**COVID-19:**

**Recommendations for Restoration and Recovery of Cardiology Services in London**

**Foreword**

Within the ‘restoration and recovery phase’ of the Covid pandemic there are many uncertainties, particularly regarding the prevalence of infection in the community and the risks to patients coming into hospitals and to staff treating them. These risks will also vary in magnitude over time. This document aims to provide some overarching principles to try and ensure staff and patient safety, whilst at the same time trying to ensure that patients in need of urgent care are not discouraged from attending hospitals, either due to their fear of acquiring Covid, or the consequences of changes to care pathways taken in order to safeguard their care.

This document is meant as a framework to help guide individual organisations, and to set in context for cardiology services the relevant national or pan-London published guidance. The wide range of care pathways that exist for patients with suspected or diagnosed heart disease, and the differing prognostic significance of these conditions if left untreated, mean that operational protocols will, to some extent, need to be bespoke for individuals and determined by trusts, their clinicians, and after discussion with patients. The document also highlights the challenges faced due to the high number, and differing urgency, of cardiology patients waiting for appointments, investigations and treatments.

It is important that patients are seen in a timely manner, and equity of access to services is ensured across London. The pan-London Clinical Advisory Group (CAG) has already approved the creation of a North London Operational Delivery Network (ODN) for cardiology which, together with the existing South London ODN, will support STPs/ICSs and providers deliver this equity. To ensure there is a London wide view on demand and the capacity to meet it, the ODNs will also collect data (see later) on a regular basis. NHS use of the independent sector, where there is greater access to ‘green estate’, is already being used for some cardiac patients.

It is hoped that STPs/ICSs will find this guidance helpful in the restoration of cardiology provision and that CAG will approve its wider dissemination to support those organising and delivering care for cardiology patients in this phase of the pandemic. A further update report will come to the CAG in late July to inform future planning for Autumn/Winter.

Huon Gray

Clinical Lead, NHSE/I London Region Cardiac Clinical Network

Gerry Carr-White

Chair South London Cardiology Operational Delivery Network

Simon Woldman

Chair North London Cardiology Operational Delivery Network

**Executive Summary**

The Covid 19 pandemic has had a major impact on the elective and investigational pathways for cardiological disease in London. Infection, prevention and control guidance will continue to limit capacity.

The South and North London Operational Delivery Networks (ODNs) have an essential role in managing this part of the crisis and in ensuring equity of access for all patients.

Stringent care and attention to all aspects of a patient’s pathway are necessary to prevent cardiac patients from contracting Covid 19 whilst in hospital.

Hospital planning for services should take note of the guidance published at national and regional levels and then apply it as best possible to local needs.

Patients should not be disadvantaged if they cannot be treated according to best practice and consideration should be given to referring high risk patients to other centres as needed. The ODNs will help facilitate this.

Waiting lists should be reviewed and patients prioritised so that those most at risk from their condition, and with the most to benefit from intervention, receive the quickest treatment.

All involved in planning and delivering healthcare should be aware of national Infection Prevention and Control (IPC) guidance.

Interventions should be used that minimise time in hospital if the outcome is of equivalent benefit (e.g. some cases of TAVI compared to cardiac surgery for aortic stenosis).

The ODNs will collect data to ensure equity of access and monitor safety from Covid transmission in hospital.

The ODNs will also ensure that Independent Sector capacity is used to its full extent for all cardiovascular patients.

# Introduction

# Covid 19 has had a huge impact on cardiology services in London. Whilst emergency and most non-elective services have been preserved throughout the crisis, elective services, outpatient services and imaging have all been delayed or cancelled resulting in large backlogs in many centres.

# With this backlog, and current reduced capacity (a consequence of Covid and the requirements for infection prevention and control), cardiac waiting lists are likely to increase for some months. It remains uncertain when service ‘productivity’ might return to pre-Covid levels, especially given that there were already pressures on some services (for instance the lack of cardiac physiologists).

# Many uncertainties remain, including the risk of future spikes and the contemporary prevalence of Covid–19 in the community.

