NHS

Community Diagnostic Hubs (CDHs) in London

REPORT – insights and expectations from a deliberation with Patients, Patient Advocates and Diagnostic Staff in London

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Executive summary

The COVID-19 pandemic has amplified existing issues with diagnostic services, with an increase in the number of patients experiencing a wait of more than six weeks due to factors such as reduced staff capacity, lower attendance and referrals, and infection control measures. **Community Diagnostic Hubs (CDHs)** are a new initiative of the NHS aimed at building capacity for more diagnostic testing in England and relieving pressure on hospitals in relation to diagnostic testing. They are to be multi-diagnostic facilities, separate from acute hospitals and placed in local communities. The concept of CDHs originated from Professor Sir Mike Richards' Independent Review of Diagnostic Services for NHS England in November 2020.

This report presents the findings from a project designed to explore patient, public and professional experience and expectations of accessing services and working in CDHs in London and to develop design principles that can be taken forward to inform regional planning, local implementation and further engagement activity for the NHS.

Through a series of **six workshops and fifteen in-depth interviews with patients and the public, patient advocates, and diagnostic professionals** in London, feedback was gathered and design principles for the NHS on the roll-out of CDHs were developed.

In **Phase 1**, participants were asked for their current views on diagnostic services in London and their feelings about potential new ways of accessing diagnostic services. Staff and patients emphasised the importance of retaining choice of where to work or access services to fit people's different life situations. Waiting times were seen as more important than travel time, but patient advocates highlighted the potential adverse impacts on disadvantaged groups if CDHs were harder to access than current services.

Phase 2 brought together a smaller cohort from Phase 1 across public/patients, diagnostics staff and advocates to co-create principles for the roll-out of CDHs. Fictional patient personas and expert feedback during and between workshops ensured that these principles were detailed, comprehensive, and feasible. Using the participants' input and subsequent analysis, we have collated these design principles into the different stages of the patient pathway on the following slides, in addition to some specific suggestions for staff working in CDHs.

Executive summary – final design principles (1)

Getting an appointment

Booking for CDHs should be online by default (and mobile-compatible), but with an alternative telephone booking service.

Patients should have options at referral / booking stage to ask whether advocacy required (e.g. language), preferred gender of clinician, and to specify if extra support needed (e.g. longer appointment times needed to accommodate health condition). Consider whether the CDH is the appropriate environment when there are complex needs.

Patients should receive clear communication in a letter, leaflet and/or a text from the NHS about how to access a CDH, and what they are, to avoid any confusion. Patients should not be left to work this out alone. Guidance should be provided about whether children can accompany parents so alternative arrangements can be made in advance.

CDHs should have a mix of advance bookings, short notice bookings and walk-in appointments available seven days a week, including evenings (where preparation e.g. fasting is not required), with dedicated times of the day/week for all types of appointments, taking account of different working patterns.

When booking an advance appointment, patients should be presented with available dates for multiple CDHs so that they have the choice to travel further for a sooner appointment if they would prefer. Some appointment slots should be reserved for local residents.

For advance bookings, patients should be sent text message reminders (48-72 hours before appointment) to encourage attendance or to cancel with notice so the appointment can be given to someone else on a register of patients waiting for an appointment.

Executive summary – final design principles (2)

Travel and neighbourhood

CDHs must be accessible, with ramps and drop-off/pick-up points for taxis near entrances. Vulnerable / people with mobility issues should have transport options provided by the CDH / NHS.

CDHs must be near a public transport station/stop and/or close to affordable and plentiful car parking to enable access for patients and staff. Ensure there are patient transport services provided for those on low income, or for people with disabilities.

Patients should be within 45 minutes travel (via public transport) to their nearest CDH. Staff travel time may need to be longer, to ensure that there is the right skill mix within each CDH, assuming choice and good working conditions are adhered to as much as is possible.

The surrounding neighbourhood of CDHs (e.g. high street location) does not matter to staff or patients as long as the other design principles are adhered to.

Executive summary – final design principles (3)

Facilities, environment and services

CDHs should project a modern feel to attract/retain staff and reassure patients. They should be efficient, light and clean, but also comfortable with flexible seating areas to accommodate short and long waiting times. Ensure inclusive design (including quiet areas if needed), friendly for severe mental illness (including dementia) and learning disabilities.

CDHs should have additional staff resources and training to support the very vulnerable during their visit (e.g. dementia patients).

The layout and flow of a CDH should be sensitive to patient discretion and privacy, with discrete (e.g. clinic numbering rather than naming the service) and multi language signage, and an option to choose same gender or not (if need to be accompanied by a carer) waiting areas once changed for diagnostic test, e.g. if wearing a hospital gown.

CDHs should include accessible toilets, baby changing areas, and minimal but well-maintained food and drink access (e.g. water dispensers, vending machines and coffee machines)

CDHs should be 'one-stop shops' where possible, where tests can be done on the same day in the same place if the patient wishes, co-locating diagnostic staff, equipment and expertise. Organise the layout and flow sensitively with patient discretion in mind (e.g. 'serious' or 'sensitive' tests).

Executive summary – final design principles (4)

Diagnostic appointments and getting results

In situations where virtual appointments are possible, patients should be offered an upfront choice between a virtual or a face to face appointment.

Referrers should receive diagnostic results from CDHs within 24 hours of them being available, preferably via linked digital systems, and the accountability for communicating results of diagnostic tests carried out in CDHs should be made explicit for all staff. There is a longer term need for a joined up system to avoid duplication of referrals.

To lessen patient anxiety, results should be shared on the same day where possible. Abnormal results should generally be communicated to patients by a healthcare professional with responsibility for care or the referrer rather than directly from a diagnostic professional, though there should be flexibility on this if further tests are required on the same day by the diagnostic professional. Consideration needs to be given to people who don’t have access to GP services/regular address for communication of results (e.g. communication via email or text message).

Communication of results should be clear and inclusive, in different languages where required.

Executive summary – final design principles (5)

Considerations relating to staff working in CDHs

Choice and equity	Staff should be given as much choice as feasibly possible on how much of their time (if at all) they would like to spend working in a CDH. This is to recognise the fact that travel time might be greater, the working patterns (i.e. evening and weekend shifts) might be different, and that some staff will still want to work in the hospital environment. Decisions on staffing between CDHs and hospital environments should avoid creating inequalities among staff groups.
Training and development	Roles in CDHs should be enhanced through offering training opportunities, such as: expanding proficiency within their own field and encouraging staff to work 'to the top of their licence'; broadening out proficiency to additional diagnostic areas; maintaining connections with clinical teams in acute settings; and, expanding role applicability across the patient pathway / journey, beyond the execution of diagnostic tests.
Responsibility	If CDHs take on additional services (e.g. outreach, consultation, communicating diagnoses, and onward referral), staff should be given clear direction on what part(s) of the patient pathway they are responsible for to avoid confusion or duplication of effort with other roles (e.g. if CDH staff communicate diagnoses, it is clear that the referrer does not also do this).
IT systems and connectivity	It is imperative that staff working in CDHs are not isolated from the rest of the system and that they feel connected and part of a team. IT should help facilitate this and minimise administrative burden. Consideration should be given to ensuring enough time is allowed and the systems enable effective communication between staff in CDHs and staff in other settings where needed, such as the referring clinician, and the clinician the results are being sent on to.

01.

Introduction and Methodology

A Multi-Strand Approach

This report presents the findings from a project designed to explore patient, public and professional experience and expectations of accessing services and working in Community Diagnostic Hubs (CDHs) in London and to develop design principles that can be taken forward to inform regional planning, local implementation and further engagement activity for the NHS.

This report focuses on a series of six workshops and fifteen in-depth interviews with patients and the public, patient advocates, and diagnostic professionals in London, in which design principles for the NHS on the roll-out of CDHs were developed.

An innovative approach to developing policy in partnership with the general public

Deliberation is a progressive form of public engagement that can successfully help to shape public policy due to its ability to provide informed and considered public opinion. It convenes ‘mini publics’ reflective of a broader population over an extended period of time. Participants are informed by experts and supporting stimulus about the topic/s in question and then invited to explore and deliberate trade-offs associated with this.

This method creates an opportunity for decision-makers to understand public views that are carefully considered and rooted in real-life context, thus leading to more trusted and supported policy in the longer term.

Approach:

Phase 1: Deliberation and In-Depth Interviews

Aim: To explore patient, public and staff expectations on what matters most, must dos and red lines in relation to the implementation of CDHs in London.

Phase 2: Co-design

Aim: Using insights gathered from phase 1, patient, public, and staff came together to develop a set of design principles that can be taken forward to inform regional planning, local implementation and further engagement activity.

Context for the research

- There has been increased demand for diagnostic services in England in the last five years and there is widespread consensus that this trend will continue. The increases in demand have been outstripping increases in diagnostic capacity, resulting in a backlog and longer wait times for patients. The NHS standard for non-urgent diagnostics is six weeks wait, however data illustrates that this target was being missed for a growing number of patients, even before the pandemic.
- The COVID-19 pandemic has amplified the existing issues with diagnostic services. There has been an increase in the number of patients experiencing a wait of more than six weeks in the past year, with 580,000 in June, compared to 30,000 in February, 2020, across England.
- Some factors for this are: reduced staff capacity, lower attendance and referrals and infection control measures, as seen in the graphic below. The NHS has recognised that it is essential to respond to diagnostic challenges such as through the establishment of CDHs.

REDUCED STAFF CAPACITY		LOWER ATTENDANCE & REFERRALS		INFECTION CONTROL MEASURES	
Higher levels of staff sickness, self-isolation and shielding	Staff time being redirected towards the Covid effort	Cancer screening services were mostly paused	People avoiding hospitals/GPs for fear of catching Covid	Reduced capacity to allow for social distancing	The need to deep-clean equipment between patients

Context for the research: What Are Community Diagnostic Hubs?

