Guideline

Maternity and Neonatal Service Capability

Summary This document guides NSW Health local health districts and specialty health networks in determining the service capability level of their maternity and neonatal services and outlines the processes for assessment, notification and reporting.

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Audience Chief Executives of LHDs;Directors of Clinical Governance & Clinical Operations;Clinical Directors;All NSW Health Maternity Managers and Clinicians;Neonatal Services;Paediatric services;Health Service Planners;NSW Ambulance Service

Secretary, NSW Health

NSW Health

GUIDELINE

Maternity and Neonatal Service Capability

GUIDELINE SUMMARY

This document guides NSW Health service executives, managers, clinicians, and health service planners in planning and delivering maternity and neonatal services. The guideline describes the planned activity and clinical complexity that a facility is capable of safely providing, and outlines the processes for assessment, notification and reporting.

KEY PRINCIPLES

Local health districts (districts) and specialty health networks (networks) are responsible for assessing, maintaining and reassessing the service capability level of their maternity and neonatal services.

District/networks are responsible for annual reporting of maternity and neonatal service capability levels.

The Secretary of NSW Health must be notified in advance of any planned commencement of a new maternity or neonatal service and/or closure or restriction of the range of maternity or neonatal services.

District/networks are responsible for conducting relevant risk assessments for any planned or unplanned change to services to support safety and quality practices, or at the request of the Ministry of Health. Local processes must be in place to manage any identified risks to operating at a designated service capability level.

Maternity and neonatal managers and clinicians must deliver services in line with the designated service capability level of their facilities and partner with other services within tiered perinatal network arrangements so women and newborns can receive the right care in the right place at the right time.

Accessible information must be provided to women and their families in the antenatal period about the capability of their local service. This will help them understand the care that can be provided locally and what to expect if transfer for higher-level care is required.

Care at all levels of service capability needs to be woman/person-centred (maternity), family-centred (neonatal), culturally safe and appropriate and respond to the diverse needs of women and families including health, mental health, disability, psychosocial and safety needs (including child protection and domestic and family violence).

Maternity and neonatal services implement value-based health care to improve outcomes and experiences for patients, the population, clinicians and service providers, and ensure value for the system.

REVISION HISTORY

Version	Approved By	Amendment Notes
GL2022_002 May 2022	Deputy Secretary, Health System Strategy and Planning	The Guideline continues to align with the Guide to the Role Delineation of Clinical Services (2021) and improves executive line of sight to service capability and its monitoring and reporting.
GL2016_018 July-2016	Deputy Secretary, Strategy and Resources	New Guideline

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1. BACKGROUND

1.1. About this document

This Guideline contains information on service capability levels, networked care, managing risk, assessment, notification and reporting. The service capability tables provide clear references of service provision at each maternity and neonatal service capability level.

The Guideline is a companion to the *NSW Health Guide to the Role Delineation of Clinical Services 2021* and the NSW Health Guideline *NSW Paediatric Service Capability Framework* (GL2017_010). Maternity and neonatal levels are determined by applying the three documents and conducting relevant capability and risk assessments.

1.2. Scope of the document

This Guideline applies to maternity and neonatal services provided by NSW local health districts and specialty health networks. NSW private hospitals with maternity and neonatal class facilities may also find this document informative as they partner with public services through tiered perinatal networking arrangements.

1.3. Key definitions

Clinical Emergency Response System (CERS)	Clinical Emergency Response Systems (CERS) is a health service/facility's formalised system for obtaining urgent assistance when a patient is clinically deteriorating including escalation of clinical concern to a Clinical Review (a patient review undertaken within 30 minutes) or a Rapid Response (urgent review). NSW Ambulance has developed Clinical Emergency Response Systems (CERS) Assist which provides additional assistance in response to clinical emergency, especially in rural and remote locations.
Facility	Facility includes hospital, multi-purpose service and community health centres.
Maternity services	Maternity services encompass home-based services (e.g. publicly funded homebirth services, postnatal midwife visits, community and outreach services including services targeting specific population groups such as Aboriginal Maternal and Infant Health Service (AMIHS) and Justice Health maternity and child health services and facility-based services (e.g. multi-purpose services and hospitals).

Neonatal services	Neonatal services encompass low-dependency care (which may be a model of care and/or located in a Special Care Nursery/ Unit), high-dependency care and neonatal intensive care provided in Neonatal Intensive Care Units (NICUs).
Service capability	Service capability describes the planned activity and clinical complexity that a facility is capable of safely providing.
Service Capability Assessment Tools (SCATs)	Tools that are used to guide capability assessment.
Supra-Local Health District services	Specialised services provided on behalf of the state for the care of women and neonates who require a higher level of care within and outside their network. All Level 6 maternity and Level 6/5 neonatal services (tertiary level care) are supra-Local Health District (Districts) services.
Virtual care	Virtual care or telehealth is the delivery of healthcare at a distance using information communications technology such as phone and video conferencing. It is used to provide a range of services including clinical advice, consultation, monitoring, education and training and administrative services.
Tiered Perinatal Network (TPN)	A formalised arrangement of maternity and neonatal services within and across Local Health District (District) in NSW and the ACT that are linked with a tertiary (Level 6) service to provide support where higher level care is required. The Tiered Perinatal Network (TPN) recognises the capability, capacity, responsibilities and expertise of each facility in the network.
Transport and retrieval services	NSW Ambulance Service and Newborn and paediatric Emergency Transport Service (NETS) provide transport and retrieval services for patients requiring urgent or non-urgent transfer between maternity and neonatal services.

1.4. Related NSW Health documents

Policy Number	Policy Title
(PD2010_017)	Maternal and Child Health Primary Health Care Policy
(PD2015_043)	Risk Management -Enterprise-Wide Risk Management Policy and Framework – NSW Health
(GL2016_027)	Neonatal – Jaundice Identification and Management in Neonates >32 Weeks Gestation
(GL2017_010)	NSW Paediatric Service Capability Framework

Policy Number	Policy Title
(PD2017_044)	Interpreters – Standard Procedures for Working with Health Care Interpreters
(PD2019_008)	The First 2000 Days Framework
(PD2020_008)	Maternity – National Midwifery Guidelines for Consultation and Referral
(PD2020_014)	Tiered Networking Arrangements for Perinatal Care in NSW
(PD2020_018)	Recognition and Management of Patients who are Deteriorating
NSW Health Guide to the Role Delineation of Clinical Services 2021	
NSW Health Virtual Care Strategy 2021-2026	

2. SERVICE CAPABILITY LEVELS

2.1. Six levels of service capability

Maternity and neonatal service capability levels range from Level 1 (antenatal and postnatal care but no planned birthing or neonatal care unit) through to Level 6 (specialist supra-Local Health District maternity and neonatal care). The levels outlined in Section 6 identify the minimum requirements for each level. The levels build on each other, which means services will meet the requirements at their designated level as well as those outlined for lower levels.

The 'highest' (most complex) level of care is provided by Level 6 facilities. Level 6 maternity care is provided in tertiary perinatal centres. Level 6 neonatal care is provided in specialist children's hospitals where neonatal surgery and complex genetic and metabolic services are located or in Neonatal Intensive Care Units (NICUs) co-located with specialist children's hospitals. Level 6 maternity and Levels 6/5 neonatal hold supra-Local Health District (LHD) roles and provide statewide specialist services. They provide leadership within tiered perinatal networks and act as peak referral services.