# The two ODNs, for North and South London, have collaborated with the Cardiac Clinical Network and provider clinicians to produce this paper, which lays out some guidance for restoration towards pre-COVID levels of cardiology activity.

# Infection Prevention and Control (IPC)

# Every step should be taken to minimise the risk of person-to-person, person-to-surface and surface-to-person virus transmission. This is an overarching principle which will influence every aspect of patient care pathways including, but not limited to:

* Patient advice about self-protection prior to admission
* Exposure to different hospital areas
* Limiting diagnostic investigations to those which are essential
* Ensuring appropriate staff PPE and patient reverse barrier protection (masks)
* Patient and staff social distancing within the care environment
* Restricting staff presence to the minimum necessary
* Optimised staffing patterns to expedite patient movement from admission to discharge
* Stringent and regular cleaning protocols
1. National NHS guidance has been issued, and ***text in italics below are quotes from these sources***:

	1. *“*[*Operating framework for urgent and planned services in hospital settings during Covid-19*](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/Operating-framework-for-urgent-and-planned-services-within-hospitals.pdf)*”* (14th May 2020). The Framework is in 5 parts:
		1. *Careful planning, scheduling and organisation of clinical activity* (this includes guidance on outpatients, and admissions [planned, elective and emergency]
		2. *Scientifically guided approach to testing staff and patients*
		3. *Excellence in Infection Prevention & Control*
		4. *Rigorous monitoring and surveillance*
		5. *Focus on continuing improvement.*
	2. [*“Covid-19: investigation and initial clinical management of possible cases*](https://www.gov.uk/government/publications/wuhan-novel-coronavirus-initial-investigation-of-possible-cases/investigation-and-initial-clinical-management-of-possible-cases-of-wuhan-novel-coronavirus-wn-cov-infection)*”
	 (22 May 2020)*
	3. [*“Healthcare associated COVID-19 infections – further action*](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/06/Healthcare-associated-COVID-19-infections--further-action-24-June-2020.pdf)*” (24th June 2020)*
	4. [*“Covid-19 personal protective equipment (PPE)*](https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe) in various healthcare settings *(18th June 2020).* This guidance includes reference to:

