NHS
West Midlands
Neonatal Operational Delivery Network

NHS
East Midlands Neonatal
Operational Delivery Network

NEONATAL NETWORK GUIDELINE

Guideline:	**Neonatal Escalation of Operational Pressures and Surge Plan during Covid-19 Pandemic**
Version:	**002**
Date:	**07 May 2020**
Review Date:	**Ongoing. This will be reviewed as and when new National guidance is provided**
Approval:	**Specialised Commissioning signed off for circulation and immediate use due to National escalating situation**
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Consultation:	**Required for immediate use. Taken from National guidance**
Distribution:	**Neonatal Units within EMNODN and WMNODN**
Risk Managed:	**To ensure that neonatal capacity is managed as effectively as possible, and that safety for each neonate in the EMNODN and WMNODN units is maintained during the National viral outbreak**

REVIEW AND AMENDMENT LOG

Version	Type of Change	Date	Description of Change
001	First version	24 Apr 2020	First version
002	Minor	07 May 2020	Section 3.5 reworded. V001 Appendix 2 table deleted. Appendices renumbered

1. Introduction

1.1. This document outlines the plans for the management and escalation of operational pressures in neonatal services within the East and West Midlands Neonatal Operational Delivery Networks (ODNs) during the Covid-19 pandemic. This document will be used in conjunction with the national Neonatal Critical Care Surge Plan (when published) and local Trust Covid-19 plans.

1.2. The East Midlands Neonatal ODN spans Derbyshire, Nottinghamshire, Leicestershire, Northamptonshire and Lincolnshire. The West Midlands Neonatal ODN incorporates Staffordshire, Shropshire, Black Country and West Birmingham, Birmingham and Solihull, Coventry and Warwickshire and Hereford and Worcestershire. See Appendix 1

1.3. The ODNs have clearly defined care pathways that have been agreed by clinicians, the ODN management teams and commissioners. During the Covid-19 pandemic there may be challenges which mean these pathways can't be followed.

1.4. Whilst there is a need to manage capacity and staffing across the whole critical care system, from an ODN perspective the responsibility is to safeguard the care of babies in the region to minimise the impact on short and longer term outcome during the Covid-19 pandemic.
http://www.moralbalance.org/resources/COVID-19-/MORAL-Balance-Template---COVID-19-Hypothetical-Case-1.pdf

2. Scope

2.1. This document sets out procedures to be implemented across the East and West Midlands Neonatal ODNs for the management of Operational Pressure Escalation Levels (OPEL) in neonatal services during the Covid-19 pandemic. In particular, it outlines the processes for managing surge in demand across neonatal services during the pandemic, with recognition that this may be affected by OPEL and surge plans in interdependent services i.e. maternity and paediatrics, and at national level.

3. ODN Pathways

3.1. The Neonatal ODNs have clearly defined care pathways which have been agreed by the Clinicians, the Network Management Team and the Specialised Commissioning Team
https://www.emnodn.nhs.uk/media/1706/2020-02-17-emnodn-care-pathway-2019-v4.pdf

3.2. Individual neonatal units will have locally agreed plans for managing when these agreed pathways cannot be followed. These plans will include capacity, workforce, resource and clinical practice issues and will be consistent with the overarching plan for managing escalation within the region and nationally.

3.3. **Infants with suspected or confirmed Covid-19**
Exposure to Covid-19 is not, in itself, a reason for transfer unless uplift of care is required. The transfer of infants with suspected or confirmed Covid-19 should be minimised where possible. The decision to transfer or defer transfer will be made jointly between the referring unit, NICU and the transport service. Any cases where transfer is delayed due to suspected or confirmed Covid-19 should be notified to the Regional safety cell Covid-19 mailbox; england.midsmatneocovid19@nhs.net

3.4. In-utero Transfer:

In-utero transfer is the optimal approach where preterm labour <27/40 is anticipated. It is recognised that the availability of ambulance and midwifery staff will have significant impact on the ability to achieve this and cases will have to be decided on a case by case basis. Any women with suspected or confirmed Covid-19 will need to be transferred by specialist ambulance and this is likely to compound issues with ambulance availability.

3.5. Care Outside of ODN Pathway:

If capacity across the ODNs becomes problematic, it may be necessary for units to care for infants outside their pathway where it is safe to do so. This must be agreed through consultant to consultant discussion on a case by case, and risks versus benefits, basis. Babies cared for outside of pathway should be discussed with the NICU on a daily basis.