- Community Diagnostic Hubs (CDHs) are a new initiative of the NHS aimed at building capacity for more diagnostic testing in England and relieving pressure on hospitals in relation to diagnostic testing. They are to be multi-diagnostic facilities, separate from hospitals and placed in local communities. The concept of CDHs originated from Professor Sir Mike Richards' Independent Review of Diagnostic Services for NHS England in November 2020.
- CDHs are for elective appointments only, not emergency diagnostic services.
- Their basic functions can be seen below:

Receives referrals	Books patients	Carries out tests	Reports results
From primary, community, and secondary care, and in some cases self-referral	Schedules coordinated set of diagnostic tests per appointment, provides preparatory materials for patients	In as few visits and in as few locations as possible. There is a minimum set of tests CDHs should offer.	Share data outcomes of procedures for interpretation and onward clinical care

Context for the engagement: CDH Primary Aims

Improve population health outcomes
by reaching earlier, faster, and more accurate diagnoses of health conditions

Increase diagnostic capacity
by investing in new facilities, equipment and training new staff

Improve productivity and efficiency
by streamlining provision of acute and elective diagnostics and redesigning clinical pathways

Reduce health inequalities
by improving access to diagnostics for people in health inequalities groups

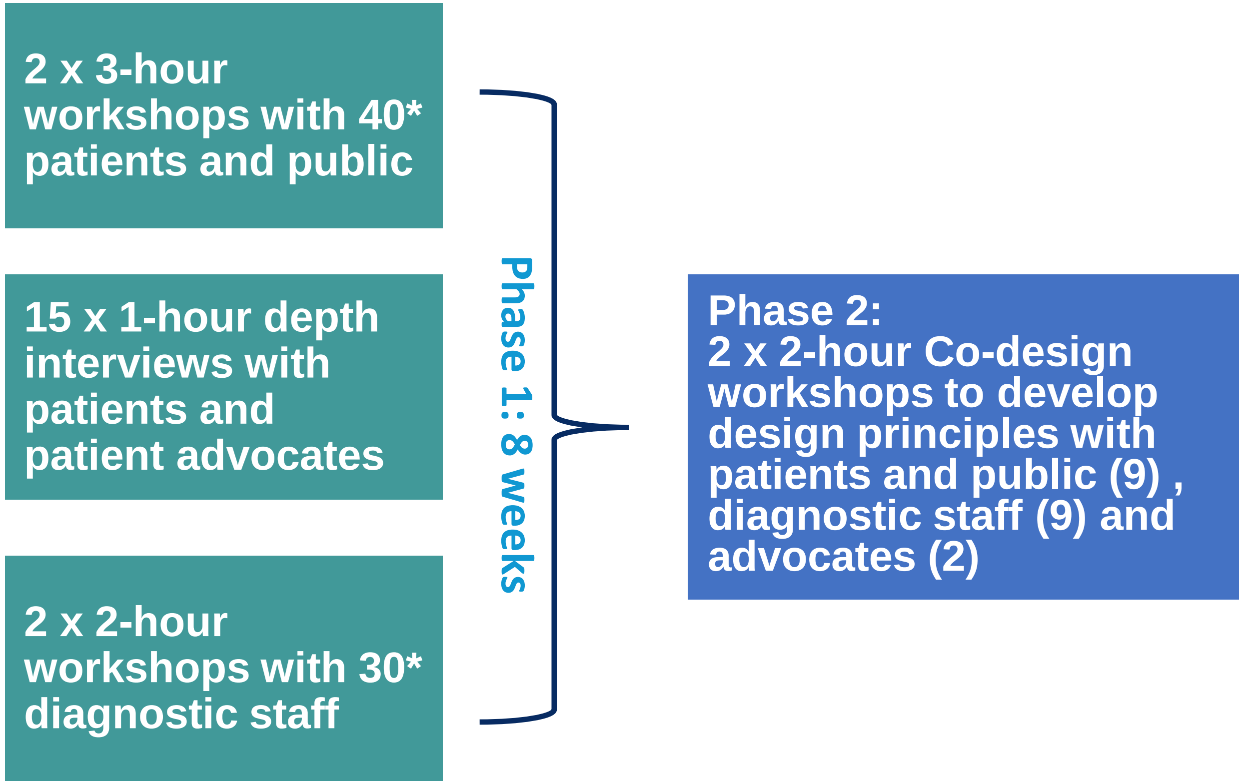
Deliver better patient experience
by providing coordinated tests in the community and in as few visits as possible

Support integration of care
across primary, secondary, and community care

Improve staff development and satisfaction
offering new roles and an opportunity to work in flexible and innovative ways

Approach for the deliberation

This project was broken up into two phases. In **Phase 1**, two three-hour virtual workshops were held with patients (19 and 22 May 2021), and two two-hour virtual workshops with diagnostics clinicians (25 and 27 May 2021). Alongside the workshops, we conducted 15 interviews with members of, and advocates for, vulnerable groups (e.g. refugees / asylum seekers, dementia patients). In **Phase 2**, two two-hour virtual workshops were held (13 and 15 July 2021), bringing together a selection of patients, diagnostic staff and patient advocates from the previous phase to codesign a set of design principles to inform the planning and roll out of CDHs across London. Please see the Appendix for further details on the profile of participants.



2 x 3-hour workshops with 40* patients and public

15 x 1-hour depth interviews with patients and patient advocates

2 x 2-hour workshops with 30* diagnostic staff

Phase 1: 8 weeks

Phase 2:
2 x 2-hour Co-design workshops to develop design principles with patients and public (9) , diagnostic staff (9) and advocates (2)

Participants recruited from across all 5 ICSs, with spread across demographics and professions

* 1-2 participants did only attended the first workshop, see Appendix for full details.

Approach for the deliberation

Structure of the workshops

- The workshops comprised of a combination of smaller breakout group discussions to understand and explore views and values, and whole group plenary sessions in which information was provided to the participants or where moderators would summarise findings from the smaller groups for all participants to hear.
- The smaller breakout groups comprised of five to six people. These groups were changed for every workshop and aimed to represent a mix of participant characteristics.
- The phase 1 deliberative workshops aimed to facilitate discussion around patient, public and staff expectations, diagnostic services generally and then more specifically the proposed CDH model. The phase 2 co-design workshops aimed to co-create a set of design principles.

Participants

- The public participants for the deliberative workshops were recruited to represent a spread of Londoners across the five Integrated Care Systems (ICS), with different demographic criteria (e.g. gender, age, socioeconomic status etc.) to represent a broad range of views.
- The staff participants, all in clinical roles related to diagnostic services, were recruited from each of the five ICSs and reflected a range of disciplines as well as staff working in small and large hospitals.
- Patient advocates and people with lived experience were selected for the 15 in-depth interviews to reflect a broad range of seldom heard groups who might find it more challenging to participate in a large workshop environment.

A full profile for both the public and staff workshops as well as the depth interviews can be found in the Appendix.

Structure for the Phase 1 public/patient workshops

Phase 1: Public/Patient Workshop 1 – Understanding of experience around diagnostic services

This workshop explored patients' current views on diagnostic services in London, including the challenges of increased demand and waiting times for diagnostics, exacerbated by the pandemic, and explored the following questions:

- What is working well?
- What are the challenges/barriers?
- What are their feelings about potential new ways of accessing diagnostic services?

The workshop comprised plenary discussions with experts discussing what diagnostic services are, why they are important, how people access them and where they take place. This was then followed by smaller breakout group discussions that encouraged participants to think about their own thoughts and feelings around diagnostic services. In addition to the presentations, stimulus included exercises involving fictional patients and their receipt of diagnostic services, where participants were asked to evaluate each patients' experience and discuss ways each could be improved, what was priority in each scenario i.e. location of where service was received versus the service experienced.

Phase 1: Public/Patient Workshop 2 – Design of CDHs

This workshop explored patient expectations of CDHs. Patients were introduced to the concept of CDHs, their goals and purpose, what diagnostic services would be offered and plans for CDHs in London. Discussions focused on patients' initial responses to CDHs and their feelings on the areas they can influence on the design of hubs. The workshop explored the following questions:

- Where and in what type of environment should hubs be located (e.g. next to a hospital versus in a shopping centre)
- Which diagnostic tests should be done during a visit to a hub, versus done at other sites via separate appointments and why.
- What kinds of services should be available at diagnostic hubs besides testing, e.g. consultation with a specialist clinician before or after testing, or minor procedures

The workshop comprised plenary discussions and breakout group discussions. Stimulus materials included presentations from experts, and case studies illustrating fictional patients experiencing diagnostic services at hubs in various ways; participants were encouraged to discuss what aspects of these fictional patients' experience were positive or negative and why.

Structure for the Phase 1 advocate interviews

Phase 1: Interviews with public/patient advocates

Mirroring the public workshops, these interviews explored patients’ and their advocates’ current views on diagnostic services in London, including the challenges of increased demand and waiting times for diagnostics, exacerbated by the pandemic, and explored the following questions:

- What is working well?
- What are the challenges/barriers specific to them/the people they advocate for?
- What are their feelings about potential new ways of accessing diagnostic services?

Unlike the workshops, which consisted of discussion, the interviews focused on personal experiences and imagining future personal experiences.

Instead of fictional patient case studies, interviewees were asked to imagine themselves or a person they advocate for in different situations in relation to diagnostic services (e.g. imagine the CDH is further away than your nearest hospital (where your tests currently happen), it is on a busy high street, and the waiting time is much shorter). This enabled us to get a sense of the relative importance participants placed on different attributes.

Structure for Phase 1 Staff workshops

Phase 1: Staff Workshop 1 – Responding to diagnostic challenges in London with CDHs

This workshop explored staff views on CDHs, including opportunities and concerns, and explored the following questions:

- What are benefits or disadvantages to working at CDHs?
- What factors are important for achieving a positive staff experience?
- How could this new way of delivering elective diagnostic services improve or exacerbate health inequalities?
- How could changes in digital services / technology affect staff experience positively?

The workshop comprised of plenary discussions with experts explaining to participants what CDHs are, aims of CDHs, a sense of scale of services in terms of population served, proposed services etc., and how CDHs would address current challenges in diagnostic capacity in England. This was then followed by smaller breakout group discussions that allowed participants to reflect on the notion of CDHs, and think about aspects that might be positive and aspects that might lead to challenges for both staff and patients.

Phase 1: Staff Workshop 2 – Impact on Staff

This workshop explored what CDHs mean for diagnostic staff. It explored the following questions:

- How will separation of acute from elective diagnostics impact roles?
- What opportunities or barriers might CDHs bring to skills development or training requirements?
- Perspectives on working at multiple sites i.e. rotation through acute as well as CDH locations, should this happen in teams etc.?
- How changes in digital services / technology affect staff experience?
- What would ensure that staff are confident to be working in the hubs?

The workshop comprised of plenary discussions with experts explaining what CDHs mean for diagnostic staff, in relation to services provided at hubs, workforce supply, training and development, and digital technology. This was followed by breakout group discussions using case studies illustrating fictional staff experiencing diagnostic services at hubs in various ways; participants were encouraged to discuss what aspects of these fictional staff members' experiences were positive or negative.

Structure for Phase 2 Co-Design workshops

Phase 2: Workshop 1 – Drafting principles

Phase 2 brought together a smaller cohort from Phase 1 across public/patients, diagnostics staff and advocates.

This workshop presented to participants the co-design process and insights from phase 1. It explored the following questions:

- How far should patients and staff be from CDHs?
- What is the right balance of advance bookings and walk-ins?
- What is the right 'feel' for the CDHs' environment?
- Which diagnostics and additional services should be offered at CDHs?
- How should patients and referrers receive results?