		1. **Aerosol-generating procedures**; these include *“upper gastro-intestinal endoscopy where there is open suctioning of the upper respiratory tract”*. The pan-London Cardiology Group, Clinical Network, and ODNs consider that this includes **transoesophageal echocardiography (TOE)**, where suction is frequently required.
		2. **Infection risk assessment**. Within this guidance document it is stated:
		 *“Ultimately, where staff consider there is a risk to themselves or the individuals they are caring for they should wear a fluid repellent surgical mask with or without eye protection, as determined by the* individual *staff member for the episode of care or single session”* and that, *“Risk assessment at organisational level requires that organisations consider healthcare-associated COVID-19 risk at local level and according to the local context. Organisational risk assessment and local guidance should not replace or reduce the ability of the health and social care worker to use appropriate PPE while providing care to patients or residents”*
2. Local planning for the care of urgent patients on cardiology waiting lists should take account of this guidance, and the differing pathways of care for patients since these will vary depending on clinical need.
3. At present there is a significantly higher rate of non-attendance for booked NHS services, including interventions that are important for the prognosis of the patient. This may occur because of fear of the consequences of being infected with Covid or because of the difficulties in adhering to the stringent infection, prevention and control measures needed.
4. Trusts, and their clinicians, should offer patients appropriate reassurance and explain the infection control measures being undertaken in the hospital. Primary Care has an obvious role in helping deliver appropriate reassurance.
5. **Specifically for cardiac patients, and adhering to IPC guidance in the** [**National Framework**](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/Operating-framework-for-urgent-and-planned-services-within-hospitals.pdf)**, the London Clinical Network and North & South Operational Delivery Networks, recommend the following,**
	1. All patients attending for any cardiac clinic appointment, investigation, procedure or operation should be asked to complete a brief questionnaire related to potential Covid symptoms before attendance, and should have a temperature check on arrival.
	2. For **planned and elective admissions** *(see sections 1 & 2 of* [*national framework*](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/Operating-framework-for-urgent-and-planned-services-within-hospitals.pdf)*), patients should isolate for 14 days prior to admission along with members of their household. As and when feasible, this should be supplemented with a pre-admission test (conducted a maximum of 72 hours in advance)****,*** *allowing patients who test negative to be admitted with IPC and PPE requirements that are appropriate for someone who’s confirmed COVID status is negative. Only patients who remain asymptomatic having isolated for 14 days prior to admission and, where feasible, tested negative prior to admission)* should be admitted electively*.* This category includes admissions for cardiac procedures and operations, including TOE.
	3. *For* ***emergency admissions****: all patients should be tested on admission****.*** *For patients who test negative, a further single re-test should be conducted between 5-7 days after admission.*
	4. *Any* ***inpatient*** *who becomes symptomatic, who has not previously tested positive, should be immediately tested as per current practice.*
	5. ***Other day interventions:*** *testing and isolation to be determined locally, based on patient and procedural risk.*
	6. ***Discharge:*** *all patients being discharged to a care home or a hospice should be tested up to 48 hours prior to discharge.*
	7. Patients undergoing the following do not require self-isolation before or after the procedure (unless for other reasons):
		1. outpatient clinic visits
		2. attendance for phlebotomy, or an electrocardiogram (ECG),
		3. cardiac imaging (echocardiography, CT, MRI scanning)
		4. implantation of a ‘Reveal’ device
		5. attachment of external monitoring devices (such as for ambulatory blood pressure measurement, ambulatory ECG recording)
6. **Where any deviation from national NHS guidance is considered clinically necessary, a local risk assessment must be made to ensure the safety of the patient, other patients in the facility, and staff. The reasons for deviation should follow local Trust governance arrangements which have been agreed with the local Integrated Care System (ICS), and should be clearly documented. Affected patients should be made aware of the deviation and be involved in decision making about the balance of risks associated with their care.**

Hospital (and other care) environments:

1. Elective and non-elective patients should be separated as far as possible, using rigorous infection prevention control measures, so that elective activity can be as recommended in national and London guidance for Infection Prevention and Control.

Principle 1 of the pan-London guidance states that separated care pathways (physically separated, staffing separated) for urgent and planned care aim to eliminate risk of nosocomial infection. Two pathways are described:

	* **COVID-19 protected (CP)** - Elective care pathway patients assessed by test and symptoms to minimise the risk of exposure to COVID-19
	* **COVID-19 risk managed (CRM)** - Urgent and emergency care in a defined zone, and reduce risk of nosocomial transmission when care cannot be delayed and testing status of patient not known. Patients who are either unable to follow the isolation guidance, or for whom the guidance above is felt clinically inappropriate, should follow a CRM pathway.
2. London guidance refers to options for separation of services and ***text in italics below are quotes from this guidance***, which acknowledges that:

*“Solutions will be different for different settings, organisations and specialties and provides a range of options to enable this”.

“Implementation of this guidance will need to recognise the balance of risks of COVID-19 infection with other issues including (but not restricted to) urgency of treatment, equity of access to healthcare for all patient groups and geographies and the practical feasibility of implementation”.*And that *“to enable excellence in IPC, the unit of delivery will need to be larger than single organisations”,* hence the desirability of consistency across STPs/ICSs
3. **Trusts, and all those involved with planning of appropriate Covid-protected, and Covid risk-managed, pathways of care need to be aware of national and London guidance (and where they change over time). Local implementation of any recovery policies will need to be designed alongside the local infection control team within the trust. Where any deviation from the guidance may be required, the reasons for deviation should be agreed via local Trust governance processes, be clearly documented, and relevant patients should be made aware of the deviation and be involved in decision making about the balance of risks associated with their care.**
4. Patients who are shielding, either because of their cardiac condition or because of a co-morbidity, must be treated with special care. Where possible, they should be managed in a hospital with facilities that are earmarked for such patients. All patients admitted to such a unit should be screened and swabbed prior to admission.
5. Hospitals which are not able to support shielded or high-risk patients adequately should consider referring patients to centres with appropriate facilities.

