Tiered Networking Arrangements for Perinatal Care in NSW

Summary This Policy Directive provides guidance for NSW Local Health Districts (districts), Sydney Children's Hospitals Network and services in the ACT on the structure, functioning and governance of tiered perinatal networks.

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1. BACKGROUND

The aim of effective tiered perinatal networks is to achieve the right care, in the right place, at the right time for women as close to home as possible. On most occasions when a woman requires care for high-risk pregnancy issues, this must be provided within the tiered perinatal network.

The eight NSW/ ACT tiered perinatal networks support capability, patient flow and capacity by providing:

- a defined scope of service capability and responsibilities for each maternity and neonatal service
- defined pathways for consultation, referral and/or transfer when higher level pregnancy and/or birth care is required (escalation of care)
- referral and transfer when higher care is no longer needed (de-escalation of care and return transfer)
- a structure for 'shared care' between maternity services of different capability levels and 'shared care' between neonatal services of different capability levels
- a structure for a cross-service approach to monitor and manage service demand.

Aboriginal women are more likely than non-Aboriginal women to require transfer due to a higher rate of pre-term births. Rates of premature births (before 37 weeks gestation) for Aboriginal women have decreased from 13.2% in 2012 to 11.2% in 2021. However, these rates remain higher than non-Aboriginal women, which was 7.0% in 2021 (HealthStats NSW). The implementation of this Policy Directive is anticipated to continue to deliver increased benefits to Aboriginal women and families.

1.1. About this document

This Policy Directive provides guidance for NSW local health districts, Sydney Children's Hospitals Network and services in the ACT on the structure, functioning and governance of tiered perinatal networks.

1.2. Key definitions

Aeromedical Control Centre	A NSW Ambulance control centre providing clinical support and advice, transport and escort services for patients requiring transfer/ medical retrieval.
Default protocol	When the destination for a woman requiring higher level care cannot be agreed, by default the woman **must** be transferred within the appropriate timeframe (as per the maternal transfers decision making tool) to the most appropriate facility within the tiered perinatal network.

Electronic Patient Journey Board	A module within the Patient Flow Portal designed to facilitate care coordination as part of the Patient Flow Systems.
Inter hospital transfer	A function in the Patient Flow Portal which allows the electronic system to create an Inter Hospital Transfer for a seamless and coordinated transfer between the requesting and accepting NSW Health facilities.
Maternal Priority 1- 5 (MP1-5) categories	The category related to the medically agreed timeframe for transfer, consultation or referral which determines the risk and urgency of the transfer (see Appendix 2).
Newborn and paediatric Emergency Transport Service (NETS)	NETS is a statewide (NSW and the ACT) emergency service for clinical advice and/or retrieval of critically ill neonates, infants, and children.
Patient Flow Portal	Electronic system which provides information about patient occupancy and available maternal and neonatal beds across NSW to inform coordination of patients moving through care.
Patient Flow Unit	Responsible for managing patient flow within a given facility, local health district or speciality health networks. In rural areas this function may be carried out by other roles such as bed manager or after-hours manager in consultation with the maternity/ birth unit manager/ in-charge.
Patient Transport Services	NSW Health service for patients who require transport to, or from, a health facility such as a hospital or rehabilitation unit but do not need an emergency ambulance.
Service capability	Describes the scope of planned activity and clinical complexity that a service is capable of safely providing. Each maternity and neonatal service has a designated service capability from Level 1 (no planned Maternity service) to Level 6 (Tertiary Care). Local health districts are responsible for determining and maintaining the service capability of their maternity and neonatal services.
Shared network care	Where all or part of a woman's pregnancy care can be provided at a service with the support of a networked service of higher service capability. This may include, but is not limited to, outreach clinics, virtual care, and remote consultation between clinicians.

Short Term Escalation Plan (STEP)	An established set of activities/ tasks to address a short-term unforeseen demand/ capacity mismatch. Demand escalation includes both strategic planning to manage expected demand and short-term escalation to manage immediate demand mismatches.
Supra-LHD services	Specialised services provided on behalf of the State for the care of women and babies who require a higher level of care within and outside their network. All Level 6 maternity and Level 6/5 neonatal services are Supra-LHD services.
Tiered Perinatal Network	A formalised arrangement between maternity and neonatal services within and across local health districts in NSW and the ACT that are linked with a tertiary (Level 6) hospital to provide support where higher level care is required. The tiered perinatal network recognises the capability, capacity, responsibilities, and expertise of each facility in the network.
Transfer coordination	Bed-finding and care coordination are local responsibilities. Transfer coordination of the inter-facility transfer of maternity patients is conducted in consultation with the obstetric consultant, registrar and receiving facility. This function may involve, but not be limited to, personnel from the patient flow unit, after hours nurse/ midwifery manager and midwifery unit manager/ midwife in-charge. Clear delegation of local roles and responsibilities for transfer coordination must be included in local operational plans.