2.1.1. Additional supported services

Some services may provide some aspects of care that are above their designated service capability level. In the previous service capability guideline, these were referred to as 'Plus' capabilities. Although 'Plus' levels are no longer included in this Guideline, services may still choose to offer additional supported services, but they cannot be designated at a higher capability level unless all criteria for the higher level are consistently met. For example, a service previously designated a Level 3+ would now be designated a Level 3 service.

Additional supported services may apply to Maternity Levels 2 to 5 and Neonatal Level 2 to 4. Examples have been provided under each of the Service Capability Tables for these levels, however they are not an exhaustive list. Additional supported services will require the appropriate corresponding minimum core services. Additional supported services are to be communicated to tiered perinatal network partners and can be highlighted in the tailored sections of the consumer flyers.

Where an aspect of higher-level care is identified as needed to meet local service requirements, the district is to undertake a multidisciplinary risk assessment process. This process is to assess the local services required to deliver the higher-level care on an ongoing

basis. The outcome of the assessment may require moving up a service capability level if all criteria for the higher level are consistently met. Assessment processes require Local Health District Executive approval of service capability level.

2.1.2. No planned maternity or neonatal service

This document guides planned maternity and neonatal activity, but it also recognises that some facilities with no planned activity will at times need to provide urgent and essential services to women and neonates in the perinatal period. Minimum requirements for these services are addressed in Section 6.2 under the table titled 'No planned maternity or neonatal service'.

2.2. Maternity and neonatal service relationships

The needs of mothers and babies are inextricably linked, and planning should be undertaken jointly for maternity and neonatal services. Maternity and neonatal services are to be co-located or linked in network arrangements that optimise safe, high quality care for women and newborns and support appropriate use of health resources. Maternity Levels 4 to 6 are to be partnered at a minimum with a neonatal service one level lower. Variation may occur in networking of Maternity Levels 1 to 3 with neonatal services.

2.3. Private hospital levels

Private hospital maternity care is a valued service option for many women and families. Private hospitals with maternity and neonatal class facilities partner with public services through tiered perinatal networking arrangements. Level 5 also network with Level 6 neonatal services.

The levels of private facilities do not follow the same service capability levels as public services. Private services are licensed under the *Private Health Facilities Act 2007* and the *Private Health Facilities Regulation 2017*. Schedule 2 Part 10 of the Regulation identifies the requirements for two levels of maternity class facility and Part 13 addresses the requirements for licensing neonatal class facilities.

3. SERVICE CAPABILITY AND NETWORKED CARE

3.1. Care within tiered perinatal network arrangements

Maternity and neonatal care in NSW is delivered in collaboration with the ACT through a tiered perinatal network structure. There are eight tiered perinatal networks, each comprised of between one and three local health districts. Each tiered perinatal network is led by a Level 6 tertiary hospital (supra- Local Health District (LHD) service), which partners with services at other lower service capability levels within its network, as well as providing statewide access as needed.

Under tiered networking arrangements, support is to be provided by higher-level facilities to lower-level facilities. This may take the form of clinical advice, development of clinical guidelines, training and education, shared care, clinical services such as outreach clinics (face-to-face or virtual), and participation in clinical review meetings.

3.1.1. Services available across the range of capability

Districts are responsible for ensuring women and newborns have access to the appropriate level and range of services required, including specialist services. These must be provided within the district or through agreed pathways in the tiered perinatal network. Outreach or shared care services and virtual care may also be used to enhance maternity and neonatal care, particularly in rural and regional areas.

Services commonly required during the perinatal period include (but are not limited to) dietetics, physiotherapy, speech pathology, occupational therapy, ophthalmology, and social work. Specialist services may include care for women with complex psychosocial needs (e.g. mental health, drug and alcohol services) and/or medical needs such as next birth after caesarean (NBAC) section service, external cephalic version (ECV) service, vaginal breech birth service; vaginal twin birth service; and specialist team for women who have experienced female genital mutilation/cutting.

3.1.2. Enhancing service capability through virtual care

Virtual care has the capacity to enable and support the provision of a diverse range of activities across tiered perinatal networks, supporting service capability. Activities may include but are not limited to:

- consultation on time-critical treatment (e.g. in the Birthing Unit, Maternity Wards or in the Special Care Nursery/ Unit)
- scheduled clinical care (e.g. antenatal clinics, specialist clinics, newborn assessment and care including ophthalmology via RetCam)
- education and training of clinicians (including case discussions, debriefs and grand rounds)
- engagement in safety and quality activities (including mortality and morbidity meetings, policy meetings and clinical case reviews)
- communication between a mother and the newborn care team if she is separated from her baby due to clinical need.

3.2. Moving women and newborns between services

Women and newborns may require care at a higher-level facility than originally planned. Districts are responsible for ensuring systems and pathways are in place within the tiered perinatal networks for consultation and referral, and for transfer of women and newborns up and down the levels (including for back transfers). Wherever possible mothers and babies are to remain together. Identify the need for early engagement with NSW Ambulance when seeking transfer of care between facilities.

Districts must follow established admission, transfer and discharge criteria and processes, including standardised approaches (e.g. decision making tool), that reflect arrangements within the tiered perinatal network and across networks. This assists timely decision-making, communication and safe transfers of women and newborns.

3.3. Communicating with families about service capability

Accessible and culturally appropriate information must be provided in the antenatal period to women and their families on the capability of their local service. This will help families understand what to expect if transfer for specialised care is required for the woman and/or her newborn. If a woman or her newborn is identified as requiring care that is outside the service capability of their local maternity or neonatal service, the clinician must discuss the recommended care with the woman and her family. They must also be advised that once specialised care is no longer required, the woman and/or newborn will usually be transferred back to a facility with the capability to provide appropriate ongoing care as close to home as possible.

Appropriate services must be engaged to assist with communication (e.g. Aboriginal Health Workers) and women who are not fluent in English or who have a hearing impairment need to be offered interpreter services to assist them with these discussions.

4. SERVICE CAPABILITY AND RISK

Risks to service provision at the designated service capability level must be managed to ensure patient safety.

4.1. Managing risks to service at the designated service capability level

Local processes must be in place for managing risks in situations where minimum requirements at the designated service capability level are unable to be met. Assessment processes to determine service capability outlined in Section 5.1 support risk assessment and management.

Particular attention is to be paid to risk management strategies where there are identified risks to service sustainability, such as a service that relies on a limited clinical workforce pool or sole practitioner in a specialty or subspecialty.

The risk management response needs to be timely, documented and implemented in accordance with relevant health policies and endorsed by the appropriate health service Chief Executive or delegate.

For planned changes to service capability level, districts must follow the assessment and notification advice in Section 5.2. In emergency service provision circumstances, Critical Operations Standard Operating Procedures or Business Continuity Plans will apply.

4.2. Managing clinical risks in line with service capability

Local processes must be in place at first comprehensive antenatal assessment and for continuing re-assessment to ensure that care is planned at the appropriate maternity and neonatal service capability level, risks are assessed and where requirements for higher-level care are anticipated, care must be planned with higher-level services.

There may be occasions where a woman's pregnancy or birth becomes complicated. It is vital that efficient and safe mechanisms are in place to facilitate consultation or referral. A higher level maternity and/or neonatal service may be required than originally anticipated.

Urgency and escalation to the appropriate higher-level service must be congruent with the woman's and/or her newborn's level of risk.