Experts explained NHS decisions on changes relating to hubs, including how many patients hubs would be able to see, diagnostic services offered, how hubs meet NHS Health & Safety standards, and patient communication from hubs. Then, participants broke into breakout groups, developing draft principles across the three themes of: 1. getting an appointment, travel and neighbourhood, 2. facilities, environment and services, and 3. diagnostic appointments and results. Stimulus for this included an interactive screen or 'digital flipchart' with post-its where participants were able to make suggestions for design principles that correlated to each theme. Between workshops one and two, we synthesised each breakout group's principles into a more cohesive set of draft principles for challenge amendment in workshop 2.

Phase 2: Workshop 2 – Finalising Principles

The final workshop invited participants to reflect on and refine the draft principles, ensuring that the principles pass stress-tests under different patient circumstances, leading to final principles. These were categorised into the order of the patient journey (as does this report):

- Getting an appointment (e.g. advance booking/walk-ins)
- Travel and neighbourhood (e.g. distance to public transport)
- Facilities, environment and services (e.g. accessibility requirements)
- Diagnostic appointments and results (e.g. virtual appointments)

The workshop began with a 'check and challenge' session with the NHSE/I diagnostic team and other clinical experts providing feedback on the participants' draft principles from the previous workshop.

Participants were then separated into small break-out groups to reflect upon and refine the draft principles following this feedback. They explored them in detail to make amendments and subsequently stress-tested the principles using real-world scenarios of vulnerable patients (drawing upon the interviews with advocates in Phase 1) to see how the principles would work in practice, with amendments being made as necessary. Finally, participants returned to a final plenary discussion where moderators presented the participants' amended principles to the wider group, and explained the rationale behind their changes. After workshop 2, the amended principles, along with insights from Phase 1, were analysed and synthesized into the final principles.

How to read this report

- **The chapters of this report are structured according to the patient journey,** beginning with ‘Getting an appointment’, moving on to ‘Transport and Neighbourhood’, then to ‘Facilities, Environment and Services’, before concluding with the ‘Diagnostic appointment and results’. Within each of these chapters, it begins with **Phase 1 findings** (drawing upon patient and staff workshops, along with depth interviews), before tracing the development of principles in the **Phase 2** co-design phase, from **initial draft principles** from each break-out group, an initial **combined principle** and a **final principle** after further amendments by participants.
- **Deliberative findings are used to shed light on *why* people hold particular views** rather than how many people hold those views. We can be confident that the principles and views presented in this report are **credible and valid** due to the following strategies used in this deliberation: **accounting for bias, meticulous record keeping and systematic analysis, validation and data triangulation**. The culmination is this report, which provides detailed and nuanced evidence on how participants’ views, concerns, aspirations and expectations can be used to inform future emerging plans for CDHs.
- **This report uses the conventions of qualitative social science reporting:** An indication via “a few” or “a limited number” to reflect views which were mentioned infrequently, and “many” or “most” when views are more frequently expressed. The use of “some” reflects the balance between these – views which were mentioned by some participants, i.e. more than a few but not by a majority of participants. This report focuses on perceptions rather than facts and any proportions used in the reporting should be considered indicative, rather than exact.
- **Verbatim quotes** are attributed using the strand of the research (Staff (orange) / Public (grey) / Advocate (teal)), followed by the Phase (one/two), which workshop (one/two), and then the breakout group. For example: “Staff 1.1, group 3” (Phase 1, staff workshop one, breakout group three). Phase 2 (dark grey), as it combined different groups, does not distinguish between staff, public and advocate participants: e.g. “Phase 2.1, group 2”.

02.

Getting an appointment

Getting an appointment - online and offline

In Phase 1, public participants and advocates were presented with different scenarios for how appointments might be booked at a CDH, with offline (letter/phone) and online (website) communications. Participants were generally positive about the potential of online booking, as a means of **speeding up the process** and **enabling flexibility** (e.g. the ability to amend/cancel appointments without talking to staff).

However, advocates and some members of the public highlighted the **risks of digital exclusion** that may arise from a predominantly online booking system and suggested maintaining 'offline' options. Their concerns focused both on low digital access (e.g. insufficient income for devices, internet, or mobile data) and low digital literacy (e.g. some older patients who are not 'digital natives').

Booking appointments was not a predominant focus for staff in Phase 1, since these initial workshops focused on clinical staff experience within the CDHs themselves. However, staff did express concerns about new booking systems creating **administrative burden**, further disconnection between admin staff and clinicians, and greater patient autonomy leading to confusion (e.g. being sent to the wrong centre / booked for the wrong diagnostic). As described elsewhere, they expressed a desire for **joined-up IT systems** to mitigate these potential issues.

"The more you can do online and manage yourself, the better you can be. You can make appointments around your work." Public 1.1, group 4

"Any kind of digital access, for the people it works for it works really well but for others it doesn't work at all. For those in temporary accommodation, they don't have Wi-Fi or broadband." Refugee / asylum seeker advocate

"I often think creating hubs create further layers of bureaucracy. We don't know who's booking the patient, outcoming them, following them up. I can foresee a silo just in the making where people want more autonomy where people will have referrals to the wrong place, so I'm seeing a lot of this in the future." Staff 1.1, group 3

Getting an appointment – design principle 1

At the start of Phase 2, participants were asked to consider what would be the most appropriate balance between **online** and **offline** advance booking systems for CDHs, taking into account the risks of digital exclusion highlighted by advocates and other participants. Participants remained positive about an online approach but all groups requested an alterative offline option (e.g. a phoneline) for those who might want or need it. They further developed this principle by clarifying that this should be **mobile-compatible** (since this is many people's only online device) and that offline access should not be stigmatised since **digital exclusion is broader** beyond low digital literacy among some elderly groups.

> "It's not just if you are computer savvy. You might be in a crowded household and you couldn't get the privacy. It's not just the elderly that we are talking about, there are a lot of other groups."
> Phase 2.2, group 3

Phase 2 – Principles from workshop 1 break out groups

Evolution of design principles

- Offer both online (simple to use, accessible in other languages) and telephone bookings
- Options for those not computer savvy (e.g. direct phone calls)
- Make sure its accessible by offering a variety of options for booking
- Online booking by default with a dedicated phoneline as back-up for those who are digitally excluded.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

Booking for CDHs should be online by default but with a telephone booking service for those with low digital access / literacy.

Final principle (after amendments and analysis)

Booking for CDHs should be online by default (and mobile-compatible), but with an alternative telephone booking service.

Getting an appointment – design principle 2

During the course of discussions in the second Phase 2 workshop about accessibility, participants generated a wholly new principle. They believed requests for **additional support for patients** with specific needs should be woven into the booking process. This would include requesting a clinician of a specific gender (due to culture, religion, or gender-related trauma) and requesting additional time where this may be needed (e.g. more time to explain the diagnostic to patients with communication barriers, such as learning disabilities, people with dementia or English as a second language).

> "It's good to be aware with people with additional needs to factor in more time for the appointment. You do need to allow longer." Phase 2.2, group 1

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

N/A (new in second Phase 2 workshop)

Phase 2 – Draft principle (synthesised from workshop 1 principles)

N/A (new in second Phase 2 workshop)

Final principle (after amendments and analysis)

Patients should have options at referral / booking stage to ask whether advocacy required (e.g. language), preferred gender of clinician, and to specify if extra support needed (e.g. longer appointment times needed to accommodate health condition). Consider whether the CDH is the appropriate environment when there are complex needs.

Getting an appointment – design principle 3

Throughout the workshops and interviews, participants highlighted how the introduction of CDHs is a major change and that a communications campaign would need to be part of their implementation. The first draft principles (in yellow below) reiterated these points. Through the second workshop of Phase 2, participants were encouraged to be more specific, and they suggested this being led by healthcare professionals with letters, leaflets or texts proactively sent to patients. As part of this, some participants suggested specifically including details about whether children would be able to accompany parents as this may necessitate patients arranging childcare during their appointment.

> "Would they not receive a letter giving them clarification on how to book future appointments?... Could it be a leaflet at the doctors to show a flowchart with different signposting?... I think leaflets at the surgery would be a good start" Phase 2.1, group 1

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Ensure there is an info campaign that makes the public aware that diagnostic tests are changing.

Keep it simple: Reduce frustration. Simple language

Phase 2 – Draft principle (synthesised from workshop 1 principles)

Patients should receive clear communication about how to access a CDH that avoids any confusion. Patients should not be left to work this out alone.

Final principle (after amendments and analysis)

Patients should receive clear communication in a letter, leaflet and/or a text from the NHS about how to access a CDH, and what they are, to avoid any confusion. Patients should not be left to work this out alone. Guidance should be provided about whether children can accompany parents so alternative arrangements can be made in advance.

Getting an appointment - advance bookings and walk-ins

Phase 1 also used case studies to explore the potential for CDHs to have advance booking and/or walk-in appointments for elective appointments. For all groups, participants quickly came to the conclusion that each type of booking would **suit people's different working and caring patterns**. Those who described themselves as time-poor with many pre-existing time constraints opted for advance bookings, to minimise waiting time at the healthcare site before an appointment. Advocates for groups such as people with learning disabilities or dementia stressed the importance of **certainty** and **reduced confusion** for booking.

Those with more changeable schedules preferred the flexibility of a walk-in appointment and some staff thought this would better suit patients too. Advocates for groups with less geographic stability (the homeless, victims of domestic violence, refugees, and people with experience of the criminal justice system) also believed that **walk-ins would better enable their access to diagnostics**. These advocates cited their own existing experience of helping clients navigate complex administration that results from an unstable living situation.

Overall, participants stressed the importance of **retaining patient choice** through having both advance and walk-in appointments. However, staff highlighted early on that some diagnostics would be unsuitable for walk-in appointments (e.g. those that involve fasting).

"I have patients who are chaotic. It would be difficult to get them to a structured appointment system. I'm interested if there are walk-ins available. That's not necessarily feasible for all of the disciplines being discussed." Staff 1.1, group 5

"I think it's horses for courses. Neither [advance booking or walk-in appointments] suits everyone all the time, so I think it's down to the individual to decide. If you have the choice between the two you have the best of both worlds." Public 1.1, group 3

"[A client] had to have monthly echocardiograms and she found it difficult to plan childcare…it was difficult to transfer her to a new hospital [when she fled from domestic violence]… I had to do a lot of phoning on her behalf… childcare had to be arranged and re-arranged." Domestic violence / homelessness advocate

Getting an appointment – design principle 4

In Phase 2, participants were also asked to consider what the right balance should be between advance booked and walk-in appointments. The first draft principles from each break-out group (in yellow below) reiterated a desire for accommodating **working and caring schedules**. In the second workshop, experts and facilitators encouraged participants to provide a more concrete and feasible principle. Participants suggested designating certain times of day or 'slots' for each type, taking account of **diagnostics that require preparation.**

Participants also suggested mixing advance bookings and walk-ins with 'short notice appointments' (e.g. booking in the morning for later in the day) to achieve a compromise of flexibility and certainty.