- East Midlands all discussions about babies being cared for outside of pathway should be facilitated through the CenTre transport call centre (to ensure a record of the conversation is recorded for governance purposes and future reference) and decisions documented in the patient record.
- West Midlands babies that are required to be cared for outside of the pathway will need a consultant to consultant discussion between the LNU and Lead NICU within the identified pathways. on a daily basis.

Cot capacity will be sought outside of region in line with the current cot locator process used when regional demand exceeds capacity.

3.6. Reporting Exceptions

In line with current ODN practice and to ensure governance is maintained an exception reporting form should be completed for any infant cared for outside of pathway during the pandemic

EMNODN;
Exception reporting form available at:
https://www.emnodn.nhs.uk/health-professionals/exception-reporting/

WMNODN;
Exception reporting form to be completed and returned to WMNODN generic email address; nos-tr.wmnodn@nhs.uk

4. Escalation Levels

4.1. Operational Pressure Escalation Levels – Neonatal (Covid-19):

OPEL level	Description	Footprint
Available OPEL 1/2	Patient flow can be maintained in line with ODN pathways and service is able to meet anticipated demand with available resources • Nursing and Medical Staff levels meet national standards for number and dependency of babies in unit (see section 6) or is manageable with available resources • Cots available appropriate to designation of unit IC/HD/SC • Adequate equipment available for increase in dependency or capacity	Individual Unit level

	• Transport service availability • Planned transfers can be accommodated	
Limited OPEL 3	Limited ability to maintain patient flows in line with ODN pathways. • Reduced transport service availability • Nursing or Medical Staff levels reduced below national standards for number and dependency of babies in unit (see section 6) • Limited cot availability appropriate to designation of unit • Limited availability of essential equipment (i.e. Cot, Ventilator, Monitor, infusion pumps) • More than one ODN unit unable to accept transfers in line with ODN pathways due to any / all of the above. This should be reported through the Covid-19 mailbox; england.midsmatneocovid19@nhs.net and copy to the Regional Incident Control Centre; england.mids-incident@nhs.net	Regional level
Severe OPEL 4	Demand exceeds available resource. Prioritisation on case by case basis required. • No transport service availability • Nursing or Medical Staff levels for number and dependency of babies in unit reduced to or fall below minimal staffing levels (see section 6) • Contingency plans (in line with local escalation policy) failed • No physical cot space running at 100% occupancy or above • All key equipment is in use • Regional ODN units unable to accept transfers in line with ODN pathways due to any/all of the above necessitating transfers out of region. This should be reported through the Covid-19 mailbox; england.midsmatneocovid19@nhs.net and copy to the Regional Incident Control Centre; england.mids-incident@nhs.net	Supra-regional/ national level

4.2. All neonatal units will have individual internal escalation polices detailing specific actions required to manage capacity and workforce shortages, mechanisms for the reporting of escalation level and describing surge capacity, at local service and Trust level.

4.3. There will be evidence that policy and service changes have been notified and agreed through local trust Covid-19process.

4.4. Local neonatal services will record cot capacity at least once daily before 11 a.m. using the Cot Bureau facility on the BadgerNet system to enable centralised oversight of regional pressures atnational level.

4.5. **At OPEL 2** Neonatal services will continue to provide care in line with current care pathways but will prepare for escalation to OPEL 3.

4.6. Capacity in NICUs will be optimised. Repatriation to LNUs and SCUs will be proactively managed. Where possible transfer from one hospital to another should be avoided for infants with suspected or confirmed Covid-19 unless uplift of care is necessary. This includes avoiding the repatriation of infants with suspected or confirmed Covid-19. The decision to transfer will be made jointly between the referring unit, NICU and the transport service.

4.7. **At OPEL 3** it is anticipated that a unit will be unable to accept admissions or transfers in line with ODN pathways due to a lack of cot capacity, lack of workforce, lack of equipment, lack of neonatal transport capability or a combination of any or all of these. There may be more than one unit within the ODN in this position. Escalation and contingency actions as described in local escalation plans will be required to return to OPEL to 1 or 2. It may be necessary to consider caring for infants outside of existing ODN pathways.

4.8. **At OPEL 4** escalation and contingency plans will have been insufficient to contain or reduce OPEL 3.

4.9. It is likely that units will have to care for infants outside their pathway at least for a period of time.

4.10. Cot capacity will be sought outside of region in line with the current cot locator process used when regional demand exceeds capacity. This will be supported by the relevant transport service. If there is a lack of transport capacity due to a reduction in staff or ambulances support from transport services outside of region will be requested.