Throughout this Policy Directive, the terms ‘woman’ and ‘women’ are used. The use of the term woman is not meant to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.

1.3. Related NSW Health policies

This Policy Directive must be read in conjunction with the:

- NSW Health Guideline *Maternity and Neonatal Service Capability* (GL2022_002)
- NSW Health Policy Directive *NSW Paediatric Clinical Care and Inter-hospital Transfer Arrangements* (PD2023_019)
- NSW Health Policy Directive *Critical Care Tertiary Referral Networks and Transfer of Care (Adults)* (PD2018_011).

1.4. Local Health District Chief Executive responsibilities

Local health districts (districts) must ensure:

- clinically appropriate maternal transfers occur in appropriate timeframes by implementation of this Policy Directive and delegation of clinical leadership and decision making
- engagement with relevant clinicians to develop, distribute and implement consistent operational plans to relevant clinical areas
- access to definitive care, clinical advice and/or support is provided in an appropriate timeframe by documented and implemented, escalation pathways and referral procedures
- obstetric and neonatal care needs of that district and other districts are met within its tiered perinatal network
- all options for placement of women with high-risk pregnancy complications within the originating district have been explored. This includes appropriate transfers within the district to lower-level facilities to create capacity
- continued effective operation of the tiered networking arrangements for perinatal care in NSW
- formalised intra and inter-district referral and/or cross jurisdictional arrangements exist for women with high-risk complications needing a higher level of definitive care. These arrangements must include ongoing formal communication with review and feedback
- compliance is audited and data is regularly monitored.

1.5. Maternity and neonatal services (Level 4, 5 and 6) responsibilities

Maternity and neonatal services (Level 4, 5 and 6) are responsible for:

- ensuring the information in the Patient Flow Portal is current, correct and updated at least every eight hours
- providing consultation to clinicians at lower-level facilities 24/7, or as required
- supporting shared care arrangements for women and/or neonates, such as when care can be provided at a lower-level service with appropriate support
- taking a leadership role in the tiered perinatal network including:
    - education and training
    - quality and safety
    - local policy and guideline development
    - service planning and review, and
    - bed management. Working in collaboration with networked services to monitor bed capacity across the tiered perinatal network and negotiate with their

networked services on bed management strategies when demand is nearing capacity.

1.6. Patient flow units and personnel responsible for transfer coordination

Patient flow units/ personnel responsible for transfer coordination including, but are not limited to, bed managers, after hours managers, nurse/ midwifery managers and midwifery unit manager/ midwife in-charge. They are responsible for:

- facilitating referrals for all maternal transfers
- implementing strategies to facilitate utilisation of communication pathways within and between districts and tiered perinatal networks to facilitate effective and efficient transfers.

2. MATERNITY AND NEONATAL SERVICES IN NSW

Integrated maternity and neonatal services support women and their babies with seamless access to the right care, at the right place and at the right time. Integrated care also supports the provision of evidence based, safe, high quality and effective healthcare as close to home as possible. The following elements support the effective functioning of the maternity and neonatal services in NSW.

2.1. Tiered Perinatal Networks

The tiered perinatal networks support integrated maternity and neonatal care. Integrated care is a key direction of:

- the *NSW Health Future Health: Guiding the next decade of care in NSW 2022-2032*
- the *NSW Regional Health Strategic Plan 2022-2032*, and
- the *NSW Health Strategic Framework for Integrating Care*.

The tiered perinatal networks link each Level 6 maternity and Level 5/6 neonatal service in NSW and the ACT with a designated group of maternity and neonatal services of lower service capability. The tiered perinatal networks may encompass maternity and neonatal services within a single district or maternity and neonatal services across two or more districts.

NSW maternity and neonatal services in state border areas may link to services with higher service capability in bordering states and territories including the ACT, SA, QLD, and VIC.

The tiered perinatal networks are configured around the seven Level 6 maternity/ Level 5/6 neonatal services in NSW and the tertiary maternity and neonatal services in the ACT. The tiered perinatal networks configuration is outlined in Table 1.