Minimising length of hospital contact for patients: selecting patients for the right procedure

1. During the restoration and recovery phase, there should be a focus on those patients for whom hospital attendance, or a catheter laboratory procedure, is judged to be clinically urgent, and where the patient’s attendance or procedure can be provided at an acceptable risk with a low likelihood of exposure to COVID in hospital. The term “acceptable” is used as it highlights that decision making for individual patients needs to balance:

	1. The risk to the patient of their cardiac condition if care is further delayed
	2. The degree to which the hospital environment can be ensured to be Covid-free
	3. An assessment of the clinical consequence to the patient if they were to acquire Covid during their care

	For instance, at one extreme a patient with an immediately life-threating cardiac condition (such as heart attack, cardiac arrest, or cardiogenic shock) may need treatment before any Covid testing or self-isolation could be undertaken, whereas an asymptomatic outpatient awaiting a procedure for a non-prognostic cardiac condition may be more appropriately deferred for some months until there is greater certainty of protection from Covid. Between these two extremes lie large numbers of patients, each of whose circumstances will be different.
2. As a general principle, during the pandemic, procedures should be undertaken as day cases whenever appropriate. Treatment options will also need to be considered in the context of the pandemic, as the balance of risk/benefits of treatments may be different from that which applied before Covid. For instance, the balance of potentially better long term outcomes associated with a surgical procedure, but at the expense of a longer hospital stay, needs to be compared to an interventional procedure with potentially less certain longer term outcome, but with a shorter length of stay. Such decisions about care can only be made after multidisciplinary clinical discussions and involvement of the patient and their family.

Emergency care

1. For emergency care (predominantly cardiac surgery, percutaneous intervention and electrophysiology), all patients should continue to be managed as has been established for the surge phase of the pandemic.

Virtual consultations and diagnostics

1. During the COVID pandemic, many outpatient consultations have been switched to virtual appointments. Trusts should continue to limit face to face visits to those which are necessary and encourage new technologies to enable this. However, it should be stressed that physical examination of a patient (such as heart and chest auscultation) is often vital for gathering important clinical information and there will be a continual need to balance this against the risks of Covid. This balance will change dynamically as the prevalence of Covid infection varies in the community and hospital sites.

Wider consultation and communication

1. It is likely that Covid prevalence will change over time. It is also clear that much cardiology morbidity and mortality will sit within primary care. Cardiologists designing their local pathways should have regular communications with local public health and primary care leads to help guide and update policies and pathways. The two Operational Delivery Networks (South and North London) will support STPs/ICSs in ensuring engagement with Primary Care colleagues.
2. Primary care clinicians will likely wish for more “advice and guidance” rather than direct referrals to hospitals, and will want a trust-specific route rather than separate cardiology processes. Organisations should work within their individual trust to ensure that consistent and clear advice and guidance, are available by email and by phone. In some areas virtual clinics jointly held with GPs may be helpful.
3. Patients will continue to be wary of face-to-face contact, and may be unclear how and when to access the health system. Clear communications should go out to patients via websites, letters and texts with clearly signposted sources of advice.
4. Wherever possible, patients, the public and Allied Health Professionals should be consulted as part of any reconfiguration of care pathways caused by the pandemic, and particular if longer term changes are anticipated.

Local Hospital Guidelines

1. Each hospital should create its own guidelines to manage patients during the various phases of the Covid pandemic. The guidelines will need to address how each part of this document will be best applied in the local environment.
2. It will not be possible for all hospitals to make all the provisions outlined in this and referenced documents. Hospitals should consider how to mitigate the risks in this situation and in some cases (e.g. for shielded patients) consider referring to other hospitals where the risk of Covid infection may be less or ‘Green’ (Covid-protected) pathways are easier to deliver.
3. A suggested **structure for guidelines can be found in appendix A**.