4.11. It is likely that it will be difficult to adhere to the minimum nurse: baby ratios as described in section 7. At this time staffing ratios will be agreed at local Trust level.

4.12. It is anticipated that, where staff are available, escalation cots will be opened as identified in the regional surge plan. The level of care to be provided in these cots and the associated equipment required for these cots will have been identified and sourced as part of the development of the surge plan.

4.13. Consider implementation of divert policy to appropriate designation of neonatal unit with available capacity. This should be led by the relevant transport service.

5. Regional Surge Plan

5.1. Neonatal Capacity

Each of the units within region has identified additional surge capacity cots that can be provided in the event of extreme pressure on the neonatal services. See Appendix 2. Any equipment needed for these cots has also been identified. All additional cot spaces will need to be equipped with an incubator to ensure that any baby requiring isolation, for suspected or confirmed Covid-19, or any other reason can be isolated in an incubator.

5.2. Paediatric Patients

Careful consideration has been given as to whether a regional surge plan would involve routine admission of paediatric patients, including paediatric critical care, onto neonatal units. The challenges and potential benefits to supporting adult critical care provision within the trusts were carefully reviewed.

5.2.1. Capacity to deliver this work within the ODN NICUs is likely to be extremely limited and would only account for an average of 1 or 2 babies per unit. This is due to issues with physical space and existing pressures with capacity, in addition to lack of appropriate equipment for paediatric care.

5.2.2. In particular, there are a number of units within the region with restrictive footprints for example, Queen's Medical Centre in EMNODN where the largest paediatric cot would be a babytherm which would limit the age/size of patient to small infant < 1year.

5.2.3 There are concerns about the transmission of infection within the units so it would therefore be inappropriate to admit babies with COVID infection or other respiratory viruses as spreading this within neonatal units would be catastrophic. Swab testing of infants prior to admission to ensure that they are free of COVID-19 infection would be a prerequisite.

5.2.4. There are also challenges with provision of equipment (e.g. paediatric emergency resuscitation equipment) and staff skill set for both medical and nursing teams. Clinical Staff would require refresher basic training in the APLS algorithms to ensure safe resuscitation practices in the event of a deteriorating patient. Many critical care nurses who are neonatal QIS trained have an adult background and so may need significant upskilling to manage paediatric critical care patients. In addition nursing ratios and skill mix for managing paediatric intensive care will need to be taken into account. There are also different medical knowledge and skill sets required to manage these infants safely particularly in relation to resuscitation algorithms, airway support and vascular access (femoral and jugular lines).

5.3. Criteria for Admission of Paediatric Patients to NICU

Transferring PIC activity onto NICs is not a sustainable solution to improve adult critical care provision within trusts in the region. However in the event of extreme pressure on services, a decision may be taken to admit a paediatric patient to a neonatal unit. Any such decision must be agreed on a case by case basis following consultant to consultant discussion. With appropriate outreach medical PIC consultant support and appropriate nursing allocation of any infants meeting the following clinical criteria could be considered for admission to the neonatal unit:

5.3.1. Problems related to neonatal jaundice – (this is standard practice in some of the units if exchange transfusions is required). SCUs would be able to provide phototherapy for the management of neonatal jaundice if there was equipment available. However, exchange transfusions could not be administered at SCUs as the appropriate equipment and skill set would not be available.

5.3.2. Neonatal metabolic conditions (provided special PIC e.g. continuous veno-veno haemofiltration not needed)

5.3.3. Late onset sepsis (with caveat that this is not COVID infection)

5.3.4. Herpes encephalitis/meningitis

5.3.5. NAI with a requirement for ITU e.g. shaken babies (consideration of right place for transfer based on neurosurgical interdependencies)

5.3.6. Collapse due to duct dependent lesion prior to transfer to cardiac PIC as a safe stabilisation area prior to transfer

6. Managing Capacity

Many of the regional units are consistently challenged with capacity problems, some working at >100% occupancy for critical care. This may increase with reduced workforce due to Covid-19 infection, self-isolation and redeployment of staff to adult areas. There is also a potential, unknown theoretical risk of increased workload. This might be due to Covid-19 infection which may cause more preterm births, particularly late preterm, or related to challenges working within maternity services resulting for example, in an increased number of babies presenting with HIE or compromised babies due to late presentation in labour. Proactive management is therefore essential to optimising patient flow.