> "It would be quite hard for gall bladder scans as they require fasting, so it wouldn't be possible to do a walk-in, we have to prepare ourselves for different kinds of scans too." Phase 2.1, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Tailor type of appointments available to need/type of test required.
- Slots for walk in times tailored to the type of test (but some procedures aren't possible)
- Must be a flexibility built into the system to accommodate walk ins and advance appointments e.g. set days for walks ins or flex time slot periods on a walk in day.
- Make sure its accessible by offering a variety of options for booking
- Trial mix of walk-ins and advance appointments and separately, see what works with different demographics.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs should have a mix of advance bookings and walk-in appointments (where preparation e.g. fasting is not required), with dedicated times of the day/week for both types of appointments.

Final principle (after amendments and analysis)

CDHs should have a mix of advance bookings, short notice bookings and walk-in appointments available seven days a week, including evenings (where preparation e.g. fasting is not required), with dedicated times of the day/week for all types of appointments, taking account of different working patterns.

Getting an appointment – design principle 5

As mentioned, participants in Phase 1 emphasised the importance of **patient and staff choice**. The first draft principles (in yellow below) reiterated this, with requests for allowing participants to choose a sooner appointment a longer distance away. In their feedback, experts highlighted the risk of creating a 'musical chairs' effect, whereby **patients could be displaced from local appointments** by patients from further afield. Participants took this on board in the second workshop, by suggesting that appointments could be given to patients nearby as priority, and only then offered up to patients from further away in London if they were available.

> "Maybe some slots could be reserved for local people, so if there are walk-in appointments for local people, then you don't get everybody shifting around."
> Phase 2.2, group 3

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Waiting times at different hubs provided upfront – so potentially could be seen earlier at hub further away

Flexibility of CDH access to go to one closer to work or for privacy reasons – choose whatever hub you want at time of booking

Phase 2 – Draft principle (synthesised from workshop 1 principles)

When booking an advance appointment, patients should be presented with available dates for all CDHs so that they have the choice to travel further for a sooner appointment if they would prefer.

Final principle (after amendments and analysis)

When booking an advance appointment, patients should be presented with available dates for multiple CDHs so that they have the choice to travel further for a sooner appointment if they would prefer. Some appointment slots should be reserved for local residents.

Getting an appointment – design principle 6

Building upon the previous principle’s emphasis on filling appointment slots, staff and patients alike were keen on **reducing the number of non-attendees**. They suggested that reminders should be sent to patients, preferably by **text message** to avoid digital exclusion as this does not require access to WiFi, mobile data or any apps. The initial draft of this principle (in yellow below) suggested the reminder text being sent 48 hours ahead of the appointment, but after further discussion about health inequalities participants acknowledged that a longer timeframe should be considered. They believed that this would enable patients to arrange the support they need (e.g. childcare, patient transport).

> “I think you have to be careful [with how shortly before the appointment a reminder message is sent] because some people coming might be vulnerable and might have to arrange to have someone to come with them. You’d have to think about vulnerable groups.” Phase 2.2, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Ensure communication around appointments by sending reminders at least 48 hours in advance (ideally two reminders) so walk-ins can fill cancelled appointments.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

For advance bookings, patients should be sent reminders to encourage attendance or to cancel with notice so the appointment can be given to someone else.

Final principle (after amendments and analysis)

For advance bookings, patients should be sent text message reminders (48-72 hours before appointment) to encourage attendance or to cancel with notice so the appointment can be given to someone else on a register of patients waiting for an appointment.

03.

Travel and neighbourhood

Travel

A key factor participants discussed during Phase 1 was the location of CDHs and how patients and staff should be able to travel to them. Through hypothetical case studies, we explored patient attitudes on various sites for the provision of diagnostic services, such as on high streets or near supermarkets, and participants' willingness to travel further to access these.

There were a multitude of factors which affected patient willingness to travel further for diagnostic services. One such factor was easing anxiety; this includes **upfront communication** about how to get to a location, and whether or not additional resources would be needed to get home (e.g. via a taxi). Another factor was **reduced wait time** (both from booking to appointment, and on the day) due to the health benefits and outcomes of early diagnosis. Patients expressed willingness to travel further, so long as these conditions were met.

Participants placed focus on **familiarity** and avoiding **confusion.** There were suggestions to tack hubs onto existing healthcare settings that people are **familiar** with to avoid further confusion. This was particularly important for advocates for specific patient groups including people with dementia, and with learning disabilities. Patients suggested simple and clear communication from the NHS, when discussing CDHs.

"I'm all up for not going to a hospital for diagnosis if I can combine it with my supermarket shop, to combine a blood test with my shopping. Maybe there are places closing that the NHS can overtake, anything that avoids me having to go to the hospital and avoid paying for the parking, it would be good." Public 1.1, group 4

"You need bus routes to go near, and ideally in London you would need to be near a train station. Because, otherwise, you're going to have the one thing you don't want, people driving, but then again you don't want to discriminate against patients who can't get there any other way." Staff 1.1, group 3

"There is a risk of confusion. People need to know where their GP and hospital are and now an additional place. Keep it simple! One-stop situation, co-location with GP makes the most sense. Avoid back-and-forth." Refugee/Asylum Seeker advocate

Travel

While participants were often happy to travel further in order to be seen quicker, participants frequently raised the need for **affordable and ample parking** as a major logistical issue for patients. Others brought up the need for accessibility to public transportation, such as a **nearby bus stop**.

Staff were on par with patients about concern for transport links and parking. Some staff were willing to travel a bit further if it meant working on a good team/environment. Staff were concerned about commute time for patients.

One aspect some patients mentioned was that proximity to diagnostic services should not only be considered in regards to where they live but also **close to where people work**.

Another issue of importance to participants was the need for changes to diagnostics services to be **sensitive to vulnerable groups** and reduce barriers wherever possible e.g. expanded patient transport, ramps, nearby toilets, a clear route to the location. Some participants mentioned a location walking distance away being good for groups, such as the elderly.

“My grandmother is very proud. She won't reach out to services to ask for assessments. She doesn't want to be seen as 'less than'. Those in a vulnerable group should be assessed and offered services.”
Public 2.2 , group 2

“I know it is an issue for a lot of patients travelling into the big trust where there’s no parking. From a patient perspective, it would offer a positive alternative.” Staff 1.1, group 1

“This is well worth it. Even if it’s further away, it will be well worth it.” If she can get all three [diagnostic tests] in one day, it might take hours but if the community hub can do multiple tests in 1 day, then it’s worth it. Thinking about this financially i.e. the cost of travel and how time consuming it might be, especially if she runs late and appt may be cancelled.” Homelessness / mental health advocate

Travel – design principle 1

Throughout the process, participants highlighted the importance for diagnostic hubs to take into consideration accessibility for vulnerable groups and to reduce barriers where possible, such as the provision of ramps and expanded patient transport. They believed that existing patient transport to other healthcare settings could be applied to diagnostic services. In Phase 2, participants were asked again about travel and patient transport was re-mentioned. Participants came to a consensus in the Phase 2 discussions that it was important for diagnostic hubs to incorporate aspects beneficial for vulnerable groups, so that they are not disregarded, such as ramps and drop-off/pick-up points. They also agreed patient transport for patients unable to commute on their own should be provided by the CDH.

> "I would like to see something like a patient transport service which would take you to places like I see between Guy's and St. Thomas'. Maybe there should be a similar sort of system between hubs, maybe there can be an electric van for people to take." Phase 2.1, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Consideration of accessibility by public transport, a location well serviced for transport, easy to park and affordability of the location (e.g. high street may have high estate costs so quieter residential areas could be preferential)
- Has to be adequate infrastructure links: Options for driving, Drop-off points, Options for public transport (multiple)
- CDHs should be near to a rail / tube station and/or have good availability of parking for patients as well as staff.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs must be accessible, with ramps and drop-off/pick-up points for taxis near entrances.

Final principle (after amendments and analysis)

CDHs must be accessible, with ramps and drop-off/pick-up points for taxis near entrances. Vulnerable/people with mobility issues should have transport options provided by the CDH / NHS.

Travel – design principle 2

Adding to the aforementioned principle, participants in Phase 2 were asked to reflect on how the location of hubs should be determined. Participants kept in mind that there would be three hubs for every million people in London. Initially, some participants favoured high street locations, as they felt that regardless of the commotion that went on outside, when stepping into the facility, it would be a quieter environment. However, others expressed concern about noisy and stressful environments and lack of parking. Other concerns were brought up, such as being within reasonable proximity to public transportation and having affordable parking. The case studies presented in the second workshop of Phase 2 (drawing upon advocate interviews) prompted participants to further empathise with vulnerable groups and add subsidised transport to the principle.

> “There have to be bus routes and train lines very close by. They can’t be very remote otherwise public transport wouldn't get people there. It would suit people if they were driving if they’re in those places because you’d have more parking space. It all needs to be thought of because not everybody has a car.” Phase 2.1, group 1

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Consideration of accessibility by public transport, a location well serviced for transport, easy to park and affordability of the location (e.g. high street may have high estate costs so quieter residential areas could be preferential)

Has to be adequate infrastructure links: Options for driving, Drop-off points, Options for public transport (multiple)

CDHs should be near to a rail / tube station and/or have good availability of parking for patients as well as staff.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs must be near a public transport station/stop and/or close to affordable and plentiful car parking.

Final principle (after amendments and analysis)

CDHs must be near a public transport station/stop and/or close to affordable and plentiful car parking to enable access for patients and staff. Ensure there are patient transport services provided for those on low income, or for people with disabilities.

Travel – design principle 3

In Phase 2, when discussing travel, initially, there were mixed views on having to travel further to (potentially) access diagnostics quicker. Some patients valued reduced waiting times over distance, others valued proximity. Distance travelled is of variable importance and impacts patient cohorts differently. Participants made mention that it was vital for the patient commute to diagnostic hubs to be within 45 minutes. With further nudging on the matter, however, staff agreed that they did not mind traveling a bit longer for working in a pleasant team and environment. Participants also made sure to mention that patients were not confined to the 45 minute commute if a necessary diagnostic service was not provided at their local hub; they believe they should be free to choose a longer commute for specialised diagnostic testing and/or quicker turn around for results.