Maternity and newborn care and risk management are to be provided in line with NSW Health Policy Directives:

- *Maternity - National Midwifery Guidelines for Consultation and Referral* (PD2020_008)
- *Recognition and Management of Patients who are Deteriorating* (PD2020_018)
- *Risk Management - Enterprise-Wide Risk Management Policy and Framework - NSW Health (*PD2015_043*)*

4.2.1. Managing clinical risk when transfer to higher level care is not possible

Circumstances may arise where transfer to higher level care, although indicated, may not be possible. This may occur, for example, when a woman is unable or reluctant to access the recommended care due to the impact of transfer including travel and accommodation logistics and/or costs, and isolation from her family and support structures. This circumstance is more likely to arise in rural and remote areas. It may also be a particular concern for Aboriginal women seeking to birth on country and wanting to stay close to home.

Clinicians need to balance local service capability and outreach, shared care and virtual care supports against the impact of transfer to a higher-level service on the woman, newborn and family. Clinicians must acknowledge and respect a woman's autonomy to decide the care she receives according to her personal needs and values, and her right to be informed of the risks and benefits of care options.

Women and families must be supported to make informed decisions and be provided with culturally appropriate and balanced information on all options for care. If appropriate they are to be offered support through Aboriginal Health Liaison Officers, Aboriginal Maternal and Infant Health Service (AMIHS) staff, social workers, interpreters and/or other support services.

If an occasion arises where a facility needs to provide care outside the service scope for their planned service capability level, they must:

- follow guidance outlined in the NSW Health Policy Directive *Tiered Networking Arrangements for Perinatal Care in NSW* (PD2020_014) related to consultation, urgent care and short-term escalation, and local policy and procedures
- seek advice and support on the woman and/or newborn's clinical management plan from their tiered perinatal network higher-level maternity and/or neonatal service
- consult locally with other clinicians and service managers regarding any proposed procedure and impact on related services in the facility
- discuss in detail with the woman (and family where relevant) any potential risks to the woman or her newborn, so she can make informed decisions regarding recommendations for care. This discussion should be documented in the woman's medical record. Where applicable the discussion should also be documented in the newborn's medical record.

5. ASSESSMENT, NOTIFICATION AND REPORTING

5.1. Service capability assessment

Districts must conduct an initial assessment to determine the capability of a new planned maternity or neonatal service. Re-assessments are to be carried out whenever there is a planned change to service, regularly at the discretion of the district to support safety and quality practices linked to the Local Health District (LHD)'s clinical services planning cycles, and at the request of the Ministry of Health.

An assessment of service capability is conducted by reviewing the tables in Section 6 of this Guideline in conjunction with the *NSW Health Guide to the Role Delineation of Clinical Services 2021* and the NSW Health Guideline *NSW Paediatric Service Capability Framework* (GL2017_010)

Districts are to use the *Maternity and Neonatal Service Capability Assessment Tool* (SCAT) to assist assessment of capability. The *Maternity and Neonatal Service Capability Assessment Tool* (SCAT) can be found on the NSW Health Intranet.

Use of the Maternity and Neonatal Service Capability Assessment Tool (SCAT) provides a rapid review of service capability which may help districts identify issues that require a documented risk assessment. Risk assessments must be completed in line with current NSW Health policy directives. When assessing neonatal service capability below Level 5, the NSW Guideline *NSW Paediatric Service Capability Framework* (GL2017_010) assessment tools are also to be used.

An assessment can be conducted by desktop review or through a more comprehensive process. In either form, it is a collaborative exercise led by senior management and health service planning in partnership with representatives from maternity, neonatal and paediatric services, with sign off by the district Chief Executive.

Consideration can also be given to involving an independent expert to participate in the assessment process to contribute additional objectivity and expertise, for example, a senior clinician or manager from within the tiered perinatal network.

5.2. Notification of changes to service capability

In line with the *NSW Health Services Act 1997*, the Secretary of NSW Health must be notified in advance of any planned commencement of a new maternity or neonatal service and/or closure or restriction of the range of maternity or neonatal services offered by districts. A planned move to a lower service capability level would constitute a planned restriction of service. The notification form can be found on the NSW Health Intranet.

These requirements to notify NSW Health are for planned changes and do not apply to emergency service provision circumstances where Critical Operations Standard Operating Procedures or Business Continuity Plans apply.

Districts must have local processes in place to communicate in a timely manner any planned changes to a facility's service capability level with tiered perinatal network partners and stakeholders (including NSW Ambulance Service and Newborn and paediatric Emergency Transport Service (NETS)) to maintain safe and efficient care. This includes planned changes to move to a lower or higher service capability level.

5.3. Reporting of service capability levels

NSW Health requires annual reporting of maternity and neonatal service capability levels by each district. The annual census provides a snapshot of maternity and neonatal service capability levels for the NSW Mothers and Babies Reports. The request to Chief Executives will usually be made in early May with accompanying template for reporting by the end of May.

This annual census report will require a desktop review of service capability at a minimum, however districts may choose to complete a full assessment as part of local safety and quality processes. NSW Health may at any time, request a report on service capability.

6. SERVICE CAPABILITY TABLES

6.1. Overview of the service capability tables

Twelve maternity and neonatal service capability tables outline the recommended components of planned activity at each of the six maternity and neonatal service levels. Examples of additional supported services are included below Maternity Levels 2 to 5 and Neonatal Levels 2 to 4 tables. These are not exhaustive lists.

Minimum requirements for maternity and neonatal care in a clinical service which has no planned maternity or neonatal service are outlined in the table 'No planned maternity or neonatal service'.

Maternity Levels 4 to 6 are to be partnered at a minimum with a neonatal service one level lower. Variation may occur with Maternity Levels 1 to 3 which are to be partnered with neonatal services in arrangements that optimise safe, high quality care for women and newborns and support appropriate use of health resources. The following colour key to the service capability tables reflects this through colour matching.

6.1.1. Service Capability Table Key

Maternity Services	
	No planned service
	Level 1
	Level 2
	Level 3
	Level 4
	Level 5
	Level 6

Neonatal Services	
	No planned service
	Level 1
	Level 2
	Level 3
	Level 4
	Level 5
	Level 6

6.2. No planned maternity or neonatal service

NO PLANNED MATERNITY OR NEONATAL SERVICES

Minimum requirements for maternity and neonatal care in a clinical service include:

- pathway for consultation (e.g. access to expert advice), escalation and/or transfer if a woman presents with a pregnancy related issue, is in labour or has birthed before arrival
- basic adult and neonatal life support skills and equipment as outlined in NSW Health Policy *Recognition and management of patients who are deteriorating* (PD2020_018) and NSW Health Guideline *Maternity - Resuscitation of the Newborn Infant* (GL2018_016)
- documented negotiated and agreed processes with Newborn and paediatric Emergency Transport Service (NETS) and NSW Ambulance Service
- access to paediatric specialty services for advice/referral.

For unplanned births, NSW Health Education Training Institute (HETI) provides a rural education simulation program to upskill clinicians in non-birthing sites for unplanned births (**see Rural Simulation Education Program** and **My Health Learning** Course Code 347210402 on **Maternal Emergency Presentations in Non-Birthing Facilities**)

6.3. Maternity Services

6.3.1. Level 1 Maternity Service

LEVEL 1 MATERNITY SERVICE		
SERVICE SCOPE		
Provides planned: • midwifery only or general practitioner (GP) antenatal and postnatal care. • postnatal care of newborns born at ≥ 37^{+0} weeks gestation without complications. **Does not provide** planned birthing or neonatal care unit.		
Antenatal	Intrapartum	Postnatal
Care usually provided by GPs or midwives through a shared care model linked with an identified appropriate birthing facility within the Tiered Perinatal Network (TPN). Antenatal fetal heart rate monitoring at the request of, and in collaboration with, a clinician at a higher-level facility in situations where staff have met Perinatal Safety Education requirements.	No planned intrapartum care.	Ideally care provided in the home or community unless: • the clinical needs of the mother and/or newborn require an inpatient stay • staffing or maternal residential location require an inpatient stay.