6.1. Discharge Planning

Early discharge should be facilitated where it is appropriate and safe to do so. Arrangements for support in the community will be required.

6.1 Outpatient Clinics

Elective outpatient work has been suspended and alternative arrangements for clinics and follow up agreed at local Trust level. These arrangements have been reported to the regional MatNeo safety cell.

6.2 Step Down

Cots available in LNUs and SCUs within the regions should be utilised for step down of care to optimise capacity at NICUs as required. Where possible arrangements for step down care should be managed proactively and referred to the relevant transport service at the earliest opportunity.

6.3 Transitional Care

Transitional care cot usage should be optimised, particularly to support the care of late preterm infants who are otherwise well.

7 Medical and Nurse Staffing

This will be a challenging time for acute services in the NHS. Units should risk assess their medical and nurse staffing on a shift by shift basis to inform decisions on cot availability, safe staffing levels and available resources, including transport service availability. All efforts should be made to meet recommended staffing levels in accordance with national standards (BAPM).

7.1 Medical Staffing

7.1.1 During this climate it is not possible to meet the BAPM workforce standards for SCU/LNU or NICU (BAPM, 2014 http://www.bapm.org/resources/31-optimal-arrangements-for-neonatal-units-in-the-uk-2014) (BAPM, 2018 https://www.bapm.org/resources/2-optimal-arrangements-for-local-neonatal-units-and-special-care-units-in-the-uk-2018

7.1.2 The RCPCH have produced some guidance to plan paediatric and neonatal medical workforce during the pandemic

https://www.rcpch.ac.uk/resources/covid-19-guidance-planning-paediatric-staffing-rotas

7.1.3 The principles within this document should be used to guide the development of emergency medical rotas. This strongly recommends including provision for enhanced consultant presence on units where possible.

7.1.4 Minimal staffing requirements should be no less than the usual 7 day/weekend cover with discretion by trusts. This needs to be enhanced for units with high activity or where there are significant risks due to cross- site working.

7.1.5 Neonatal transport services should endeavour to manage their staffing to ensure that the full number of teams is available for each shift to support the network flows.

7.2. Nurse Staffing

It is recognised that not all units are regularly staffed to BAPM but aspire to this standard. Therefore in escalation Units should continue with this aspiration and COVID should not significantly distract from this essential safety and quality marker.

Where it is not possible to meet national standards for neonatal nursing MINIMUM nurse: baby ratios for different levels of care have been identified for the region:

7.2.1. Minimum staff: baby ratios Covid-19

Level of Care	National Standard (BAPM)	MINIMUM ratio Nurse:Baby
Intensive Care	1:1	1:2
High Dependency Care	1:2	1:3
Special Care	1:4	1:5
Transitional Care	1:4	1:5

If Trusts take the decision to work outside of the minimal standards then this should be reported to the Regional Covid maternity and neonatal safety cell; england.midsmatneocovid19@nhs.net

7.3. Redeployment of Staff

The redeployment of staff to other areas may be requested at local Trust level. Relevant and timely training should be made available to support staff redeployment. A record of staff deployment should be maintained at local unit level and reported through the ODN reporting process (see 10.1). Minimal staffing levels should be maintained as above and any neonatal services asked internally by Trust to move beyond these staffing recommendations should alert the ICC via the mailbox; england.midsmatneocovid19@nhs.net

7.4. Covid-19 Testing for Staff

Guidance for the self-isolation with suspected or confirmed Covid-19 infection is available at gov.uk. The guidance should be used to inform procedures for the

management of staff and staff family members with suspected or confirmed Covid-19. Testing protocols may vary at local trust level.

8 Neonatal Transport

Within the Midlands region, neonatal transport services are provided by CenTre and KIDSNTS transport services as detailed below:

Transport Service	Units
CenTre	• EM - Nottingham (NCH & QMC), King's Mill Hospital, Derby, Burton, Lincoln, Boston, Leicester (LRI & LGH), Northampton, Kettering, • WM - Coventry, Nuneaton, Warwick
KIDSNTS	• North: Royal Stoke, New Cross, Princess Royal, Walsall Manor, Russells Hall, Birmingham City • South: Birmingham Women's, Birmingham Heartlands, Good Hope, Worcester Royal, Hereford County and Birmingham Children's

8.1 Elective/planned transfers may have to be delayed if a transfer of a Covid-19 patient is required.

8.2 Additional information is available in CenTre and KIDSNTS transport pathways in cases of suspected/confirmed Covid-19 infection and the East and West Midlands Covid-19 Guidance. https://www.emnodn.nhs.uk/health-professionals/covid-19-network-updates/

8.3 Pressures on capacity within NICU/LNU services may mean transfers outside of the normal pathways will be required

8.4 In the event that either KIDS/NTS or CenTre are unable to mount a transport response a request for support will be made to neighbouring services in line with existing processes.