Role of Operational Delivery Networks (ODNs)

1. There are two cardiology ODNs in London. There has been one in South London for some time and a new one has been setup in North London. Their role is to ensure equity of access in London for all patients with cardiological conditions, supporting the work of STPs/ICSs and other colleagues in delivering this, and suggesting solutions where inequity exists.
2. To achieve this, the ODNs will collect and collate data from every site, looking at delays in the common cardiology pathways for investigations and procedures. Where inequity is demonstrated, suggestions for the redistribution of patients to other sites will be made. **An outline of data needed, and categorisation of urgency, can be found in appendix B.**
3. The ODNs will also monitor the safety of cardiac interventions and in particular the rate of Covid infections in treated patients. In order to do this a **Safety Dashboard –** **Appendix C** has been created.

Pathway Specific Considerations for Elective Care

1. This section focusses on disease specific recommendations for elective cases only. As above, emergency and non-elective procedures should continue as they have been doing during the surge phase of Covid disease. Clinicians will need to judge whether any intervention is appropriate for an individual patient considering the risks posed to them by coming to the hospital. In particular, the prognostic benefit needs to be clearly set out for the patient and compared to the risk and potential consequences of catching Covid on the wards or during transport.
2. The British Cardiovascular Society has published [cardiology-specific guidance](https://www.britishcardiovascularsociety.org/__data/assets/pdf_file/0019/10828/2020-BCS-Guidance-on-NHSE-and-I-Op-Framework-urgent-and-planned-services-COVID-19.pdf) on the screening and testing of staff and patients, though this differs in some respects to national NHS guidance. The Society for Cardiological Science & Technology (SCST) has made recommendations for the [use of PPE by Cardiac Physiologists](https://scst.org.uk/wp-content/uploads/2020/06/SCST-Consensus-Recommendations-for-PPE-for-Cardiology-Procedures-June-2020.pdf).

Ischaemic Heart Disease

1. All patients with recent onset anginal type chest pain should be seen within two weeks. Patients regarded as high risk on initial assessment should undergo invasive coronary angiography in a catheter laboratory equipped for PCI. Others should undergo non-invasive assessment, with CT coronary angiography as the default.
2. Patients with chronic stable angina might be best deprioritised unless there are high risk features or severe symptoms. Patients with unstable or recent onset symptoms should be prioritised.
3. A multidisciplinary team of surgeons and interventional cardiologists should assess each patient and in certain circumstances it may be more appropriate to consider percutaneous options for revascularisation rather than surgery to reduce time in hospital and the risk of acquiring Covid since outcomes of patients undergoing surgery who have or acquire Covid are so much worse than would have been anticipated in the pre-Covid era.

Arrhythmia

1. Patients with symptomatic second- or third-degree AV block or sinus node disease with syncope need emergency / urgent evaluation and treatment. Patients with heart failure and severe left ventricular systolic dysfunction who require device therapy (implantable cardiac defibrillator [ICD], resychronisation therapy] should receive the most appropriate device therapy according to symptomatic status and/or indication for primary prevention therapy.
2. Patients with supraventricular tachyarrhythmias should be evaluated carefully prior to offering procedural treatment and should receive treatment if symptoms are severe and the patient understands the risks and benefits. In particular, patients with pre-excited atrial fibrillation, or tachycardia with syncope or other severe symptoms will require urgent evaluation for treatment.
3. Patients with recurrent documented ventricular tachycardia, arrhythmia storm or recurrent device discharges for require urgent evaluation.

Valvular Heart Disease

1. Patients with severe symptomatic valve disease should be evaluated urgently. The short and long-term benefits and risks of surgical AVR vs. TAVI should be considered and discussed with patients as part of the consent process, including differential length of stay, peri-operative exposure to, or development of Covid, as well as long-term valve longevity. Patients should be referred for surgery where judged appropriate by a MDT.
2. British Heart Valve Society has recently published [consensus guidance](https://www.bhvs.org.uk/bhvs-blueprint/) regarding management of patients with heart valve disease. See <https://www.bhvs.org.uk/bhvs-blueprint/>

Congenital Heart Disease

1. Patients with severe symptoms or pathology who require urgent intervention on prognostic grounds, should be treated in the usual way and consideration given to percutaneous treatments where this is judged to be a reasonable option. Patients should be referred for surgery where needed. Treatments justified purely on symptomatic grounds may be deferred if symptoms are not too limiting. It will be helpful to work with the Paediatric ODN on these matters.