LEVEL 1 MATERNITY SERVICE - SUPPORT SERVICES AND CONSIDERATIONS								
MINIMUM CORE SERVICES								
Neonatal service	Networked across district							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	1	1	–	–	–	–	1	1

LEVEL 1 MATERNITY SERVICE - SUPPORT SERVICES AND CONSIDERATIONS	
CLINICAL GOVERNANCE	
Guiding documents for service provision	Local guidelines on: • scope and level of planned clinical complexity for the service • consultation, escalation and transfer processes for maternal, neonatal, psychosocial, cultural, mental health and drug and alcohol issues • admission, transfer and discharge criteria and process for the Tiered Perinatal Network (TPN) that also reflects any cross Tiered Perinatal Network (TPN) and interstate arrangements • care of unplanned imminent birth and subsequent postpartum stabilisation and transfer • contingency plans to cover the unavailability of services and process for informing networked maternity and neonatal services and informing women about the appropriate alternate facility • retrieval processes with Newborn and paediatric Emergency Transport Service (NETS), NSW Ambulance Service and, where relevant, interstate service provider/s • process for non-emergency transfer and transport (including equipment requirements) • identifying children and families at risk and facilitating access to appropriate support services or programs • referral pathways to relevant Aboriginal programs and services. Clinical Emergency Response Systems (CERS) for recognition of, and response to clinical deterioration. Consumer information on local service capability.
Competence and credentialling	Processes to ensure clinical staff are appropriately credentialled and work within their scope of practice.
Quality and safety processes	Ongoing formal peer review process for reviewing clinical outcomes in consultation with the Tiered Perinatal Network (TPN) Quality and risk management programs in line with current National Safety and Quality Health Service (NSQHS) standards.
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Place of birth is planned within the Tiered Perinatal Network (TPN). Consultation, referral and transfer are organised within the Tiered Perinatal Network (TPN). Referral pathways to relevant Aboriginal programs and services, including Aboriginal Maternal and Infant Health Service (AMIHS).
Education	Local clinical education and access to education and training through the Tiered Perinatal Network (TPN).
WORKFORCE	
Workforce	Registered midwives/ and where registered midwives not available all the time, registered nurses with access to midwifery support. General practitioner/ general practitioner obstetricians/ endorsed midwife. Aboriginal and Torres Strait Islander health workers - access to on site or by referral.

6.3.2. Level 2 Maternity Service

LEVEL 2 MATERNITY SERVICE
SERVICE SCOPE

Provides planned care as for Level 1 and in addition:

- intrapartum care from ≥37^{+0} weeks gestation.
- may provide care to other women in consultation with a suitably qualified clinician in the relevant Tiered Perinatal Networks (TPNs).
- antenatal care provided in either a shared care arrangement with GPs/GP obstetricians or midwives in consultation with medical officers within their Tiered Perinatal Networks (TPNs) when required.

Should not provide planned care for:

- spontaneous labour and birth before 37^{+0} or after 42^{+0} weeks gestation
- induction or augmentation of labour
- elective caesarean section
- vaginal birth after caesarean section
- care of any woman requiring continuous electronic fetal monitoring.

Antenatal	Intrapartum	Postnatal
Antenatal care in either a shared care arrangement with or by GPs/GP obstetricians or midwives in consultation with medical officers within their Tiered Perinatal Network (TPN) when required. Antenatal fetal heart rate monitoring as outlined in NSW Health Guideline *Maternity Fetal Heart Rate Monitoring* **(**GL2018_025**)**.	Labour and birth ≥ 37^{+0} weeks gestation. Care provided by GP obstetricians or a multidisciplinary team or by midwives in a standalone unit or publicly funded homebirth service (in consultation with medical officers within the Tiered Perinatal Network (TPN) when required). Fetal heart rate: Pregnancies with no identified risk require intermittent fetal heart rate auscultation in labour. Escalate to a higher-level service if continuous (ongoing) intrapartum electronic fetal heart rate monitoring required.	Ideally, care provided in the home or community unless: • the clinical needs of the mother or newborn require an inpatient stay • staffing or maternal location require an inpatient stay.

If an antenatal or intrapartum non-reassuring fetal heart rate feature is heard, electronic fetal heart rate monitoring **(**EFM) is appropriate to confirm either normality or need for immediate transfer and ongoing management.

LEVEL 2 MATERNITY SERVICES – SUPPORT SERVICES AND CONSIDERATIONS								
MINIMUM CORE SERVICES								
Neonatal service	Networked across district							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	1	1	–	–	–	1	2	2

CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Level 1
Competence and credentialling	As for Level 1
Quality and safety processes	Ongoing regular formal peer review of clinical outcomes in consultation with the Tiered Perinatal Network (TPN) Established systems for quality and safety review, including: • quality and risk management programs in line with current National Safety and Quality Health Service (NSQHS) standards • maternal and perinatal mortality and morbidity meetings • benchmarking of clinical outcomes and dissemination of results • clinical case review when appropriate and where relevant, in consultation with the Tiered Perinatal Network (TPN).
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	As for Level 1 and in addition: • formal protocols and referral links to allied health (e.g. social work) and psychiatry services. • care may be provided by GP obstetricians or a multidisciplinary team or by midwives in a standalone unit or publicly funded homebirth service (in consultation with medical officers within the Tiered Perinatal Network (TPN) when required).
Education	Local clinical education and access to education and training through the Tiered Perinatal Network (TPN). Training to support the general service capability, e.g. Level 2 midwifery staff in standalone units and homebirth services – training in basic and advanced life support, comprehensive assessment of the well newborn, and recognition and management of the sick newborn.
WORKFORCE	
Workforce	As for Level 1 and in addition: • registered midwives • nurse/midwife unit manager
LEVEL 2 MATERNITY SERVICES – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Artificial rupture of the membranes for augmentation of labour may be considered and requires a clinical risk assessment and shared decision making with a higher level service.	

6.3.3. Level 3 Maternity Service

LEVEL 3 MATERNITY SERVICE
SERVICE SCOPE

Provides planned care as for Level 2 and in addition:

- antenatal, intrapartum and postnatal care for other women following consultation and development of a management plan with a suitably qualified clinician within the Tiered Perinatal Network (TPN)
- collaborative care is provided by midwives, GP obstetricians and/or specialist obstetricians
- intrapartum care for women from ≥37^{+0} weeks gestation, including induction of labour, vacuum and/or forceps births, vaginal birth after caesarean section
- provide Common and Intermediate obstetric procedures (e.g. planned Lower Segment Caesarean Section (LSCS) ≥39 weeks gestation) - refer to *Guide to the Role Delineation of Clinical Services* Appendix I: Indicative List of Surgery for Adults.

Should not provide planned care for:

- planned birth before 37^{+0} weeks gestation or after 42^{+0} weeks gestation
- medical induction of labour or augmentation with oxytocin (Syntocinon®) following previous caesarean section
- caesarean section for major placenta praevia
- planned birth of women with a multiple pregnancy.