> "If I were waiting for a specific scan, I would like to know if there was a 1 month waiting list for a scan close to me, or if I could get an earlier appointment at a different hub. Then I might not mind travelling longer."
> Phase 2.1, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Travel time within 30 minutes and accessible/affordable parking (e.g. shopping centre, discounted transport/provision of patient transport)
- Up to 30 -60 mins travel (public transport) to CDH to provide convenience.
- Population should be able to reach the CDH within 30 minutes and no more than hour.
- People should be at least 30 for Inner London /40 minutes for Outer London from their nearest hub

Phase 2 – Draft principle (synthesised from workshop 1 principles)

Staff and patients should be within 45 minutes travel (via public transport) of a CDH.

Final principle (after amendments and analysis)

Patients should be within 45 minutes travel (via public transport) to their nearest CDH. Staff travel time may need to be longer, to ensure that there is the right skill mix within each CDH, assuming choice and good working conditions are adhered to as much as is possible.

Neighbourhood

There was a noted preference by both patients and staff for **quieter settings** over busy high street locations. Some reasons for this were lack of availability for parking and a sense of feeling rushed due to the busy location. When considering invasive procedures, there was fear amongst patients about receiving them on high streets, for concern of not having medical staff present (though they were assured by experts that this would never be the case).

Participants, particularly advocates, also believed that **high street locations could be inappropriate for vulnerable people** with mental health conditions or learning disabilities. Suggestions for how to ease these fears included siting CDHs in close proximity to a hospital, having specialists on site to speak with, communication that all necessary equipment was available, and including sitting areas where patients could have a cup of tea after their procedure.

A number of participants approved of the idea of having diagnostic testing carried out in locations next to supermarkets, for convenience, free parking and entertainment while waiting on test results. Public participants believed that some diagnostic tests, such as blood tests, could be done in supermarkets. Though experts advised participants that this would be impractical, it raises the more general point that some people are not averse to diagnostics in more ‘community’ settings (see Facilities, environment and services below).

“I don't think I would want a colonoscopy on the high street. It was a horrific experience when I had it. They had to abandon it halfway through. I wouldn't like to have that in a random centre. I feel like it’s already downplayed, colonoscopy, and it’s an invasive, serious thing.” Public 1.2, group 1

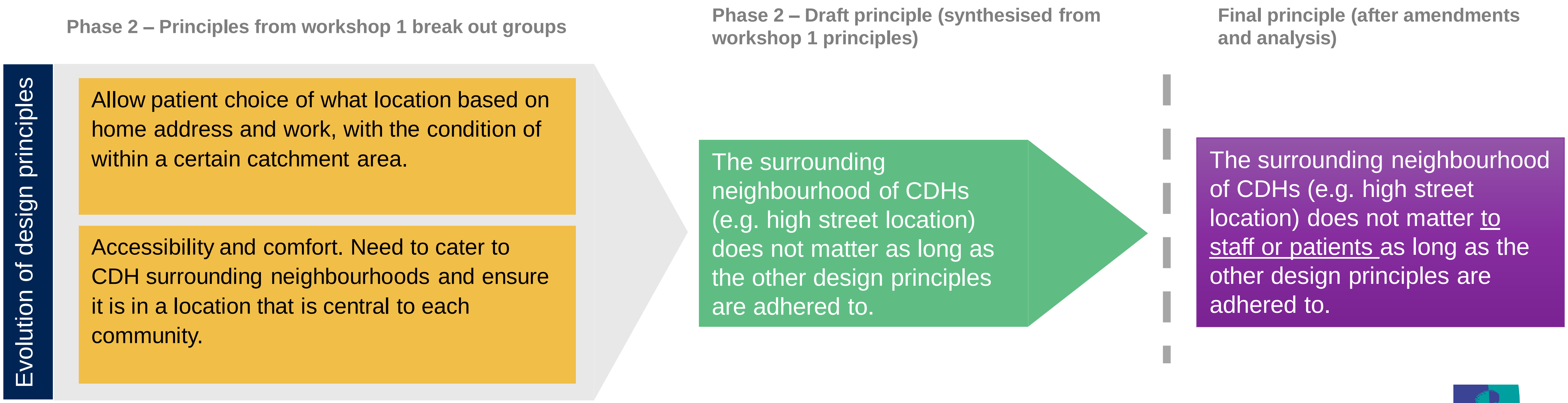
“If you’ve got trouble with parking you’ve got trouble for ambulance, so for me the location defeats the purpose of what I feel these hubs should be. You shouldn’t be putting barriers in the way of people attending. If I can’t park, I’m not coming. I think it defeats the object of easy access.” Staff 2.2, group 3

“[I] suspect it might be hurried, in that environment in busy high street. Could be distressing to dementia patient.” Dementia advocate

Neighbourhood – design principle 4

In Phase 2, participants were asked to solidify a design principle around neighbourhood. After prompting by experts and facilitators, their suggestions focused upon accessibility via driving and public transportation for vulnerable groups. In Phase 2, participants came to the conclusion that it was **less important whether hubs were on high streets or near hospitals**, and were thus willing to compromise on the location of a hub, so long as the other design principles, aforementioned, were observed. The final principle reiterated the importance of adherence to other design principles.

> "Centralised travel, it might be more accepted of people to travel out to rural areas rather than a centralised location as long as there is parking. So not sure about a central location."
> Phase 2.1, group 2



Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Allow patient choice of what location based on home address and work, with the condition of within a certain catchment area.

Accessibility and comfort. Need to cater to CDH surrounding neighbourhoods and ensure it is in a location that is central to each community.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

The surrounding neighbourhood of CDHs (e.g. high street location) does not matter as long as the other design principles are adhered to.

Final principle (after amendments and analysis)

The surrounding neighbourhood of CDHs (e.g. high street location) does not matter to staff or patients as long as the other design principles are adhered to.

04.

Facilities, environment and services

Facilities

Public participants expected amenities such as food, drinks (water), accessible toilets and baby changing facilities at CDHs as a given. In Phase 1, when exploring where a CDH might be situated (e.g. on a high street), it was thought that extra facilities being offered (e.g. a café) would be dependent on whether the CDH is located near shops and cafes, in which case it wouldn't be necessary to have extra facilities over and above the expected.

Participants wanted any changes to diagnostics services to be sensitive to vulnerable groups and to reduce barriers wherever possible (e.g. expanded patient transport, ramps etc.)

> "Always have considerations of caring needs and accessibility needs. There should always be plenty of toilets including disability toilets, baby changing in unisex toilets for fathers as well." Mental illness/homeless advocate

> "I think it's fair to say the two key things were accessibility, signposting and whether there are ramps and toilets when you get there, whether there are lifts. And also, if people have additional needs, can we make the environment at the hub quite calming." Public 1.2, group 3

> "[would want] facilities to grab a coffee. Nothing around the centre [I] went to in Golder's Green [for a scan]. Would have had to walk about 15 min. It makes sense to have something near it." Mental illness advocate

Participants also called for clear Plain English communications at hubs to avoid confusion and anxiety. But, in addition, multilingual signage / communications was also considered a necessity in London.

Facilities – design principle 1

Design principles around facilities were very straight-forward, with participants expecting accessible toilets, disabled access, baby changing and water to be available at the CDHs. Provision of food and drinks was also desirable, although depending on location of the CDH, this could be accessed nearby in a shopping /high street area.

> “Maybe a vending machine, every hub needs toilets, disabled toilets and baby changing facilities.” Phase 2.1, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- All CDHs should include Disabled access, baby changing and water – as well as Wi-Fi access
- Good accessibility for people who are disabled, allowance for accompanied appointments (e.g. carers), provision of facilities like toilets and food and drink.
- All must include accessible toilet facilities for disabled people & those with babies / young children
- Vending machines / coffee machines (not too expensive)
- Should include 'child corner' with screen rather than toys etc.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs should include accessible toilets, baby changing areas, and minimal but well-maintained food and drink access (e.g. water dispensers, vending machines and coffee machines).

Final principle (after amendments and analysis)

CDHs should include accessible toilets, baby changing areas, and minimal but well-maintained food and drink access (e.g. water dispensers, vending machines and coffee machines).

Environment

An important objective of the workshops was to explore participants' expectations around the 'look and feel' of a CDH. The general consensus in Phase 1 was that CDHs should feel professional and clean but need to have a **'community' feel** – both to reinforce their position as healthcare in the community, but also to help address health inequalities by feeling less institutional.

'Comfort' arose as an important benefit of diagnostics being delivered in the local community. It was felt that flexible use of space could bring about comfort - in terms of how the space is organised for different needs.

The layout of the waiting areas and variability in seating arrangements were mentioned as having potential to positively change the 'feel' of the CDH.

Staff also want CDHs to be modern and comfortable, to make them pleasant places to work at. This was felt to be an important pull for recruitment.

Choice, however, is crucial, so staff can choose the working environment that is right for them. There was acknowledgement that CDHs will suit some staff better than others - based on factors such as life stage, work schedules, location, travel and transportation, and professional development /training opportunities.

> "Was very supportive of CDHs, as long as they are friendly and do not feel like a hospital environment, which scares a lot of her customers. The type of facility was the most important thing – being friendly, having a welcoming atmosphere, not rushed, not too busy. Calm." Refugee / Domestic violence advocate

> "Most people want to work in an aesthetically pleasing, clean environment. When you walk into a building you judge your expectation of performance based on what it looks like, so investment there needs to reflect this modern, state of the art, one stop centre." Staff 1.1, group 3

> "I like the idea. I'm visualising them as quite calm places, not so clinical looking. A bit like therapy rooms, I suppose, but keeping some control over it all, rather than the hospital environment." Public 1.2, group 1

> "Someone forced to go to an area which isn't the location and not the same service delivery they intended to do, there needs to be a choice. There [are] staff this will appeal to." Staff 1.2, group 4

Environment – design principle 1

At the start of Phase 2, participants were asked to consider the ‘look and feel’ of CDHs, in particular to understand where CDHs would be situated on a spectrum between ‘community feel’ and ‘institutional’. The first draft principles from each break-out groups (in yellow below) show a desire for CDHs to fall more on the ‘community feel’ side, but to not lose the cleanliness and professionalism which would make it feel appropriate as a healthcare setting. In the second workshop this principle was honed to take into account patient groups that may have additional needs and includes a reference to making the design of CDHs inclusive for different patient types.

> “I think it is important for the hubs to be modern, like the equipment would attract the staff. A nice and bright environment for those being there all day. But for the patients it’s important too, to be clean and fresh.” Phase 2.1, group 2

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Needs to consider infection control (e.g. clean and safe) as well as comfortable feel to remove anxiousness from arrival e.g. spacious, natural light - “not too homely, not too clinical”
- Clinicians would like welcome, modern feel
- Seating tailored to the type of tests/length of stay
- Health and safety and cleanliness must be mandatory functional, practical, clean.
- ‘Community’ sounds more friendly – posters, leaflets, TV screens promoting health and wellbeing
- Comfortable but easy to clean.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs should project a modern feel; efficient, light and clean, but also comfortable with flexible seating areas to accommodate short and long waiting times.