Heart Failure

1. Patients with severe heart failure symptoms should be admitted and treated as usual. As above, patients requiring device therapy should receive treatment as needed to improve prognosis. However, opportunities to manage patients at home, often remotely, should be considered (e.g. short-term use of thiazide diuretics in addition to loop diuretics) in patients with severe fluid overload.
2. The British Society for Heart Failure (BSH) has published [a position statement](https://www.bsh.org.uk/wp-content/uploads/2020/06/The-Recovery-Plan-Final.pdf) on the restoration of heart failure services.

Inherited Cardiac Conditions

1. Patients who have inherited cardiac conditions (ICC) who have syncope or severe heart failure symptoms, or who may be at a high risk of sudden cardiac death, should be seen and managed as usual. This should include patients with ICC, but without systolic dysfunction, identified as high risk and who require an ICD for secondary prevention. Where possible, routine follow up of low risk patients should be virtually with appropriate investigations done locally.

Cardiac Rehabilitation

1. Cardiac rehabilitation is an evidence-based treatment which has been demonstrated to be highly effective in reducing morbidity and mortality in people with existing CVD, and its importance is highlighted in the NHS Long Term Plan (2019).

All appropriate Cardiac patients should be referred to Cardiac Rehabilitation as soon as possible and contacted by the team within three working days of referral.

There remains an ongoing need to assess, support and rehabilitate those who have CVD or are newly diagnosed following an acute cardiac event (within 10 working days) to prevent the significant risk of unintended, yet potentially serious long term consequences. Withdrawing, or offering only minimal, cardiac rehabilitation risks increasing unplanned hospital admissions of CVD patients for those eligible (possibly by 30%), resulting in substantially reduced health-related quality of life, compromised mental health, and decreased daily activity / functional ability.

Covid 19 has caused reductions in service provision but there are opportunities to manage patients at home, often remotely, and these should be considered as an alternative at this time; home visits may also be an alternative.
2. The British Association of Cardiovascular Prevention & Rehabilitation (BACPR), the British Cardiovascular Society (BCS) and the British Heart Foundation (BHF) have [issued joint guidance](http://www.bacpr.com/resources/BACPR-BCS-BHF_COVID-19_joint_position_statement_final.pdf), detailing the minimum standards expected**.**

Appendix A

Suggested structure for hospital guidelines:

Each organisation should have local guidelines for the recovery phase. These may vary between each Trusts and will need to be adapted to local need and facilities. The Pan-London Cardiology Group and the two Operating Delivery Networks (ODN) will circulate specific guidelines that trusts have developed that others might find useful. Each guideline should describe the relevant pathway of care and the protocols for infection prevention and control.

Specific areas to be considered (and included where appropriate) for each guideline:

* Guidance on Covid minimal / free sites
* Self-isolation guidelines (including check-in processes during self-isolation)
* Protocol for self-isolation breaches
* Protocols for Covid-symptomatic patients / symptomatic relatives / asymptomatic positive patients
* Specific protocols for Aerosol Generating Procedures (AGP) e.g. Transoesophageal echocardiography (TOE) and tracheal intubation
* Scheduling: times / patient flows through departments / one stop visits
* Pre-hospital: Questionnaire / phone call / testing
* Transport to hospital
* Patient entrance; collection; patient PPE
* At hospital screening: swab, temperature check
* Physical waiting space in hospital and clinical layout
* Family and friends accompanying patient
* Extra consent: content of consent form and process
* Physical space for procedure
* Discharge procedure
* Post procedure isolation and management of complications
* Staff PPE
* Staff testing (in light of PHE guidance and staff vulnerability)
* Follow up arrangements (including safety checks)

In developing local guidance, trusts should be fully aware of national and pan-London infection control guidance and the national operating framework for urgent and planned services in hospital settings during Covid-19.