Table 1. Tiered Perinatal Networks Configuration

Network	Linked district services*
Centenary Hospital for Women and Children (ACT)	ACT Health facilities Southern NSW Murrumbidgee (parts of Murrumbidgee link with Victoria)
John Hunter Hospital	Hunter New England Mid North Coast Northern NSW (parts of Northern NSW link with Queensland)
Liverpool Hospital	South West Sydney
Nepean Hospital	Nepean Blue Mountains Western NSW
Royal Hospital for Women	South Eastern Sydney Illawarra Shoalhaven
Royal Prince Alfred Hospital	Sydney Far West (Far West links with South Australia and Victoria)
Royal North Shore Hospital	Northern Sydney Central Coast
Westmead Hospital	Western Sydney

* Includes maternity and neonatal services and facilities without planned birthing services.

The tiered perinatal networks also support non-birthing services and private maternity facilities within their designated network.

The Level 6 maternity facilities have an important supra-LHD role to provide care to women and babies who reside outside their network when required.

The tiered perinatal networks must have a system in place to enact the default protocol whereby women with urgent needs are always accepted within the tiered perinatal network if there is no other appropriate facility that can accommodate them in a timely way.

Complex medical or surgical conditions of the woman and/or fetus will require more complex decision making. Transfer of care to a facility outside the tiered perinatal network may be required based on clinical needs. Care planning including timely referral is recommended to ensure appropriate care.

The complexities include:

- Anticipated surgical care for the neonate will need to be aligned with a Level 6 neonatal facility
- Women with complex medical or surgical conditions that may or may not be obstetric related, will require care at a facility with the service capability corresponding to the clinical needs

- Care of women and neonates with complex surgical and/or medical needs is outside the scope of this document.

2.2. Service capability

Service capability describes the scope of planned activity and clinical complexity a service is capable of safely providing. Each maternity and neonatal service has a designated service capability from Level 1 (no planned maternity) to Level 6 (tertiary care). Local health districts (districts) are responsible for determining and maintaining the service capability of their maternity and neonatal services.

The integrated model of maternity and neonatal care requires each service to have:

- an agreed designated and understood service capability
- collaborative relationships with other maternity and neonatal services both within their district and their tiered perinatal network.

The NSW Health Guideline *Maternity and Neonatal Service Capability* (GL2022_002) details the scope of planned clinical activity for each service capability level which supports a shared understanding of the capability of each maternity and neonatal service.

The NSW Health Guideline *Maternity and Neonatal Service Capability* (GL2022_002) complements the *NSW Health Guide to the Role Delineation of Clinical Services (2021)* which describes the minimum support services, workforce and other requirements for clinical services.

Maternity and neonatal services must meet the requisite role delineation requirements for its service capability level. If a service change occurs at any facility a reassessment, performed by the district, must be undertaken to ensure the activity matches the capability of the service in line with NSW Health Guideline *Maternity and Neonatal Service Capability* (GL2022_002). This reassessment must be communicated to the NSW Ministry of Health.

2.3. Patient Flow Portal

The Patient Flow Portal will facilitate transfer and bed management strategies. Bed capacity will be visible via the Electronic Patient Journey Board, which is a key tool of the Patient Flow Portal. The Patient Flow Portal must:

- be considered as an accurate census of bed capacity and availability within a facility as it is linked to the Patient Administration System and will recognise every woman and baby admitted for care
- include the following responsibilities to ensure accuracy:
    - the transferring facility to complete the Inter Hospital Transfer fields
    - the receiving facility to accept the Inter Hospital Transfer for planned transfer
- be accessed whenever bed finding is required
- identify two named obstetric consultants (On-Call consultants 1 and 2) for the facility for timely access for consultation and advice
- nominate ‘On-Call Consultant 1’ as the accepting consultant for transfers on the

Patient Flow Portal and with the transport provider when booking

- be used to capture data on maternal transfers that can be used as a measure of system performance.

In NSW, all maternity Level 4, 5, 6 facilities have mandatory manual updates in real time (at least every 4-hours for neonatal intensive care units and every 8-hours for maternity units and special care nurseries) to ensure that information is accurate and reflective of issues which can affect bed availability such as staff resources.

These Level 4, 5 and 6 facilities will also be responsible for ensuring the name and contact details for the obstetric consultants in each tiered perinatal network are displayed on the Patient Flow Portal to facilitate contact when escalation is required.

2.4. Patient flow unit

The patient flow unit is responsible for managing patient flow within a given facility or district. The role of the unit and/or delegated personnel is essential where demand exceeds capacity and/or where escalation is required to ensure effective and efficient patient flow.

Established communication pathways and processes for patient flow units within and between tiered perinatal networks is required to ensure effective negotiation when transfer is needed.