Final principle (after amendments and analysis)

CDHs should project a modern feel to attract/retain staff and reassure patients. They should be efficient, light and clean, but also comfortable with flexible seating areas to accommodate short and long waiting times. Ensure inclusive design (including quiet areas if needed), friendly for severe mental illness (including dementia) and learning disabilities.

Environment

The patient advocate interviews conducted in Phase 1 highlighted the need for the design of CDHs to be sensitive to the needs of all patients, in the design element by offering quiet areas, and flexibility in the layout to allow patients to be accompanied by carers or patient advocates.

In addition, providing social care experts on site who can understand complex needs was suggested. These experts would, for example, be knowledgeable about the needs of patients attending diagnostic appointments who have learning disabilities or mental health challenges; understand the need for privacy amongst women from diverse cultural backgrounds; and offer additional support to women who may have experienced domestic violence.

> "[The most important thing] is the type of facility. A good way of setting up these hubs away from a hospital would be to make it a lot less clinical as possible, and much more psychologically informed, because you're going to building up relationships with the staff there, because it's going to be routine appointments that will be going on over years. You want [the CDH] to increase the engagement of the vulnerable, in needs to be somewhere they want to go to almost, even if it's down the road if it's not welcoming…then that's going to make people not want to go there and prioritise their health." Refugee / Domestic violence advocate

> "It's all about explaining, if he understands what's going on there's not a problem, if he doesn't [understand], he gets flustered, and when he gets flustered I've found health care workers get even more flustered… so they don't seem to know. It's very easy to calm him down, by talking softly and explaining what's going on. I think people are frightening by people with dementia, I know some types of dementia cause people to get angry and possibly violent, so as soon as you mention the word dementia the staff seem to go into panic mode in case they're going to be attacked." Carer of dementia patient

Environment – design principle 2

During the course of discussions in the second Phase 2 workshop about accessibility, participants generated a new principle. They believed **additional staff support for patients** with specific needs should be provided at CDHs, ideally provided by specially trained members of staff working to assist patients– helping to make CDHs more accessible.

> “If a patient with dementia might be attending, are there the right staff resources to have someone sit with that patient? They don’t need to be clinically trained but be able to provide onsite care.” Phase 2.2, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

N/A (new in second Phase 2 workshop)

Phase 2 – Draft principle (synthesised from workshop 1 principles)

N/A (new in second Phase 2 workshop)

Final principle (after amendments and analysis)

CDHs should have additional staff resources and training to support the very vulnerable during their visit (e.g. dementia patients).

Environment

Discretion when visiting a CDH is important, especially in a CDH where mixed diagnostic tests are being carried out. Public participants in Phase 1 were keen to ensure **that privacy is maintained** so it is not obvious which diagnostic test people are attending the hub for. Accessing diagnostics in a community setting can potentially feel less anonymous than at a large hospital, so signage, privacy and discretion were words used repetitively.

Waiting areas at CDHs were debated in the Phase 1 public workshops; whether or not to put people together in the same waiting area, or separate-out patients according to type of diagnostic test, or gender. It was felt that patient privacy should be prioritised when designing waiting rooms, but also patients may have different requirements from a waiting room at different stages of the diagnostic pathway (e.g. waiting for a test or in-between tests).

> “Can’t see any issues with having all different tests in one place as long as it’s more anonymous and not spelling out ‘breast screening’ in big letters.” Refugee/ asylum seeker advocate

> “Sometimes, they take a sample and you’re pushed back to the waiting area. Maybe somewhere more private and calming, so once you’re into that flow you don’t go back to the waiting room in a comfortable environment.” Public 1.2, group 1

> “Sexual health clinics not appropriate because of being in waiting room with neighbours…[which can result in a] downturn in people accessing services.” Mental illness/homelessness advocate

Environment – design principle 3

As participants explored co-locating services together, a design principle emerged about how to deal with potentially sensitive/personal diagnostic tests being conducted on one site. The first draft principles in yellow illustrate how participants tried to mitigate against concerns they had about accessing a variety of tests in a combined hub environment. These principles were further refined to capture additional minority patient needs.

> “Rather than it being ‘Sexual health clinic’, it [should be] ‘Clinic 1, Clinic 2’, that gives people privacy and flexible use of space. It could be different clinics on different days. Phase 2.2, group 1

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

Neutral signage to keep diagnostics discrete (e.g. Clinic 1, Clinic 2)

Privacy as a key design consideration

Different entry and exit points to accommodate different types of diagnostics and privacy needs and still make use of the benefits of co-location and sharing of equipment between professionals

Patient privacy:
-All CDH’s to have small rooms once patients have got changed for their diagnostic
-separate areas for men and women should be available

Phase 2 – Draft principle (synthesised from workshop 1 principles)

The layout and flow of a CDH should be sensitive to patient discretion and privacy, with discrete signage and separate waiting areas for men and women once changed for diagnostic test (e.g. in hospital gown).

Final principle (after amendments and analysis)

The layout and flow of a CDH should be sensitive to patient discretion and privacy, with discrete (e.g. clinic numbering rather than naming the service) and multi language signage, and an option to choose same gender or not (if need to be accompanied by a carer) waiting areas once changed for diagnostic test, e.g. if wearing a hospital gown.

Services

During Phase 1 many conversations in all workshops revolved around *which* diagnostics would be appropriate to be offered at CDHs, with varying views on whether or not more invasive procedures such as endoscopies could feasibly be carried out in the community. Both staff and public participants raised **concerns around invasive and/or higher-risk diagnostics being sited away from acute hospitals**, and a red-line was drawn by many for endoscopies being carried out at CDHs. This was due to concern about the lack of emergency support or back-up should complications arise during procedures.

High volume, low-complexity diagnostics seemed ideal to co-locate together at CDHs. A 'one-stop-shop' model which suited a lot of people who could see the benefits of getting all tests completed in one session, as opposed to returning to the site on separate occasions for different diagnostics.

However, **patient choice is crucial,** as all participants, especially patient advocates, recognised that for some people having additional ad hoc (i.e. unscheduled) tests could be challenging, so an option to come back on another day would be preferable.

There were also discussions around whether grouping sensitive/stigmatised diagnostics such as mammograms or sexual health tests on separate sites would be sensible, A model was suggested to have specialised CDHs with specific 'focuses', but more generic CDHs for quick, high volume tests.

"A one-stop-shop would be beneficial for the patient. If they're seen, assessed, given the outcomes on the same day, if possible then it would be beneficial." Staff 1.1, group 2

"There has be some kind of customer decision in terms of how many they would want to do in one day, dependent on their levels of stress and anxiety…some flexibility in terms of 'we can do this many tests on this day in the future', you can tick up to six tests, for example, if they needed that many, or do you want them split over two appointments? That kind of flexibility would be helpful." Domestic violence/ refugee advocate

"I personally wouldn't be comfortable going to a mobile unit in a shopping centre to having my breasts examined or a smear test." Phase 1.2, group 6

Services – specific staff issues

Staffing CDHs was covered in Phase 1 with members of the workforce. There were misgivings about how CDHs would be staffed, and whether this would divert staff from acute sites. Staff were also not convinced that having a rota system would appeal to everyone, but on the flip side, working full time in a hub might not give someone the breadth of experience they need.

It was felt that this could be mitigated against by ensuring hubs offer training and the opportunity for staff to work in **multidisciplinary teams**, across various diagnostics, so that expertise is shared.

Staff also identified an opportunity to potentially **expand job roles** at CDHs, so healthcare providers are responsible for more of a patient diagnostic journey; this was considered as a key pull factor to attract staff to CDHs.

"I cannot comprehend where you will find staff. Or is it that you're linked to a hospital so you're part of a rota and going down to work there?" Staff 1.1, group 2

"Your staff have an opportunity, depending on how that hub is setup, to become generalists…every ward [in hospital is] a specialist ward, you become stuck with a speciality per se. You've got an opportunity for somebody to be a generalist which may appeal to a few staff." Staff 1.1, group 5

"I keep saying this, if you expand the roles of physiology staff, if they're not only doing the diagnostics, you extend their roles and train them in physical examinations, so they can run surveillance clinics in the community. So for people with bowel disease, if they've got skills to run their caseload and they can return them to the acute setting, when they need their bowel replacement or whatever, extending roles is how to sell it." Staff 1.2, group 2

"I think [the case study] demonstrates nicely how [CDHs] might throw up some opportunities. The satisfaction of running a one-stop asthma diagnostic service, that would be really rewarding. You need professional links, to touch base with your larger team. But also shared facilities, social support...I thought that sounded really appealing, working with lots of different professionals, not just within your own profession." Staff 1.2, group 1

Services – design principle 1

Prior to the Phase 2 workshops, it was determined that clinical teams would decide *which* diagnostic tests are deemed appropriate and safe to deliver in a CDH. This meant that we could focus the service design principles in Phase 2 on *how* services could be offered at CDHs. The first draft principles evolving into the final principle show that participants are comfortable with the one-stop-shop model, allowing patients to get multiple tests on the same day. Staff opportunities are also acknowledged in this principle, by highlighting the potential to share expertise between professionals and gain access to training in a variety of diagnostics.

> “It would depend how discreetly the tests are advertised, if you’re in the queue for a blood test it can be quite anonymous, if you’re seeing a specific clinician or specialist it might be more obvious. It should be a bit discreet.” Phase 2.1, group 4

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Support for patients with concerning diagnoses, including mental health services, pharmacy
- Feasibility of additional services will be dependent on types on diagnostic and how appropriate.
- Separation of simple and basic tests (e.g. ECG) from specialist and more complicated tests (e.g. MRI, endoscopy) into different hubs taking into account the seriousness and sensitivity of specific diagnostic testing
- Would like CDH to offer as many diagnostics as possible in one location and offer them to patients in one visit
- ‘One stop shop’ wherever feasible with enough space, clinicians, equipment and budgetary restraints.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

CDHs should be 'one stop shops', co-locating diagnostics, sharing equipment and expertise between professionals, but organise the layout and flow sensitively with patient discretion in mind (e.g. 'serious' or 'sensitive' tests).

Final principle (after amendments and analysis)

CDHs should be ‘one-stop shops’ where possible, where tests can be done on the same day in the same place if the patient wishes, co-locating diagnostic staff, equipment and expertise. Organise the layout and flow sensitively with patient discretion in mind (e.g. 'serious' or 'sensitive' tests).

05.

Diagnostic appointments and results

Virtual appointments and collaboration

In Phase 1, public participants and advocates were presented with case studies showing virtual appointments as part of potential future diagnostic services. As with online/offline booking above, participants recognised that remote consultations could be very **convenient for people who need or prefer to be at home**. Participants also believed that virtual appointments could free up clinicians' time and **help reduce the diagnostics appointment back-log**.