Appendix B

Categories of Urgency, Waiting Lists and Activity Dashboard

 **Categories of Urgency**The Urgency for cardiology patients should be based on the categorisation below, which has been adapted from the Royal College of Surgeons Criteria:

|  |  |  |
| --- | --- | --- |
| Surgical Waiting Categories | Suggested Cardiology Waiting Categories |  |
| Grading | Time scale | Grade | Planned / Unplanned | Time scale |
| 1a | Emergency *(immediate - within 24 hours)* | **1a** | Unplanned | Emergency (immediate) |
| 1b | Time critical and urgent *(within 72 hrs* | **1b** | Unplanned | Time critical and urgent *(within 72 hrs)* |
| 2 | Time Critical but less urgent *(within 4 weeks)* | **2a** | Unplanned | Non time critical but needed as an inpatient |
|  | **2b** | Planned  | Urgent (within 2 weeks |
| 3 | Not currently Time Critical but required for prognostic reasons *(within 3 months)* | **3** | Planned | Not currently time critical but required for prognostic reasons (ideally within 6 weeks) to be defined by each sub-speciality  |
| 4 | Not currently time critical and not currently required for prognostic reasons | **4** | Planned | Routine (normally 18 weeks) |

**Waiting Lists**
One of the main challenges of the recovery and restoration phase will be the safe management of the large number of patients currently on cardiology waiting lists.

The restoration and recovery phase for cardiology will involve:

* Managing the patients whose treatment was postponed in the escalation phase
* Manging the probable increase in emergency admissions over the next 3 months
* Managing the expected ‘normal’ volumes of elective and emergency work
* Ensuring safety for patients and staff, and the consequent reduction in throughput due to the components of care pathways taking longer to undertake

A common dataset of activity and outcomes are proposed to enable NHSE/I to monitor equity and safety across the network. To give an estimate of the scale of the challenge, unverified data was collected from some of the London tertiary centres. These are summarised below. *The data below has been collected and presented in different ways by the different trusts so is only meant to give a very rough overview of the scale.*

**Waiting for Catheter Laboratory-based work:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Total waiting |  |  |  |  |  |  |  |
| Institution | Intervention | TAVI | Pacemakers | ICDs | Simple EP | Complex EP | Other(PFO / LAAO etc.) |
| GSTT | 199 | 42 | 40 | 20 | 109 | 256 | 100 |
| KCH | 72 | 38 | 12 | 20 | 85 | 102 | 31 |
| St Georges | 283 | 30 | 16 | 36 | 100 | 424 |  |
| RBH | 109 | 20 | 16 | 17 | 62 | 169 | 98 |
| Harefield | 165 | 40 | 51 | 20 | 10 | 250 | 10 |
| Barts | 203 | 60 | 11 | 53 | 823 | 229 | 112 |
| Imperial | 75 | 60 | 20 | 20 | 100 | 150 | 15 |
| RFH | 100 | 0 | 30 | 20 | 20 | 0 | 0 |
| Total | 1206 | 290 | 196 | 206 | 1309 | 1580 | 366 |

**Waiting for Outpatients and diagnostics:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  Total waiting |   |   |   |   |   |
| Numbers waiting | Average no outpatients due to be seen per month | % seen virtually over last month | Echo | Stress echo | Holters(24 hr and 7 day) |
| GSTT | 1741 in total | 95% | 1440 | 120 | 636 |
| KCH | 1500 in total | 90% | 3202 | 356 | 1252 |
| St Georges | 2134 in total | 95% | 1120 | 389 | 1350 |
| RBH | ? | 90% | 3330 | 125 | 616 |
| Harefield |  | 90% | >1000 | 70 | 550 |
| Barts |  2167 (based on normal templates) | 90% (proportion of these F2F deferred req diagnostics <6 months etc) |  500 | 50 |  1050 (80%/20%) |
| Imperial |  1850 new patients per month and 1500 follow ups |  95% |  2750 |  175 |  1200 |
| RFH |  500 new / FU 700 per month across 5 sites (RFH,BGH & CF) |  98% |  751  |  336  |  135 |

**Activity Dashboard**

In order to ensure we are managing patients safely and to provide equity of care and access to patients, we will need to measure some common metrics. These are listed below. Normal national (NICOR) database collection should continue as normal.