Antenatal	Intrapartum	Postnatal
Collaborative care is provided by midwives, GPs and/or specialist obstetricians. Antenatal fetal heart rate monitoring as a means of fetal welfare assessment. Management of emergent co-morbidities, such as hypertensive disease of pregnancy, in consultation with a specialist in the Tiered Perinatal Network (TPN). Antenatal care planning of women with multiple pregnancies in association with a Level 4, 5 or 6 facility (e.g. women with twin pregnancies that require frequent ultrasound surveillance).	Labour care for women ≥37 $^{+0}$ weeks gestation, including: • vaginal birth after caesarean without medical induction of labour or augmentation with oxytocin (Syntocinon®) • induction of labour ≥37^{+0} weeks gestation • antenatal and intrapartum electronic fetal heart rate monitoring as a means of fetal welfare assessment • vacuum and/or forceps births • elective caesarean section ≥39^{+0} weeks gestation complying with NSW Health Guideline *Maternity - Timing of Planned or Pre-labour Caesarean Section at Term* (GL2016_015).	Ideally care provided in the home or community unless: • the clinical needs of the mother and/or newborn require an inpatient stay • staffing or maternal location require an inpatient stay.

LEVEL 3 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS								
MINIMUM CORE SERVICES								
Neonatal service	Level 1 or 2							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	3	3	3	–	–	3	3	2

CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Level 1 and 2
Competence and credentialling	As for Level 1 and 2
Quality and safety processes	As for Level 2
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	As for Level 2 and in addition: • antenatal and intrapartum electronic fetal heart rate monitoring as a means of fetal welfare assessment • use networked Level 4, 5 and 6 maternity services, and Level 3, 4, 5, and 6 neonatal services, for consultation, referral and/or transfer • access to allied health services commensurate with casemix and clinical load.
Education	Local clinical education and links to the Tiered Perinatal Network (TPN) to: • provide educational support for Levels 1 and 2 maternity services • access education and training at Levels 4 - 6 maternity services to meet the needs of clinicians and support service capability.
WORKFORCE	
Workforce	As for Level 2 and in addition: • general practitioner (advanced) or specialist obstetrician - 24 hour on-call availability for emergency caesarean section • general practitioner anaesthetist 24 hour on-call anaesthetic availability for emergency caesarean section • 24 hour access to a clinician with appropriate paediatric skills, qualifications or experience in newborn care including advanced life support (ideally in addition to the anaesthetic role) • allied health professionals available.
LEVEL 3 MATERNITY SERVICES – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Planned labour care for women from ≥ 36^{+0} weeks gestation requires ability to undertake antenatal and intrapartum electronic FHR monitoring as a means of fetal welfare assessment; requires a minimum of Level 2 Neonatal service.	

6.3.4. Level 4 Maternity Service

LEVEL 4 MATERNITY SERVICE
SERVICE SCOPE

Provides planned care as for Level 3 and in addition:

- antenatal, intrapartum and postnatal care for women ≥34^{+0} weeks gestation which may be in consultation with the specialist obstetrician or maternal-fetal medicine specialist within the Tiered Perinatal Network (TPN)
- well defined linkages for consultation and/or referral must be in place with a delineated higher-level maternity and neonatal service
- provide selected Major obstetric procedures – refer to Guide to the *Guide to the Role Delineation of Clinical Services* Appendix I: Indicative List of Surgery for Adults.
- collaborative care is provided by midwives, junior medical officers, GP obstetricians and obstetricians.

Should not provide planned care for:

- caesarean section for major anterior placenta praevia or accreta/percreta (suspected on ultrasound or MRI)
- planned birth of twins with additional risk factors present (e.g. growth discordance, monochorionic twins)
- triplets and higher order multiples.

Antenatal	Intrapartum	Postnatal
As for Level 3 and in addition: • management of emergent co-morbidities such as hypertensive disease of pregnancy. • next Birth After Caesarean (NBAC) section service. • external cephalic version (ECV) Service (or referral pathway to service). • shared antenatal care for women with identified risk factors in consultation with, and as considered appropriate by, higher level service.	As for Level 3 and in addition: • vaginal birth after caesarean section including induction and/or augmentation • major posterior placenta praevia • vaginal Twin Birth • induction of labour ≥ 34^{+0} weeks gestation • elective caesarean section ≥ 34^{+0} weeks gestation (where clinically required) • ability to undertake intrapartum fetal blood sampling.	Ideally care provided in the home or community unless: • the clinical needs of the mother and/or newborn require an inpatient stay • staffing or maternal location require an inpatient stay.

LEVEL 4 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS								
MINIMUM CORE SERVICES								
Neonatal service	Level 3							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	4	4	–	4	4	4	4	4

LEVEL 4 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1-3
Competence and credentialling	As for Levels 1-3
Quality and safety processes	As for Levels 2-3
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	As for Level 3 and in addition: • able to perform intrapartum fetal blood sampling • established links and support with surrounding Level 3 maternity services and Level 1 and 2 neonatal services, regarding consultation, referral and transfer • established links and support with geographically appropriate Level 5 and 6 maternity services and Level 4, 5 and 6 neonatal services regarding consultation, referral and transfer.
Education	Local clinical education with links to the Tiered Perinatal Network (TPN) to: • provide educational support for Levels 1, 2 and 3 services • access education and training at Levels 5 and 6 services to meet the needs of clinicians and support service capability.
WORKFORCE	
Workforce	As for Level 3 and in addition: • nominated midwifery clinical leader • clinical midwife educator access on site or referral to • specialist obstetrician / gynaecologist - May be permanent to the service or visiting – 24 hour on-call availability • nominated obstetric clinical leader - May be permanent to the service or visiting • GP (anaesthetist)/ specialist anaesthetist - 24 hour on-call availability • medical officer with three or more postgraduate years of experience on call 24 hours; may be in training with the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG).
LEVEL 4 MATERNITY SERVICES – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Caesarean section for some major anterior placenta praevia requires pathology and the facility to be Role Delineation Level 5.	

6.3.5. Level 5 Maternity Service

LEVEL 5 MATERNITY SERVICE

SERVICE SCOPE

Provides planned care as for Level 4 and in addition:

- antenatal, intrapartum and postnatal care for women ≥32^{+0} weeks gestation
- provides Major and selected Complex Major obstetric procedures - refer to *Guide to the Role Delineation of Clinical Services* Appendix I: Indicative List of Surgery for Adults.
- collaborative care is provided by midwives, junior medical officers, obstetricians and maternal-fetal medicine specialists and neonatologists.

Should not provide planned care of:

- known or suspected placenta accreta, increta or percreta
- triplets with other risk factors or higher order multiples.

Antenatal	Intrapartum	Postnatal
As for Levels 3 and 4 and in addition: • external cephalic version (ECV) service • antenatal care planning and shared antenatal care with lower-level services where appropriate • shared antenatal care for women with complex pregnancies in consultation with a Level 6 service.	As for Levels 3 and 4 and in addition: • caesarean section for major placenta praevia.	Ideally care provided in the home or community unless: • the clinical needs of the mother and/or newborn require an inpatient stay • staffing or maternal location require an inpatient stay.