2.5. Newborn and paediatric Emergency Transport Service

NETS do not have a role in coordinating maternal transfers.

NETS is a single point of access for public and private hospitals in NSW and the ACT. Information about NETS is available on their website.

3. KEY ELEMENTS OF TIERED PERINATAL NETWORK ARRANGEMENTS

Each tiered perinatal network is responsible for managing the service demands of its population and ensuring 24/7 availability of both a first and second obstetrician for high level advice regarding urgent transfers.

Higher level facilities are responsible for providing support, advice and management of the women who may require transfer within and across tiered perinatal networks. Level 6 maternity facilities operate as a part of a statewide system of care and are required to support other tiered perinatal networks.

3.1. Tiered perinatal network operational plans

Each tiered perinatal network is required to have a tiered perinatal network operational plan for their maternity and neonatal services which describes business as usual within the tiered perinatal network and the escalation pathways required when business falls outside usual activity/ demand.

The operational plan must be reviewed and updated with locally identified processes for providing senior obstetric advice and decision making for complex/ high risk pregnancy

transfers. This includes ensuring 24/7 availability of both a first and second obstetrician for high level advice regarding urgent transfers.

The operational plan must detail:

- planning and review of networked services and their designated service capability
- governance process that articulates the responsibility and accountability of each facility as part of the tiered perinatal network. This will include the clinical responsibilities for delivery of care as well as the organisational processes required for managing demand and escalation
- risk identification in the tiered perinatal network related to the clinical presentations identified in the *Maternal Transfers Decision Making Tool* (see Section 3.2 and Appendix 2)
- pathways and processes for consultation, referral, transfer of care and/or shared care within the tiered perinatal network. This must include:
    - a local process for gaining additional obstetric advice to support consultant-to-consultant decision making for care planning, such as developing a buddy system with another tiered perinatal network
    - engagement with logistic partners prior to finalising a transfer request
    - processes for management of situations where the tiered perinatal network cannot safely manage demand and the support of other tiered perinatal networks is required
    - responsibilities of the transfer coordination role(s) in each facility/ local health district (district)
    - how to locate primary and secondary obstetric contact details
    - strategies to facilitate communication pathways for patient flow units within and between tiered perinatal networks
    - an escalation pathway to provide clear guidance on the roles and responsibilities of all stakeholders for the provision of alternative transport options in the event of:
        - transport delays
        - diversion
        - changes in maternal or fetal status including deterioration or birth
        - other scenario(s) impacting the transport plan
- communication contingency plan(s)
- clear processes for supporting non-birthing and maternity sites within the designated tiered perinatal networks
- data capturing and monitoring processes
- processes for case reviews and analysis of trended data that includes all aspects of transfers including advice, escalation, communication, coordination, and outcomes

- education, training, local policy and guideline development
- orientation of new maternity staff (such as locum/ agency medical and midwifery staff) on the tiered perinatal network operational plan. This includes how to access the Patient Flow Portal for tiered perinatal network contact numbers
- processes and criteria for back transfers
- a 'Time Out' process to reassess the maternal and fetal condition immediately before departure. This process must involve the referring and transfer teams. Escalating to the receiving facility if required.

3.2. Maternal Transfers Decision Making Tool

The Maternal Transfers Decision Making Tool [the Tool] (see Appendix 2) supports the decision-making process for maternal transfers by providing a standardised approach to the assessment of urgency and risk of specific clinical presentations. The Tool must be:

- referred to after assessment of the woman to determine, the need for transfer, the medically agreed timeframe in which transfer is to occur and the most appropriate mode of transfer and escort required
- used in conjunction with the tiered perinatal network/ district's operational plan to facilitate decision making for transfer based on specific geographical location and transport logistics
- used by the referring facility when communicating to the accepting facility to accurately communicate the level of urgency and risk.

3.3. Bed management strategy

Each tiered perinatal network is responsible for managing the care needs of its catchment population. The tiered perinatal network operational plan must describe the processes for monitoring and responding to fluctuations in demand including:

- an agreed local process for escalation when beds are not available
- process for regular surveillance and monitoring of demand and bed capacity within services and across the tiered perinatal network
- Local and tiered perinatal network bed management strategies when demand exceeds available bed capacity such as:
    - expediting planned discharges
    - identifying potential earlier discharge with follow up
    - identifying those women who can be transferred to a facility of lower service capability, including return transfer within the network
    - internal transfer within a facility, where appropriate
    - procedure to accommodate above the commissioned bed numbers for short periods
    - reviewing elective admissions that can be safely postponed

- The Patient Flow Portal will be accessed to identify bed status and capacity in other facilities to assist with decision making
- When a woman requires referral, the woman must be transferred immediately to the most appropriate higher-level facility within the tiered perinatal network, or relevant facility where cross border arrangements are applicable, irrespective of bed status
- When the destination for a woman requiring higher level care cannot be agreed, by default the woman must be transferred within the appropriate timeframe to the appropriate facility within the tiered perinatal network.