8.5 In the event that there is no transport service available within region this will be escalated through the Regional Incident Control Cell and managed through this process.

9 Management of Specific Pathways

A number of specific patient pathways may be impacted by changes to service provision within interdependent services (such as fetal medicine, paediatric critical care, cardiac surgery) and/or neonatal and transport capacity and workforce challenges.

9.1. Extreme Prematurity

9.1.1. Clinicians should continue to follow the BAPM guidance on counselling parents about the resuscitation of extreme preterm infants. (https://hubble-live-assets.s3.amazonaws.com/bapm/attachment/file/182/Extreme_Preterm_28-11-19_FINAL.pdf)

9.1.2. Deviation from national guidance around care provision to extremely preterm infants is not mandated nationally or regionally.

9.1.3. If an individual unit feels that it is necessary to deviate from the national guidance as part of an ethical utilitarian approach to a major incident then this should be escalated through the trust following robust trust governance processes and the Regional maternity and Neonatal Safety Cell must be informed; england.midsmatneocovid19@nhs.net to ensure that there is regional oversight and governance which will feed into the national incident control centre structures.

9.2. Retinopathy of Prematurity (ROP)

9.2.1. Due to the strict isolation requirements for patients with suspected or confirmed Covid-19 there may be an impact on the management of babies requiring ROP laser treatment at the tertiary centres.

9.2.2. Local units should make their ophthalmology colleagues aware of this, and early discussion with the ROP coordinator is essential to ensure the timely and safe transfer of infants for their treatment.

9.2.3. Treatment at the local centre for ROP may not, however, be possible. If this is the case, assistance should be provided by the next nearest centre.

9.3. Neonatal Surgery

9.3.1. East Midlands ODN:
There are currently no planned changes to neonatal surgical pathways within the EMNDON.

9.3.2. West Midlands ODN:
No current changes to surgical pathways

9.4. Ligation of PDA

9.4.1. East Midlands ODN
Babies will be transferred to Birmingham Children's Hospital (BCH) for PDA ligation during the COVID 19 pandemic. The scheduling of case will be dependent on BCH theatre/surgeon capacity and availability in addition to transport capacity. There may be delays where any of these compromised. These delays should be reported to the Regional Covid Maternity and Neonatal Safety Cell mailbox; england.midsmatneocovid19@nhs.net

9.5. Congenital Heart Disease (CHD)

9.5.1. East Midlands ODN: During the covid-19 surge all neonates requiring urgent and emergent CHD intervention will be diverted to Birmingham Children's Hospital for their surgery (with the exception of neonates requiring a time-critical atrial septostomy – this procedure and post-operative stabilisation will be undertaken at LRI). As and when the Covid-19 surge reduces, this divert will be dis-used and usual pathways for CHD intervention for East Midlands children reinstated. Neonatal Intensive Care services will continue at LRI as per ODN policy. Referrals for any cardiac baby can be made directly to the cardiology consultant, or via CenTre and the neonatal team. The cardiologists and neonatologist will then decide on the optimal place for the baby to be

managed. Referring to UHL in the usual way will mean that network colleagues only need to make one call and a decision will then be made of where best to manage the baby. This arrangement has been formalised by the East Midlands Fetal Medicine and East Midlands Congenital Heart Disease Networks. See Appendix 3

9.5.2. West Midlands ODN

All cases are referred to BCH

9.6. ECMO Referrals

With the relocation of paediatric cardiac services from the Glenfield Hospital (GH) UHL to Birmingham Childrens Hospital (BCH) the paediatric ECMO service currently provided at GH will be decreased. Respiratory ECMO paediatric patients will be redirected to other national ECMO Centre's in accordance with the national ECMO approach. However, referrals should continue to be made in the usual way, through CenTre transport or KIDS NTS. The UHL team has close links with the UK wide ECMO service and will find the most appropriate bed if needed. There will still be provision for mobile ECMO, but this will depend on staff availability (as it does now) as this is not a commissioned service.