LEVEL 5 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS

MINIMUM CORE SERVICES

Neonatal service	Level 4							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	4	4	–	4	4	4	5	4

LEVEL 5 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1-4
Competence and credentialling	As for Levels 1-4
Quality and safety processes	As for Levels 2-4
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	As for Level 4 and in addition: • established links and support with surrounding lower-level maternity and neonatal services regarding consultation, referral and transfer • established links and support with geographically appropriate Level 6 maternity services and Level 5 and 6 neonatal service regarding consultation, referral and transfer.
Education	Local clinical education and links with the TPN to: • provide educational support to Levels 1, 2, 3 and 4 maternity services • access education and training at Level 6 services to meet the needs of clinician and support service capability.
WORKFORCE	
Workforce	As for Level 4 and in addition: • head of obstetric services • nursing/midwifery director • medical officer filling one or more positions, with three or more postgraduate years of experience on site 24 hours; may be in training with the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) • medical officer filling one or more positions, with three or more postgraduate years of experience on site 24 hours; may be in training with the Australian and New Zealand College of Anaesthetists & Faculty of Pain Medicine.
LEVEL 5 MATERNITY SERVICES – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Management of known or suspected placenta accreta/percreta requires Level 6 Radiology and Interventional Radiology.	

6.3.6. Level 6 Maternity Service

LEVEL 6 MATERNITY SERVICE		
SERVICE SCOPE		
Provides planned care as for Level 5 and in addition: • care for all women regardless of gestational age or clinical risk • complex Major** obstetric procedures.		
Antenatal	**Intrapartum**	**Postnatal**

As per Levels 3, 4 and 5 and in addition:
• specialist services including a Maternal Fetal Medicine Unit.
• specialist services, or referral pathway to specialist services, including:
  • vaginal breech birth service
  • service for women who have experienced female genital mutilation/cutting.
  • Shared antenatal care with lower-level services where appropriate.
	As per Levels 3, 4 and 5 and in addition:
	• placenta praevia including known or suspected placenta accreta, increta and percreta
	• multiple pregnancies of any order with or without risk factors, including vaginal twin birth.
		Ideally care provided in the home or community unless:
		• the clinical needs of the mother and/or newborn require an inpatient stay
		• staffing or maternal location require an inpatient stay.

LEVEL 6 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS								
MINIMUM CORE SERVICES								
Neonatal Service	Level 5 or 6							
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	6	6	–	6	5	6	6	6

LEVEL 6 MATERNITY SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1-5
Competence and credentialling	As for Levels 1-5
Quality and safety processes	As for Levels 2-5
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	As for Level 5 and in addition: • provide a maternal-fetal medicine service • established links and support with surrounding lower-level maternity services regarding consultation, referral and transfer • established systems for seamless patient transfer.
Education	Clinical education is provided locally and links with the Tiered Perinatal Network (TPN) to support Levels 1, 2, 3, 4 and 5 services in the provision of education to meet the needs of clinicians and to support service capability.
WORKFORCE	
Workforce	As for Level 5 and in addition: • specialist in maternal fetal medicine (access to) • physician with obstetric expertise • anaesthetist with obstetric expertise.

6.4. Neonatal Services

6.4.1. Level 1 Neonatal Service

LEVEL 1 NEONATAL SERVICE	
SERVICE SCOPE	
Provides support for Level 1- 3 maternity service. **Provides** planned services for: • immediate care for newborns ≥ 37^{+0} weeks gestation when there are no identified risk factors for the newborn baby • ongoing care for return transfers of preterm and convalescing babies ≥ 36^{+0} weeks corrected age and having full care by the mother supported by clinical staff • any newborn requiring special or intensive care treatment should be discussed with a higher-level facility in the Tiered Perinatal Network (TPN) as per local protocols, and/or Newborn and paediatric Emergency Transport Service (NETS) for clinical advice and retrieval.	
Capabilities	**Resources**
Escalates care to higher level service when additional care required for conditions such as: • hyperbilirubinaemia • hypoglycaemia • respiratory distress • sepsis. Or in response to signs of clinical deterioration. Provides education and support for parents/carers.	Equipment for neonatal resuscitation and pre-retrieval support. Access to: • paediatric specialty services for advice/referral • routine hearing screening • point of care glucose testing. Onsite: • neonatal bilirubin measurement (refer to NSW Health Guideline *Neonatal - Jaundice Identification and Management in Neonates ≥ 32 Weeks Gestation* (GL2016_027) • neonatal Pulse Oximetry • neonatal blood spot screening refer to NSW Health Guideline *Newborn Bloodspot Screening* (GL 2016_015). Information for parents/carers on community and child and family health services and support. Processes and equipment to support virtual care.

LEVEL 1 NEONATAL SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
MINIMUM CORE SERVICES	
NSW Health Guide to the Role Delineation of Clinical Services 2021 - as for co-located/networked maternity service. As for Paediatric Service Capability Framework Level 1.	
CLINICAL GOVERNANCE	
Guiding documents for service provision	Local guidelines on: • scope and level of planned clinical complexity for the service • consultation, escalation and transfer processes for neonatal issues • admission, transfer and discharge criteria and processes for the Tiered Perinatal Network (TPN) that also reflects cross Tiered Perinatal Network (TPN) and interstate arrangements • service contingency plans to cover the temporary move to a lower service capability level, including process for informing the networked maternity and neonatal services • immediate care for newborns with unexpected complications until transfer • retrieval processes with Newborn and paediatric Emergency Transport Service (NETS), NSW Ambulance Service and where relevant, interstate service provider/s • process for non-emergency transfer and transport (including equipment requirements) • identifying children and families at risk and facilitating access to appropriate support services or programs • referral pathways to relevant Aboriginal programs and services. Clinical Emergency Response Systems (CERS) for recognition of, and response to neonatal clinical deterioration. Consumer information on service capability.
Competence and credentialling	Processes to ensure clinical staff are appropriately credentialled and work within their scope of practice.
Quality and safety processes	Established processes for quality and safety in consultation with the Tiered Perinatal Network (TPN), including ongoing regular formal peer review of clinical outcomes: • Maternal and Perinatal Mortality and Morbidity meetings • benchmarking of clinical outcomes and dissemination of results • clinical case review when appropriate • review of all neonatal transfers and retrievals. Audit in the event of perinatal mortality and morbidity in consultation with the Tiered Perinatal Network (TPN) (audit of perinatal mortality in accordance with Perinatal Society of Australia and New Zealand (PSANZ) Perinatal Death Classifications). Quality and risk management programs in line with current National Safety and Quality Health Service (NSQHS) standards.

SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and supported by: • established links with, and support for, onsite maternity and networked Level 2 or higher maternity services • established links with networked Levels 2–6 neonatal and paediatric services including allied health services • acceptance of appropriate back transfers from Levels 2–6 neonatal services.
Education	Local clinical education and access to education and training through the Tiered Perinatal Network (TPN).
WORKFORCE	
Workforce	Medical practitioner available. Nursing and midwifery available. Clinician competent in basic neonatal life support on-site. Allied health professionals available (e.g. social worker).