However, participants did flag concerns about virtual appointments. Their initial reactions were often that many **diagnostics would not be feasibly done remotely**, though experts reassured them that it would most likely be initial consultations and/or results that would be done virtually. Advocates in particular reiterated the risk of digital exclusion, from **confusion** for patients with dementia, to the homeless' **lack of digital infrastructure** and the severe implications of **privacy** for victims of domestic violence. Patients and advocates suggested broadening 'virtual' out to include **telephone appointments** to encompass a wider number of patients.

Staff participants in Phase 1 agreed that many diagnostics would not be feasible virtually, though they focused more upon **virtual communication between colleagues**. This was met with some scepticism, either from the irreplaceable assurance of face-to-face contact with colleagues to the risk of shifting capacity onto overworked colleagues elsewhere.

"I think it's great to be able to do a video call. It's so accessible and you're face-to-face in the comfort of your old home. I understand for older people that are difficult but for most of us, it's improved the service…The more of us that are able to do it, it frees up the time for those who are less able." Public 1.2, group 1

"The majority of people who are doing any medical thing over Zoom are doing it over the phone with a really tiny screen, not getting the same level of care as people in the chair with computer. " Mental health advocate

"[Accessing staff virtually] sounds so wonderful… theoretically it's fantastic, but the radiologist has their own workload… radiologists are the most undermanned group of doctors in the country. But we seem to be this net to pick up other people's issues." Staff 1.2, group 5

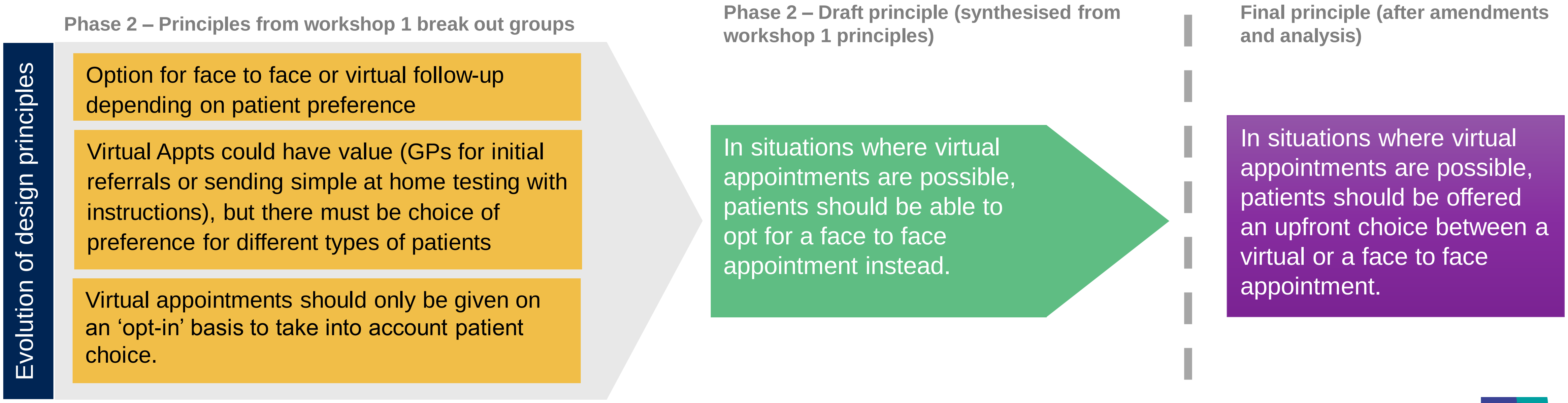
Diagnostic appointments and results – design principle 1

Participants discussed virtual diagnostic appointments, as well as virtual appointments to deliver results at the start of Phase 2. Patients and staff flagged that many diagnostic appointments, because of the nature of tests being performed, would need to be face-to-face, though some were open to the idea of virtual follow ups.

There was a strong sense that virtual appointments would be acceptable in certain situations (straightforward or normal results), but not in others. Participants reiterated the importance of clinicians deciding what is and is not appropriate, as well as patient choice.

Patient choice became the overriding factor during discussions in workshop 2 of Phase 2, with an expectation being voiced that this should be offered upfront.

> “Diagnostic means diagnose, therefore I believe it means you need a face-to-face appointment. Some kind of action or testing which you can’t do on a zoom call”. Phase 2.1, group 4



Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Option for face to face or virtual follow-up depending on patient preference
- Virtual Appts could have value (GPs for initial referrals or sending simple at home testing with instructions), but there must be choice of preference for different types of patients
- Virtual appointments should only be given on an ‘opt-in’ basis to take into account patient choice.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

In situations where virtual appointments are possible, patients should be able to opt for a face to face appointment instead.

Final principle (after amendments and analysis)

In situations where virtual appointments are possible, patients should be offered an upfront choice between a virtual or a face to face appointment.

Processing and transferring test results

In Phase 1, the majority of the discussion with patients and staff focussed on access to diagnostics and experience (patient and staff). However, throughout the workshops discussions touched upon receiving diagnoses.

The focus, from both patients and advocates as well as from staff, was around **the need for joined up IT systems**, which will facilitate access to joined up care records so that the clinician who ordered the tests can quickly access the results needed to deliver any diagnosis.

From the patients' perspective, **joined up electronic care records are essential to avoid repeating patient stories**, while advocates of those with severe mental illness also suggested that this would also reduce the risk of diagnostics causing trauma. **Staff stressed the importance of IT systems that were integrated across provider sites**, so that images and test results could be quickly transferred. Staff were particularly worried about overall accountability for the patient, questioning who will oversee the patient's journey from referral to diagnostics, back to the referrer again to deliver the diagnosis.

While the idea of receiving a diagnosis at the same time and place the diagnostics took place was suggested and appealed, **patients and staff flagged that some diagnoses require more support,** thus questioned how diagnoses will be delivered in a timely, but sensitive fashion. Staff discussions raised the need for staff training with regards to communicating results to patients.

"Having to repeat processes and repeat information can massively delay the process…this kind of thing can also cause severe trauma…They need to complete the loop and get back to patients properly." Mental health / homelessness advocate

"Bouncing around between different places, if the machine doesn't send over your results, it makes the whole machine break down, it's inefficient." Public 1.1, group 4

"The only question I had from the presentation, it sounds quite good, but in terms of the results going back to the hospital, if there are going to be a huge amount of people having tests, is there a process of it going back to the hospital and who's going to be giving these patients their diagnosis and results, who is going to take ownership of that?" Staff 1.2, group 3

Diagnostic appointments and results – design principle 2

At the start of Phase 2, participants discussed communication between referrers and CDHs and their staff. It was felt to be important that results should be available to the person who requested the tests (often assumed to be the GP), within 24 hours of these being available. Ideally this would be facilitated via a digital system which both the referrer and the diagnostic staff could access. Additionally, participants and staff felt patient expectations around when to expect results should be well managed with clear communications.

Throughout the second workshop in Phase 2, the reference to GP was removed, and the principle became broader with participants recognising that all kind of healthcare professionals can request tests. In terms of digital infrastructure, participants landed on setting more realistic expectations around a longer term ambition for a joined up system.

> “The digital systems need to talk to each other. It doesn’t happen in the NHS. That’s why tests go AWOL and tests are duplicated. I think everything needs to speak to each other but I appreciate that’s a massive piece of work”. Phase 2.1, group 1

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

- Clear and real-time communication to referrers, supported by digital transfer to avoid duplication.
- Invest in workforce / systems to ensure communications between referrers and diagnostics work well.
- At a minimum results and next steps must be fed back to GPs, within 24hrs of results being available
- Provide clear instructions and expected timescales for receiving results
- Digital systems should talk to each other via an integrated infrastructure /standardised format

Phase 2 – Draft principle (synthesised from workshop 1 principles)

Referrers should receive diagnostic results from CDHs within 24 hours of them being available, preferably via linked digital systems

Final principle (after amendments and analysis)

Referrers should receive diagnostic results from CDHs within 24 hours of them being available, preferably via linked digital systems, and the accountability for communicating results of diagnostic tests carried out in CDHs should be made explicit for all staff. There is a longer term need for a joined up system to avoid duplication of referrals.

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Diagnostic appointments and results – design principle 3

At the start of Phase 2, participants were asked to consider how patients should receive diagnostic results, in particular who the results should be made available to and how. There was emphasis on the importance of results being communicated with GPs within 24 hours of them being available, to keep them in the loop and to avoid repeat tests being requested.

As discussions progressed, in the second workshop, there was recognition of the need for flexibility in the length of time people should wait for results: where these have not been requested by a GP; if the results are complex (i.e. abnormal); and/or if other tests are required. There was also discussion, as participants reviewed case studies, around the need to consider the communication of results to those who don’t have access to a GP or a regular address.

Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

There must be structures in place for trained staff to communicate unexpected clinically significant pathology: ‘red alert button’.

Results delivered with discussion, information and advice and defined follow on plan should be: Clear, Concise, Fast, Simple, Offer interpretation

Results need to be communicated by a specialist/clinician, ideally by GP/consultant who understands the needs of their patients.

Normal and abnormal results should be treated differently and considered. Abnormal results if serious should be given in person

Patients opt-in for their preferred medium of receiving results and clear guidelines for staff about delivering serious news.

Phase 2 – Draft principle (synthesised from workshop 1 principles)

Results should be shared on the same day where possible, but abnormal results should be communicated to patients by a professional with oversight of the patient pathway (e.g. their GP) rather than directly from a diagnostic professional.

Final principle (after amendments and analysis)

To lessen patient anxiety, results should be shared on the same day where possible. Abnormal results should generally be communicated to patients by a healthcare professional with responsibility for care or the referrer rather than directly from a diagnostic professional, though there should be flexibility on this if further tests are required on the same day by the diagnostic professional. Consideration needs to be given to people who don’t have access to GP services/regular address for communication of results (e.g. communication via email or text message).

