**	✓								
✓	**Physiological measurement**	**FeNO lung function**	✓								
✓	**Physiological measurement**	**Field exercise tests**	✓								
	Physiological measurement	Fit test							✓	✓	
✓	**Physiological measurement**	**Full lung function tests**	✓						✓		
✓	**Physiological measurement**	**Holter (heart rhythm)**	✓								
	Physiological measurement	Ophthalmology	✓	✓							
✓	**Physiological measurement**	**Oximetry**	✓								
✓	**Physiological measurement**	**Sleep investigations**	✓						✓		
✓	**Physiological measurement**	**Spirometry/ bronchodilator response**	✓								
	Physiological measurement	Urodynamics – pressures and flows							✓		

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