6.4.2. Level 2 Neonatal Service

LEVEL 2 NEONATAL SERVICE	
SERVICE SCOPE	

Provides support for Level 1- 3 maternity service.
Provides planned care as for Level 1 and in addition:
• support networked Level 1 neonatal services for consultation, escalation and transfer.
• immediate care for newborns ≥ 37^{+0} weeks gestation when the mother and fetus have no identified risk factors.
• short term care for simple neonatal problems, for example:
  ○ jaundice not at risk of requiring exchange transfusion
  ○ hypoglycaemia treated and successfully managed and resolved with supplemental feeds (short-term intravenous dextrose infusions may be considered when under the supervision of a paediatrician or neonatologist at a higher role delineated service, with the understanding that transfer will be required if no improvement occurs)
  ○ mild respiratory distress (oxygen requirements as determined by oximetry) that is successfully managed and resolves within four hours post birth
• ongoing care for return transfers of preterm and convalescing babies ≥ 35^{+0} weeks corrected age requiring minimal ongoing care. Newborns return transferred to a Level 2 neonatal service should not require full cardio-respiratory monitoring nor full tube feeding.	

Capabilities	**Resources**
As for Level 1 and in addition: • may provide short-term tube feeding to supplement oral feeding • consults with a higher-level service on common problems of the newborn (e.g. hyperbilirubinaemia, respiratory distress, sepsis and hypoglycaemia).	As for Level 1 and in addition: • equipment for short-term respiratory support of newborns awaiting transfer to higher level of service.

LEVEL 2 NEONATAL SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
MINIMUM CORE SERVICES	
NSW Health Guide to the Role Delineation of Clinical Services 2021 - as for co-located/networked maternity service. As for Paediatric Service Capability Framework Level 2.	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Level 1
Competence and credentialling	As for Level 1
Quality and safety processes	As for Level 1
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and supported by: • established links with, and support for, onsite maternity service; networked Levels 1–3 maternity services; and networked Level 1 neonatal services • established links with networked Levels 1 and 3–6 neonatal and paediatric services including allied health services. Acceptance of appropriate back transfers from Levels 3–6 neonatal services.
Education	Local clinical education with links to the Tiered Perinatal Network (TPN) to: • provide educational support for the onsite maternity service; networked Levels 1–3 maternity services; and networked Level 1 neonatal services • access education and training at Levels 3 to 6 services to meet the needs of clinician and support service capability.
WORKFORCE	
Workforce	As for Level 1 and in addition: • 24 hour access to a medical officer with appropriate paediatric skills, qualifications or experience in newborn care including advanced life support
LEVEL 2 NEONATAL SERVICE – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Providing unified high-flow nasal canula or nasal continuous positive airways pressure while awaiting consultation with Tiered Perinatal Network (TPN)	

6.4.3. Level 3 Neonatal Service

LEVEL 3 NEONATAL SERVICE	
SERVICE SCOPE	
Provides support for Level 4 maternity service **Provides** planned care as for Level 2 and in addition: • support networked Level 1 and 2 neonatal services for consultation, escalation and transfer • manage common problems of the newborn • immediate care for newborns ≥ 34^{+0} weeks gestation without identified additional fetal risk • ongoing care for back transfers of preterm and convalescing babies, as within the agreed Tiered Perinatal Network (TPN) admission, transfer and discharge guidelines. Babies back transferred to a Level 3 neonatal service should not require intensive care interventions. Level 3 services work in collaboration with Levels 4 to 6 neonatal services, in the Tiered Perinatal Network (TPN), to ensure newborns and families are transferred closer to home as soon as appropriate.	
Capabilities	**Resources**

As for Level 2 and in addition:
• management of common problems of the newborn (e.g., hyperbilirubinaemia, hypoglycaemia)
• short-term (usually up to 4 hours) acute respiratory support including the use of humidified high flow nasal cannula (HHFNC) oxygen or continuous positive airways pressure (CPAP)
• consults with a higher-level service within locally determined escalation guidelines and considers transfer if no early response to directed therapy (ie. continuing respiratory distress) as evidenced by:
  ○ increased respiratory effort/persistent grunting
  ○ a persistent oxygen requirement
  ○ continued need for respiratory support
  ○ need for > 12.5% glucose or medication to maintain blood sugar level within normal range
  ○ initiation of umbilical venous access.
Work towards providing indirect ophthalmology examination (eye-checks).
	As for Level 2 and in addition:
	• separately staffed and equipped beds
	• continuous cardiorespiratory monitoring
	• mobile radiology
	• non-invasive blood pressure monitoring
	• electrolyte, full blood count, blood group and direct anti-globulin test results within 4 hours
	• initiation and maintenance of intravenous therapy
	• blood gas measurement with results available within 30 minutes.

LEVEL 3 NEONATAL SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
MINIMUM CORE SERVICES	
NSW Health Guide to the Role Delineation of Clinical Services 2021 - as for co-located/networked maternity service. As for Paediatric Service Capability Framework Level 3.	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1 and 2
Competence and credentialling	As for Levels 1 and 2
Quality and safety processes	As for Levels 1 and 2
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and supported by: • established links with, and support for, onsite maternity service; networked Levels 1–4 maternity services; and networked Levels 1 and 2 neonatal services • established links with networked Levels 4–6 neonatal and paediatric services including allied health services. Acceptance of appropriate back transfers from Levels 4, 5 and 6 Neonatal services.
Education	Local clinical education with links to the Tiered Perinatal Network (TPN) to: • provide educational support to the onsite maternity service; networked Levels 1–4 maternity services; and networked Levels 1 and 2 neonatal services • access training and education at Levels 4–6 services to meet the needs of clinicians and to support service capability.
WORKFORCE	
Workforce	As for Level 2 and in addition: • medical officer with neonatal skills, qualifications or experience on-site 24 hours • specialist paediatricians - 24 hour on-call availability • access to consultation with lactation consultant via Tiered Perinatal Network (TPN).
LEVEL 3 NEONATAL SERVICE – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Providing unified high-flow nasal canula or nasal continuous positive airways pressure (CPAP) as early treatment for respiratory distress syndrome. A baby born unexpectedly at ≥ 32+0 weeks gestation, and is an appropriate weight for gestational age, with no requirements for intensive care support may be able to stay at a Level 3 neonatal service, only following discussion with a higher-level service in the Tiered Perinatal Network (TPN)	

6.4.4. Level 4 Neonatal Service

LEVEL 4 NEONATAL SERVICE	
SERVICE SCOPE	
Provides support for Level 5 maternity service **Provides** planned care as for Level 3 and in addition: • support networked Levels 1-3 neonatal services for consultation, escalation and transfer • provide care for ongoing neonatal problems (such as feeding issues) • provide immediate care for newborns ≥ 32^{+0} weeks gestation without identified additional fetal risk and immediate care for newborns ≥ 32^{+0} weeks gestation with identified additional fetal or neonatal risk and where a management plan has been developed with suitably qualified clinicians within the Tiered Perinatal Network (TPN) • ongoing care for back transfers of preterm and convalescing babies of any weight no longer requiring higher level service ≥ 30^{+0} weeks corrected age and considered stable by a Level 5 or 6 neonatal service, as per Tiered Perinatal Network (TPN) admission, transfer and discharge guidelines.	
Capabilities	**Resources**
As for Level 3 and in addition: • ongoing continuous positive airways pressure (CPAP) or humidified high flow nasal cannula (HHFNC) oxygen with ongoing respiratory distress • administration of surfactant • capability to commence intubation and mechanical ventilation. • management of pneumothorax • provide early discharge program to support, for example, home tube feeding, low flow oxygen, opiate administration and psycho-social support. • provide indirect ophthalmology examination (eye-checks).	As for level 3 and in addition: • electrolyte and full blood count results within 2 hours, and serum bilirubin results within 60 minutes, in normal circumstances • point of care blood gas testing • access to cranial ultrasonography. May provide peripheral supplementary parenteral nutrition for low birthweight newborn.
LEVEL 4 NEONATAL SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
MINIMUM CORE SERVICES	
NSW Health Guide to the Role Delineation of Clinical Services 2021 - as for co-located/networked maternity service. As for Paediatric Service Capability Framework Level 4.	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1 - 3
Competence and credentialling	As for Levels 1 - 3