9.7. Closure of local maternity services

If it is necessary for a local maternity service to close, the existing procedures for the transfer of activity should be implemented and the escalation communicated to the relevant neonatal and transport service and reported to the Regional Covid Maternity and Neonatal Safety Cell mailbox;
england.midsmatneocovid19@nhs.net

10. ODN Function

There are established neonatal ODN teams in both the East and West Midlands. The Directors and Lead Nurses for the two ODNs are part of the regional MatNeo Safety Cell.

10.1. Data Collection and Reporting

Data collection requirements and reporting systems are currently being finalised. The details will be included in this plan and will be communicated by the ODN to provider Trust as soon as available. The information will be submitted through the Trust Covid-19 system.

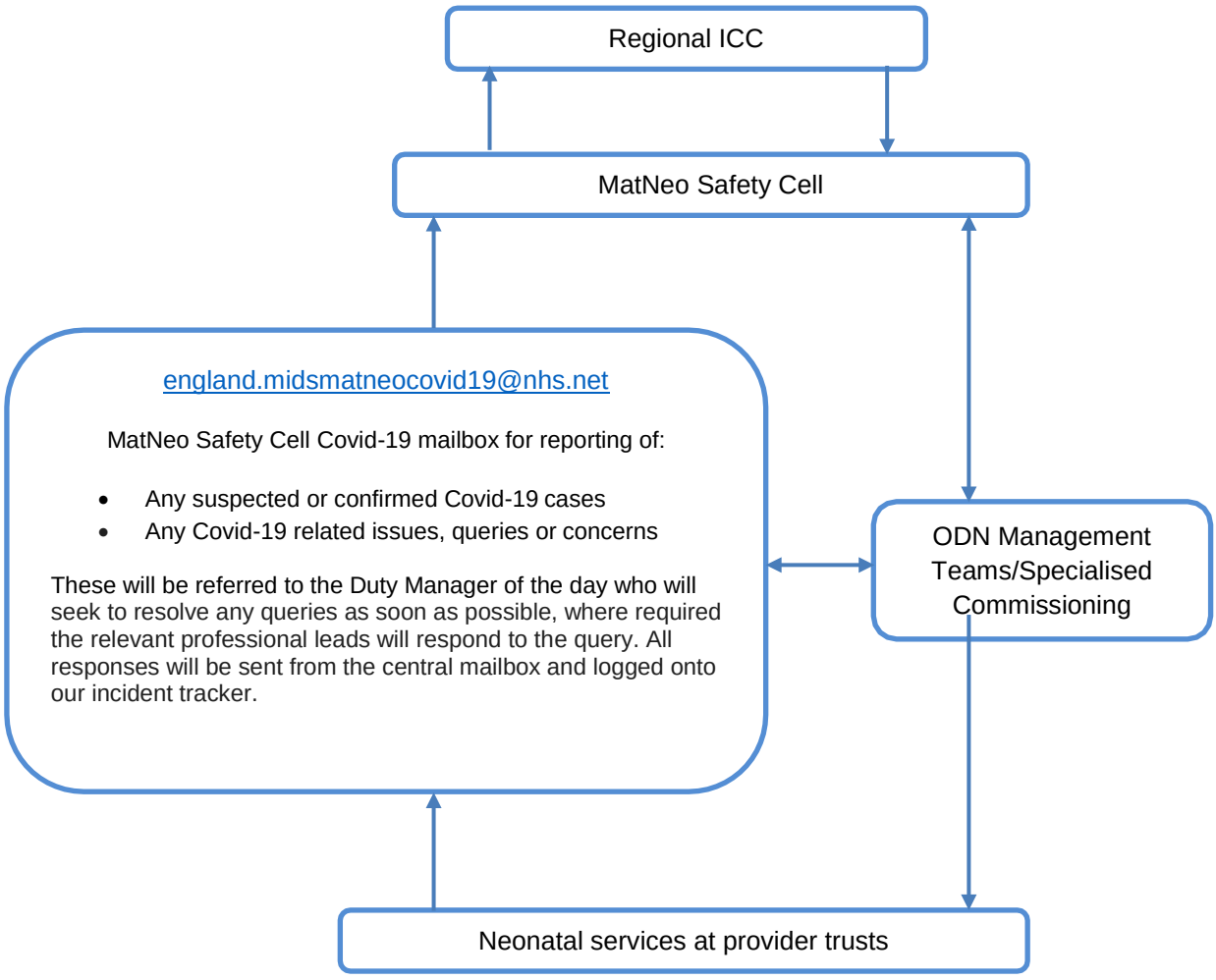
10.2. Communication

Communication of Covid-19 plans and discussion of operational issues will be facilitated through audio/video conference meetings between the ODN teams and Clinical Leads and Lead Nurses within the provider Trusts every week, as a minimum. The ODN clinical leads and/or the ODN Director or their deputy can be contacted for advice or discussion outside of these meetings.