Ben Parker (Option Appraisal Evidence Lead Manager, NHS England - London Region) has produced the following template as an example of the data collection proposed.



Greater detail of the proposed data is as follows:

**Elective Catheter Laboratory Procedures:**

* PCI
* Diagnostic angiography
* TAVI
* ICD
* Pacemakers
* EP (if possible, split by GA and non-GA)
* LAA closure
* PFO / ASD / paravalvular leak closure

**Emergency Activity:**

The following should be recorded:

* Total number of weekly unplanned cardiology admissions split by means of admission (ED vs inter-hospital transfer), and Covid status
* Inter-hospital transfer waits split by sub-speciality
* Emergency catheter laboratory activity using the table below

|  |  |  |  |
| --- | --- | --- | --- |
| Procedure | Numbers (split by waiting category) | Interhospital Transfer or via Emergency Departments | Covid status (green / yellow / red) |
| PAMI |  |  |  |
| Angio ?proceed |  |  |  |
| ICD |  |  |  |
| PM |  |  |  |
| EPS |  |  |  |
| Other |  |  |  |

**Outpatients:**

Record number seen weekly split by face to face and virtual (any non-face to face contact ie: phone call video call or results review)

Trust RTT reporting position for 18 week waits

There is probably no benefit in recording urgency grades for outpatients as most will be routine. However, there are some more urgent specialist outpatients where specific waiting times should be recorded

* Rapid access chest pain clinics (% seen within 2 weeks)
* 2 and 6 week new diagnosis heart failure clinics (% seen within 2 and 6 weeks)
* Pulmonary hypertension clinics (average waiting time)
* Transplant assessment clinics (average waiting time)

It will probably be important to record “Did Not Attend” (DNA) rates, as this will help gauge patients’ willingness to attend face-to-face appointments.

Data relating to outreach clinics should sit within the hospital hosting the clinic.

Device clinics should probably sit under diagnostics

**Diagnostics**

As for outpatients (and potentially it is even more of an issue with diagnostics), capacity is going to be severely limited by the need for social distancing and the wish to avoid busy waiting areas. It is very likely this will result in the need for extended hours of working for clinics and diagnostics.

We should record the numbers on waiting list for the following where possible / appropriate

* Echo (TTE, stress echo, TOE, bubble)
* 24 Hour Holter
* Other ECG monitoring
* Exercise test
* 24 Hour BP
* Reveal Implant
* Pacing check
* Ajmaline test
* CTCA
* CMR
* SPECT / PET
* Tilt test
* MVO2

Where possible, the lists should be split by routine / urgent:

Specific patient groups may need more detailed monitoring, for example:

 New diagnosis Heart Failure

Cardio oncology patients

Severe valve disease

As for outpatients, DNA rates should be accurately recorded.

­

Appendix C

Proposed Patient Safety Dashboard

During the recovery phase it will be important to collect data on patient safety and equitable access to services. This data will need to be collected in real time in all institutions and ideally should be common for both the North and South London Hubs to allow rapid changes in policies or patient flows.

The dashboard to be used is as below:

Metrics to be measured weekly in every hospital

**Safety:**

* In hospital and 30 day survival for all lab-based procedures
* Unplanned ICU admission
* Hospital admissions within 30 days of a procedure
* Covid free status for all patients undergoing lab-based procedures. This should include a telephone call to the patient at 1 and 4 weeks.
* Regular phone audit for those attending diagnostics or outpatient visits
* Patients who have died on the waiting list for a procedure

**Population Metrics that may be useful:**

* ONS mortality by ICS
* ICU capacity / occupancy
* ICS Covid prevalence
* Hospital prevalence of COVID outside Covid-designated zones