3.4. Short Term Escalation Plans

In line with the NSW Ministry of Health *Demand Escalation Framework*, each facility is required to have escalation pathways that define the processes to manage access and demand. The escalation pathways are to be formalised across the tiered perinatal network to provide care for women as close to home as possible.

This must include:

- agreed Short Term Escalation Plans (STEPs) which define in detail what constitutes STEP 1-4
- process for escalation when the capacity of the tiered perinatal network has been exceeded and a transfer to a different tiered perinatal network may be required
- a communication pathway to the executive of the facility/ district until the situation is resolved.

4. APPENDICES

1. Appendix 1: Policy Implementation Checklist
2. Appendix 2: Maternal Transfers Decision Making Tool

4.1. Appendix 1: Policy Implementation Checklist

District / Facility:	

Assessed by:	Date of Assessment:		
Implementation Requirements	**Not commenced**	**Partial compliance**	**Full compliance**
Tiered perinatal network operational plans in place, which are reviewed at least annually, that describe the service capability of all facilities, the risk assessment and governance processes for business as usual and clinical escalation pathways and demand escalation frameworks to ensure patient flow	❑	❑	❑
	Notes:		
Development of pathways and communication processes between networked districts to ensure streamline referral and transfer	❑	❑	❑
	Notes:		
Appropriate identification and training of clinical and administration staff in Patient Flow Portal and Emergency Access View applications	❑	❑	❑
	Notes:		
Specific cross-jurisdictional border arrangements as required are in place for consultation, referral, shared network care and/or transfer of women for care appropriate to the level of assessed need as required	❑	❑	❑
	Notes:		
Orientation for maternity staff to the tiered perinatal network operational plan	❑	❑	❑
	Notes:		
Compliance with this policy is audited and data is regularly monitored in collaboration with intra and inter-district stakeholders as a marker of system performance.	❑	❑	❑
	Notes:		

4.2. Appendix 2: Maternal Transfers Decision Making Tool

MATERNAL TRANSFERS DECISION MAKING TOOL					
Maternity Priority	**MP1***	**MP2***	**MP3**	**MP4**	**MP5**
Medically agreed time frame (Time by which woman should be receiving higher level care)	**Immediate** Midwifery/ Medical escort required	**< 3 hours** Midwifery/ Medical escort required	**< 12 hours** Midwifery escort required	**24 hours**	**72 + hours** consultation or referral or back transfer
Transport determined by local LHD	NSW Ambulance/ ACC immediate dispatch	NSW Ambulance/ACC	NSW Ambulance/ ACC/PTS	PTS/ Private provider	PTS/ Private provider
Preterm Labour (PTL) (Regular contractions with any cervical change)	>26 progressive dilatation >3cm (if safe)	Dilated 1-3cm	Dilated <1cm and labour suppressed		
	23^{+0}–26^{+0} with imminent birth	Gestation as per tiered perinatal network operational plan			<23 weeks
Threatened preterm labour (TPL), closed cervix - quantitative fFN			≥200 ng/mL	50–199 ng/mL	<50ng/mL or short cervix without symptoms
APH (stable) In absence of uterine activity				≥ 23 weeks as per operational plan	Consult / referral
PPROM (without labour)				≥ 23 weeks as per operational plan	< 23 weeks
Multiple pregnancy complication		23^{+0}–26^{+0} weeks	>26 weeks as per operational plan		< 23 weeks
Maternal condition	Deteriorating +/- Planned urgent birth	Maternal deterioration whereby birth likely required within 12–24 hours			Consult / referral
Fetal condition	Deteriorating +/- Planned urgent birth	Fetal deterioration whereby birth likely required within 12–24 hours			Consult / referral

***Requires consultation with Obstetric Consultant**

ACC – Aeromedical Control Centre
APH – Antepartum Haemorrhage
Fetal condition – e.g. growth restriction
fFN – Fetal Fibronectin
Maternal condition – deterioration may increase MP

Medically agreed timeframe – transfer to higher level care may be impacted by geographical conditions
PTL – Pre-term labour
PPROM – Preterm premature rupture of membranes
PTS – Patient Transport Services
TPL – Threatened Preterm Labour – if cervical changes over time becomes PTL