Issues can be raised Monday to Friday 9am to 5pm through the Maternity & Neonatal Covid-19 mailbox; england.midsmatneocovid19@nhs.net

Any urgent issues should be raised through local Trusts central Command cell to the regional incident cell; england.mids-incident@nhs.net which operates 8am to 8pm 7 days per week.

Reporting Process COVID-19;



10.3. Regional Contacts

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EMNODN

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Appendix 1
Regional Neonatal Service Provision (Current)

East Midlands				
Trust		**Hospital**	**Designation**	**Comments**
Nottingham University Hospitals NHS Trust	NUH	Queen's Medical Centre	NICU	Lead Centre, North Hub
		Nottingham City Hospital	NICU	
Sherwood Forest Hospitals NHS Trust	SFH	King's Mill Hospital	LNU	
University Hospitals of Derby and Burton NHS Trust	UHDB	Royal Derby Hospital (RDH)	LNU	
		Queen's Hospital, Burton	SCU	Paediatric services moved to RDH. Neonatal services remain on site
United Lincolnshire Hospitals NHS Trust	ULHT	Lincoln County Hospital	LNU	
		Pilgrim Hospital, Boston	SCU	
University Hospitals of Leicester NHS Trust	UHL	Leicester Royal Infirmary	NICU	Lead Centre, South Hub
		Leicester General Hospital	SCU	
		Glenfield General Hospital	EM Cardiology Centre	Cardiac surgery and ECMO moved from UHL to BCH to create space for adult ITU
Kettering General Hospital	KGH	Kettering General Hospital	LNU	
Northampton General Hospital NHS Trust	NGH	Northampton General Hospital	LNU	
West Midlands				
University Hospital of North Staffordshire	UHNM	Royal Stoke Hospital	NICU	Pathway with Princess Royal, Telford
Shrewsbury and Telford Hospitals	SaTH	Princess Royal Hospital	LNU	Lead NICU – Royal Stoke Hospital
Royal Wolverhampton Hospitals	RWH	New Cross Hospital	NICU	Pathway with Walsall Manor and Russells Hall
Walsall Healthcare	WH	Walsall Manor Hospital	LNU	Lead NICU – New Cross Hospital
Dudley Group of Hospitals	DgoH	Russells Hall Hospital	LNU	Lead NICU – New Cross Hospital
Sandwell and West Birmingham	SWB	City Hospital	LNU	Lead NICU – Birmingham Heartlands
University Hospitals Birmingham	UHB	Birmingham Heartlands Hospital	NICU	Pathway with City Hospital Good Hope Hospital
University Hospitals Birmingham	UHB	Good Hope Hospital	SCBU	Lead NICU – Birmingham Heartlands Hospital
Birmingham Womens and Childrens Hospitals	BWCH	Birmingham Womens Hospital	NICU	Pathway with Worcester Royal and Hereford County
Worcestershire Acute Hospitals	WAH	Worcester Royal Hospital	LNU	Lead NICU – Birmingham Womens Hospital

Wye Valley	WVT	Hereford County Hospital	SCBU	Lead NICU – Birmingham Womens Hospital
University Hospitals of Coventry and Warwickshire	UHCW	University Hospitals of Coventry and Warwickshire	NICU	Pathway with Warwick Hospital and George Eliot Hospital
South Warwickshire Foundation Trust	SWFT	Warwick Hospital	SCBU	Lead NICU - UHCW
George Eliot Hospital	GEH	George Eliot Hospital	SCBU	Lead NICU - UHCW