Quality and safety processes	As for Levels 1 - 3 and in addition contributes to the Neonatal Intensive Care Units (NICUs) System Data Registry
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and supported by: • established links with, and support for, onsite maternity service; networked Levels 1–5 maternity services; and networked Levels 1–3 neonatal services • established links with networked Levels 5 and 6 neonatal and paediatric services including allied health services Acceptance of appropriate back transfers from Levels 5 and 6 neonatal services.
Education	Local clinical education and links with the Tiered Perinatal Network (TPN) to: • provide educational support for the on-site maternity service; networked Levels 1–5 maternity services and networked Levels 1–4 neonatal services • access education and training at Levels 5 and 6 services to meet the needs of clinicians and to support service capability.
WORKFORCE	
Workforce	As for Level 3 and in addition: • access to consultation with lactation consultant via Tiered Perinatal Network (TPN) • paediatrician available 24 hours, credentialled to provide neonatal care • may have a neonatologist • head of neonatal paediatric services • medical officer with three or more postgraduate years of experience, including neonatal experience, on-site 24 hours; may be in training with the Royal Australasian College of Physicians (RACP) or neonatal nurse practitioner.
LEVEL 4 NEONATAL SERVICE – EXAMPLES OF ADDITIONAL SUPPORTED SERVICES	
Supporting neonates with chest drain in-situ. May provide total parenteral nutrition in select populations. May provide multidisciplinary follow up of Extreme Preterm Infants.	

6.4.5. Level 5 Neonatal Service

LEVEL 5 NEONATAL SERVICE	
SERVICE SCOPE	
Provides support for Level 6 Maternity service **Provides** planned care as for Level 4 and in addition: • provide comprehensive neonatal care, excluding complex surgical, cardiac and metabolic services • provide intensive care for critically ill newborns (e.g. ventilation, total parenteral nutrition, exchange transfusion) • provide full range of respiratory support • provide neonatal care in accordance with Tiered Perinatal Network (TPN) arrangements • provide consultation for statewide emergency neonatal transport • supra-Local Health District role for neonatal care • comprehensive neonatal care for all newborns, within a multidisciplinary management model (excluding surgical, cardiac and metabolic services) • collaborative multidisciplinary care.	
Capabilities	**Resources**
As for level 4 and in addition: • full range of respiratory support • invasive blood pressure monitoring • total parenteral nutrition • exchange transfusion • Therapeutic Hypothermia and Amplitude integrated electroencephalography (aEEG).	As for level 4 and in addition: • point of care testing equipment (including blood gas machine) capable of instantly measuring blood gases, electrolytes, bilirubin and haemoglobin. Access to: • 24-hour mobile radiology service • 24-hour neonatal echocardiography and cranial ultrasonography and Magnetic resonance imaging (MRI) • Paediatric surgical consultation (may be virtual care).

LEVEL 5 NEONATAL SERVICE – SUPPORT SERVICES AND CONSIDERATIONS	
MINIMUM CORE SERVICES	
NSW Health Guide to the Role Delineation of Clinical Services 2021 - as for co-located/networked maternity service. As for Paediatric Service Capability Framework Level 5.	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1 - 4
Competence and credentialling	As for Levels 1 - 4
Quality and safety processes	As for level 4
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and supported by: • established links with, and support for, onsite maternity service and networked Levels 1–6 maternity services • established links with, and support for, networked Levels 1–4 neonatal services • established links and referral pathways with networked statewide neonatal and paediatric services, and allied health services • established systems for back transfer of babies • established links with Newborn and paediatric Emergency Transport Service (NETS).
Education	Local clinical education and links with the Tiered Perinatal Network (TPN) to: • provide educational support for the onsite maternity service; networked Levels 1–6 maternity services and networked Levels 1–4 neonatal services • access education and training at Level 6 services to meet the needs of clinicians and to support service capability.
WORKFORCE	
Workforce	As for Level 4 and in addition: • neonatologist available 24 hours • on-site access to paediatric cardiologist • access to lactation consultant.

6.4.6. Level 6 Neonatal Service

LEVEL 6 NEONATAL SERVICE	
SERVICE SCOPE	
Provides planned care as for Level 5 and in addition: • provide neonatal surgical and medical subspecialty services for the whole of NSW and the ACT • provide access to care for complex diseases of the newborn that require input from multiple subspecialties, including allied health professionals (onsite or links with) • support women with pregnancies with known fetal abnormality requiring consultation, treatment or surgery immediately following birth.	
Capabilities	**Resources**
As for Level 5 and in addition: • provide services for all aspects of neonatal care • provide palliative care expertise to other level services • provide on the same campus, postnatal inpatient or ambulatory care for mothers of admitted babies • provide early discharge program to support for example, home tube feeding, respiratory support, palliative care, opiate administration and psycho-social support.	As for Level 5 and in addition: • 24-hour access to imaging services provided by radiologists.

SERVICE SPECIALTIES			
Surgical Services	**Cardiac Surgical Services (including Extra Corporeal Membrane Oxygenation)**	**Cardiology Services (non-surgical conditions)**	**Metabolic Services**
Surgical services are provided at: • Centenary Hospital for Women and Children • John Hunter Children's Hospital • Royal Hospital for Women • Sydney Children's Hospitals Network	Cardiac Surgical Services are provided at: • Sydney Children's Hospitals Network	Cardiology Services (non-surgical conditions) are provided at: • Centenary Hospital for Women and Children • John Hunter Children's Hospital • Royal Hospital for Women • Sydney Children's Hospitals Network	Specialist metabolic services are provided at: • Sydney Children's Hospitals Network • Royal Hospital for Women

LEVEL 6 NEONATAL SERVICE								
MINIMUM CORE SERVICES								
As per NSW Health Guide to the Role Delineation of Clinical Services 2021	Anaesthetics	Operating Suite	Close Observation Unit	Intensive Care Service	Nuclear Medicine	Radiology	Pathology	Pharmacy
	6	6	–	6	6	6	6	6
As for Paediatric Service Capability Framework Level 6. Co-located Level 6 Paediatric Intensive Care Unit (PICU).								

LEVEL 6 NEONATAL SERVICE– SUPPORT SERVICES AND CONSIDERATIONS	
CLINICAL GOVERNANCE	
Guiding documents for service provision	As for Levels 1 - 5
Competence and credentialling	As for Levels 1 - 5
Quality and safety processes	As for Levels 4 - 5
SERVICE REQUIREMENTS	
Consultation, escalation and transfer	Consultation, escalation and transfer are organised within the Tiered Perinatal Network (TPN) and between the Children's Health Networks and supported by: • established links with, and support for all level maternity services • established links with, and support for Level 1-5 neonatal services • established systems for back transfer of babies • established links with Newborn and paediatric Emergency Transport Service (NETS).
Education	Clinical education is provided locally and links with the Tiered Perinatal Networks (TPNs) to support the provision of education and training to networked Levels 1–6 maternity and Levels 1–5 neonatal services to meet the needs of clinicians and to support service capability.
WORKFORCE	
Workforce	As for Level 5 and in addition: • neonatologist head of service.