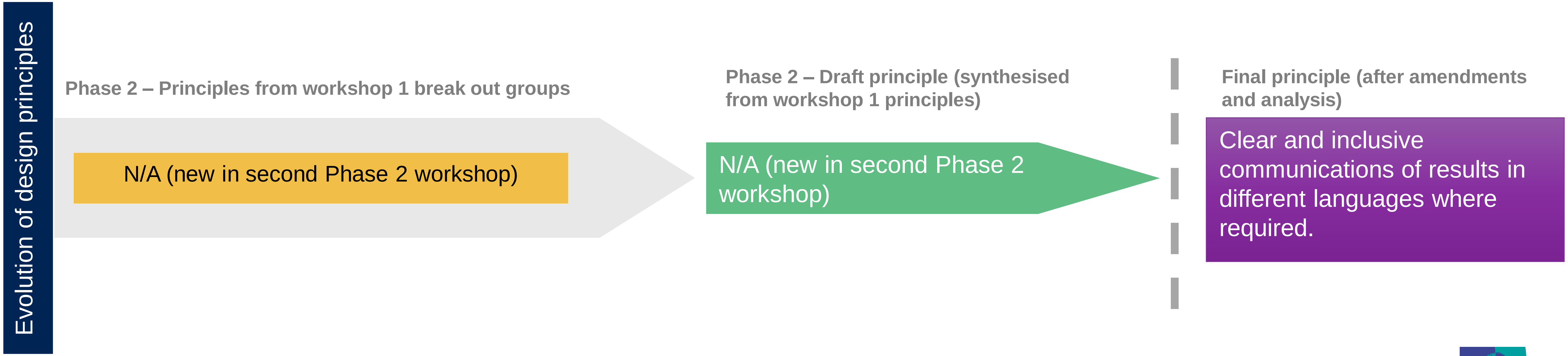
Diagnostic appointments and results – design principle 4

During the discussions in the first workshop of Phase 2, there were participants who mentioned the importance of providing clear information about diagnostic appointments and next steps in languages other than English. A new principle emerged accordingly.

The need for clear and inclusive comms was amplified when participants reviewed case studies in the second workshop of Phase 2. The importance of informing people how they will receive their results, where to go next. There were discussions around the availability of interpreters, however there were concerns around how feasible this would be in practice.

> “English is not always their first language, make it clear and concise, clear referral for appointments” Phase 2.1, group 2

> “I think we said interpreters should be available, but they may not be based here because that would be very costly” Phase 2.2, group 2



Evolution of design principles

Phase 2 – Principles from workshop 1 break out groups

N/A (new in second Phase 2 workshop)

Phase 2 – Draft principle (synthesised from workshop 1 principles)

N/A (new in second Phase 2 workshop)

Final principle (after amendments and analysis)

Clear and inclusive communications of results in different languages where required.

06.

Staff working in CDHs

Considerations relating to staff working in CDHs - Principles

As covered in the previous slides, the focus in Phase 2 was on areas of alignment between patients, advocates and staff. As such there were a number of staff principles that were voiced during phase 1, but not brought back in any great detail in phase 2. Through an analysis of discussions, the following principles which relate specifically to staff working in CDHs have been derived. These relate to the recruitment and retention of staff more generally, hence are of significant importance.

CHOICE AND EQUITY

Staff should be given as much choice as feasibly possible on how much of their time (if at all) they would like to spend working in a CDH. This is to recognise the fact that travel time might be greater, the working patterns (i.e. evening and weekend shifts) might be different, and that some staff will still want to work in the hospital environment. Decisions on staffing between CDHs and hospital environments should avoid creating inequalities among staff groups.

TRAINING AND DEVELOPMENT

Roles in CDHs should be enhanced through offering training opportunities, such as: expanding proficiency within their own field and encouraging staff to work ‘to the top of their licence’; broadening out proficiency to additional diagnostic areas; maintaining connections with clinical teams in acute settings; and, expanding role applicability across the patient pathway / journey, beyond the execution of diagnostic tests.

RESPONSIBILITY

If CDHs take on additional services (e.g. outreach, consultation, communicating diagnoses, and onward referral), staff should be given clear direction on what part(s) of the patient pathway they are responsible for to avoid confusion or duplication of effort with other roles (e.g. if CDH staff communicate diagnoses, it is clear that the referrer does not also do this).

IT SYSTEMS AND CONNECTIVITY

It is imperative that staff working in CDHs are not isolated from the rest of the system and that they feel connected and part of a team. IT should help facilitate this and minimise administrative burden. Consideration should be given to ensuring enough time is allowed and the systems enable effective communication between staff in CDHs and staff in other settings where needed, such as the referring clinician, and the clinician the results are being sent on to.

06.

Appendices

Phase 1 Public Groups' characteristics

The Public / Patient Group was recruited to reflect the diversity of London, including gender, age, socio-economic status, ethnicity, health and social care usage and integrated care system- as demonstrated below.

40* participants took part in this initial deliberation.

Gender

Female	23
Male	17

Age

17-24	2
25-29	4
30-44	9
45-64	20
65-74	4
75+	1

Social Grade**

Higher and intermediate managerial, administrative, and professional (AB)	6
Supervisory and junior managerial, administrative, and professional (C1)	8
Skilled manual workers (C2)	15
Semi-skilled and unskilled manual workers, casual and lowest grade workers, and the unemployed (DE)	11

* Not all participants attended both workshops

** See NRS website for more information http://www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/

Phase 1 Public Groups’ characteristics

The Public / Patient Group was recruited to reflect the diversity of London, including gender, age, socio-economic status, ethnicity, health and social care usage and integrated care system- as demonstrated below.

40* participants took part in this initial deliberation.

Ethnicity

White British	10
White Other	6
Asian/Asian British	8
Black/Black British	10
Mixed/Other	6

Health and social care usage

Light	14
Medium	12
Heavy	14

Integrated Care Systems

South East London	8
South West London	8
North East London	8
North Central London	8
North West London	8

* Not all participants attended both workshops; one participant from phase 1.1 did not attend phase 1.2

Phase 1 Public Groups’ characteristics

The Public / Patient Group was recruited to reflect the diversity of London, including integrated care system- as demonstrated below.

40* participants took part in this initial deliberation.

Integrated Care Systems

North East London	8
Hackney	2
Newham	1
Tower Hamlets	1
Redbridge	2
Waltham Forest	2

North Central London	8
Camden	1
Islington	1
Barnet	2
Enfield	3
Haringey	1

South West London	8
Wandsworth	1
Croydon	3
Kingston	1
Merton	1
Richmond	2

South East London	8
Greenwich	1
Lewisham	2
Southwark	4
Bromley	1

North West London	8
Hammersmith and Fulham	1
Westminster	1
Brent	3
Harrow	3

* Not all participants attended both workshops; one participant from phase 1.1 did not attend phase 1.2

Phase 1 Staff Groups’ characteristics

The Staff Group was recruited to reflect the diversity of London, including job role, hospital type and integrated care system- as demonstrated below.

30* participants took part in this initial deliberation.

Job Role

Diagnostic care assistant	2
Endoscopist	3
Endoscopy nurse	3
Phlebotomist	3
Radiographer	3
Radiologist	3

Sonographer	3
Physicist	1
Cardiac physiologist	3
Cardiologist	2
Respiratory consultant	2
Respiratory nurse	2

Hospital Type

Large Acute	18
Small Acute	12

Integrated Care Systems

South East London	6
South West London	6
North East London	6
North Central London	6
North West London	6

* Not all participants attended both workshops

Public Advocate Groups’ characteristics

The Public Advocate Group was recruited to reflect the diversity of London, including those who are disproportionately affected and/or marginalised.

In total, 15 in-depth interviews were conducted with members or representatives of disproportionately affected /marginalised patient populations.

Three* participants subsequently took part in the Phase 2 workshops: a dementia carer, a Refugee/Asylum Advocate, and an advocate who supports ex-offenders/the socio-economically deprived/the homeless/asylum seekers

Cohort	**Number**	**Category**
Carers of people with dementia	2	Disproportionately affected
Frail & elderly	2	Disproportionately affected
People with learning disabilities	2	Disproportionately affected
Asylum seekers	2	Marginalised
Prison/ex-offenders	2	Marginalised
Mental Illness/homeless/poverty	4	Marginalised
Domestic violence	1	Marginalised

* Not all participants attended both workshops, 2/3 participants attended each workshop

Experts who supported the deliberation

The Phase 1 and Phase 2 deliberative workshops were supported by a group of experts in health data research and diagnostic services. The experts helped present and explain some of the key issues for discussion. After, they moved between groups, listening and helping moderators to answer questions.

Phase 1

Public Workshop 1, Wednesday 19th May

- Richard Knight, Imaging / Community Diagnostic Hubs Lead - London
- Amy Darlington, Executive Director, ICHP
- Louise Dark, Diagnostic Programme Director, NHSE/I London
- Jonty Heaversedge, Executive Director (Clinical), ICHP
- Amrish Mehta, Consultant Neuroradiologist, Imperial College Healthcare NHS Trust
- Andy Rhodes, Consultant in Anaesthesia and Intensive Care Medicine, St George’s

Public Workshop 2, Saturday 22nd May

- Richard Knight, Imaging / Community Diagnostic Hubs Lead - London
- Jonty Heaversedge, Executive Director (Clinical), ICHP
- Amrish Mehta, Consultant Neuroradiologist, Imperial College Healthcare NHS Trust
- Andy Rhodes, Consultant in Anaesthesia and Intensive Care Medicine, St George’s

Experts who supported the deliberation

The Phase 1 and Phase 2 deliberative workshops were supported by a group of experts in health data research and diagnostic services. The experts helped present and explain some of the key issues for discussion. After, they moved between groups, listening and helping moderators to answer questions.

Phase 1

Staff Workshop 3, Tuesday 25th May

- Richard Knight, Imaging / Community Diagnostic Hubs Lead - London
- Amy Darlington, Executive Director, ICHP
- Louise Dark, Diagnostic Programme Director, NHSE/I London
- Jonty Heaversedge, Executive Director (Clinical), ICHP
- Andy Rhodes, Consultant in Anaesthesia and Intensive Care Medicine, St George's

Staff Workshop 4, Thursday 27th May

- Richard Knight, Imaging / Community Diagnostic Hubs Lead - London
- Amy Darlington, Executive Director, ICHP
- Louise Dark, Diagnostic Programme Director, NHSE/I London
- Jonty Heaversedge, Executive Director (Clinical), ICHP
- Amrish Mehta, Consultant Neuroradiologist, Imperial College Healthcare NHS Trust

Experts who supported the deliberation

The Phase 1 and Phase 2 deliberative workshops were supported by a group of experts in health data research and diagnostic services. The experts helped present and explain some of the key issues for discussion. After, they moved between groups, listening and helping moderators to answer questions.

Phase 2

Public and Staff Workshop 1, Tuesday 13th July

- Louise Dark, Diagnostic Programme Director, NHSE/I London
- Amy Darlington, Executive Director, ICHP
- Andy Rhodes, Consultant in Anaesthesia and Intensive Care Medicine, St George's

Public and Staff Workshop 2, Thursday 15th July

- Jonty Heaversedge, Executive Director (Clinical), ICHP
- Amy Darlington, Executive Director, ICHP/Discover-NOW
- Richard Knight, Imaging / Community Diagnostic Hubs Lead - London
- Louise Dark, Diagnostic Programme Director, NHSE/I London
- Angela Wong, Clinical Lead, Mile End Early Diagnostic Centre

Thank you.