Appendix 2
Midlands Surge Capacity Plan

Trust	Hospital	Unit categor	Baseline Cot Capacity (current)	Additional Cot Capacity (MAX with full STANDARD STAFFING and RELAXED STAFF RATIO)	Absolute MAX capacity (Independent of staffing)	
BIRMINGHAM WOMEN'S & CHILDREN'S	BWH	NICU	53	53	66	
THE ROYAL WOLVERHAMPTON NHS TRUST	New Cross	NICU				
UNIVERSITY HOSPITALS BIRMINGHAM	Heartlands	NICU	39	39	47	
UNIVERSITY HOSPITALS OF COVENTRY & WARWICK	Coventry	NICU	36	45	54	
UNIVERSITY HOSPITALS OF NORTH MIDLANDS	Royal Stoke	NICU	36	36	40	
DUDLEY GROUP NHS FOUNDATION TRUST	Russell's Hall	LNU	22	22	22	
SANDWELL & WEST BIRMINGHAM HOSPITALS NHS TRUST	Birmingham City City	LNU	33	33	35	
SHREWSBURY & TELFORD HOSPITALS NHS TRUST	PRH Telford	LNU	22	26	26	
WALSALL HEALTHCARE COMMUNITY NHS TRUST	MH Walsall	LNU				
WORCESTERSHIRE ACUTE HOSPITALS NHS TRUST	Worcester	LNU	27	27	31	
GEORGE ELIOT HOSPITAL NHS TRUST	George Eliot	SCU	12	14	20	
UNIVERSITY HOSPITALS BIRMINGHAM	Good Hope	SCU	12	12	17	
SOUTH WARWICKSHIRE	Warwick	SCU				
WYE VALLEY	Hereford	SCU	12	12	14	
NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST	Nottingham City	NICU	24	24	28	
NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST	Queen's Medical Centre	NICU	17	17	17	
SHERWOOD FOREST HOSPITALS NHS FOUNDATION TRUST	King's Mill	LNU	12	12	18	
UNITED LINCOLNSHIRE HOSPITALS NHS TRUST	Lincoln	LNU	15	15	21	
UNIVERSITY HOSPITALS OF DERBY & BURTON NHS FOUNDATION TRUST	Royal Derby	LNU	20	24	28	
UNITED LINCOLNSHIRE HOSPITALS NHS TRUST	Pilgrim	SCU	8	8	13	
UNIVERSITY HOSPITALS OF LEICESTER NHS TRUST	Leicester Neonatal Service	NICU	42	46	48	
KETTERING GENERAL HOSPITAL NHS FOUNDATION TRUST	Kettering	LNU	18	18	23	
NORTHAMPTON GENERAL HOSPITAL NHS TRUST	Northampton	LNU	20	20	25	
UNIVERSITY HOSPITALS OF DERBY & BURTON NHS FOUNDATION TRUST	Queen's, Burton	SCU	12	12	12	

Appendix 3

Fetal Medicine Pathways

East Midlands - Fetal Pathway for Patients Requiring Neonatal Intervention

All fetal cases seen and managed by Leicester fetal cardiology team

Each case to be discussed at weekly joint Fetal MDT meeting with Birmingham team via Zoom (held after Wednesday JCC)

- Agreement where to deliver and management (*)
- Cases for delivery at BWCH:
  - Complete heart block
  - TGA
  - HLHS with intact atrial septum (if intervention pathway)
- A combined "Fetal dues" list should be generated by BWCH and EMCHC audit team & circulated to wider teams (**)
- A "Fetal Alert" email will be shared to BWCH/EMCHC team, cardiac specialist nurses and fetal cardiologists

If delivery at BWCH for transfer of care at 34 weeks gestation

- Leicester team to refer direct to Fetal medicine team at BWH (contact details: XXXX)
- Patient to be seen in a BWH fetal medicine (joint cardiac/ fetal medicine), Obstetric clinic and meet neonatologists

If delivery in Leicester region

- Leicester team to manage delivery and initial postnatal care
- In view of demand for BCH PICU beds and rapid turn-over, unless an urgent procedure is predicted, baby should be delivered at term and stabilised locally until a bed is available at BWCH
- Rest of care as per "Leicester-Urgent Cardiac cases: (COVID plan) Referral and treatment pathway" SOP

Responsibility of Care:

- **All patients will be under Leicester Cardiac team until the transfer of patient to BWCH**
  - **On arrival to BWCH, the responsibility of care will be with BWCH team**
  - **On discharge from BCH, the responsibility of care will be with EMCHC team**
- **Face-to-face second opinions can be offered in either direction (try to minimise)**

*** To help align clinical practice, prevent confusion.**

**** KIDS/Leicester Transport teams/ BWCH surgeons/ BWCH PICU/ BWCH specialist cardiac nurse team/ BWCH cardiology consultants and registrars/ BWCH neonatologists**