Operating Model for Regional Maternity and Newborn Services

Loddon Mallee Catchment

Acknowledgement of country

We acknowledge the Traditional custodians of the lands and waterways we live, play, and work on. We pay our respects to Elders past, present and emerging and acknowledge the ongoing contributions that First Nations cultures contribute to the life of the region.

Disclaimer

This document has been prepared with the understanding that the author will not be responsible for any action taken as a result of any use made of this document. The author expressly disclaims responsibility, whether in contract, equity, negligence, or other trot, whether this be used by any person for whatever purpose and in respect of any loss or damage resulting from its use, either direct or indirect.

Table of Contents

Abbreviations and Acronyms

AIHW	Australian Institute of Health and Welfare
ANMF (Vic Branch)	Australian Nursing and Midwifery Federation
ACM	Australian College of Midwives
ACCRM	Australian College of Rural and Remote Medicine
BDAC	Bendigo & District Aboriginal Co-operative
BFHI	Baby Friendly Health Initiative
BH	Bendigo Health
GH (Ballarat Campus)	Grampians Health
BOS	Birthing Outcome System
CDH	Cohuna District Hospital
CHRH-Kyneton Health	Central Highlands Rural Health - Kyneton Health
CoC	Continuity of Care
COIL	Centre of Inspired Learning (MDHS Education Team)
CPD	Continuous Professional Development
CSM	Core Staff Midwife
CTG	Cardiotocography
DH	Department of Health (State)
DoH	Department of Health (Federal)
DOM	Domiciliary Midwife
DH (Castlemaine Campus)	Dhelkaya Health
DMF	The NMBA Decision-making framework for nursing and midwifery (the DMF)
DRANZCOG	Diploma of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists
EN/EEN	Enrolled Nurse/Endorsed Enrolled Nurse
EPDS	Edinburgh Postnatal Depression Scale
ERH	Echuca Regional Health
First Nations People	First Nations People is used respectively in this document as an all-encompassing term for Aboriginal and Torres Strait Island people and culture
FTE	Full Time Equivalent
FRANZCOG	Fellow of Royal Australian and New Zealand College of Obstetricians and Gynaecologists
GP	General Practitioner
GPA	General Practitioner Anaesthetist
GPO	General Practitioner Obstetrician
HDU	High Dependency Unit
ICU	Intensive Care Unit
LMHN	Loddon Mallee Health Network
Njernda	Njernda -Aboriginal Corporation
MBPH	Mildura Base Public Hospital
MCH(N)	Maternal Child Health (Nurse)
MCP	Maternity Care Planning
MDHS	Maryborough District Health Service
MDAS	Mallee District Aboriginal Services – Mildura and Swan Hill
MDT	Multi-disciplinary Team

MGP	Midwifery Group Practice
MHC	Midwifery Home Care
MoC	Model of Care
MDT	Multidisciplinary Team
MVAC	Murray Valley Aboriginal Cooperative
MM	Maryborough Model
MMC	Maryborough Model Co-ordinator
MOS	Maternity and Obstetric Services Committee
NICU	Neonatal Intensive Care Unit
NMBA	Nursing and Midwifery Board of Australia
O&G	Obstetrics and Gynaecology
PEHP	Perinatal Emotional Health program
PHN	Primary Health Network
PIPER	Paediatric Infant Perinatal Emergency Retrieval
PPG	Policies, procedures, guidelines
RACGP	The Royal Australian College of General Practitioners
RANZCOG	Royal Australian and New Zealand College of Obstetricians and Gynaecologists
RDHS	Robinvale District Health Service
RN	Registered Nurse
RM	Registered Midwife
SCV	Safer Care Victoria
SHDH	Swan Hill District Health
VMO	Visiting Medical Officer
VMR	Victorian Maternity Record
WHA	Women's Healthcare Australasia

Overview

The Loddon Mallee Regional Clinical Council Perinatal Collaborative identified the need to develop an Operating Model for Regional Maternity and Newborn Services for the Loddon Mallee catchment. The purpose of the operating model is to support a shared understanding of maternity and newborn service capability in the catchment. This document was developed by the Loddon Mallee Regional Midwife & Loddon Mallee Regional Obstetrician in collaboration with the Department of Health and Safer Care Victoria.

Loddon Mallee region maternity services are facing many issues including:

- Fragmented care.
- Late bookings into local health services and for higher level care.
- Lack of understanding of the Maternity and Newborn Capability Framework.
- Workforce:
    - Shortage of midwifery workforce and increased reliance on agency staff,
    - Shortage of General Practitioner Anaesthetists (GPA), resulting in health services going on maternity diversion,
    - Minimal or no General Practitioner Obstetricians (GPO), causing fatigue an increase in the use of locum obstetricians,
    - Redeployment of midwives to other clinical areas to support general workforce shortages, and
    - Lack of adequate midwifery succession planning.
- Financial burden for some women.
- Lack of communication between higher capability services and referring health services.
- Lack of understanding of maternity and newborn capability across services.
- Inconsistencies in referral processes between birthing services.
- Most have some variations of Telehealth; however, it is not generally used in the maternity setting.
- Poorly defined local processes for assessing when a woman sits outside the health services capability.
- Lack of local review processes.
- Difficulties engaging Koori Maternity services providers.
- Closure of small birthing units (Cohuna District Hospital, and Central Highlands Health (Kyneton Health) have closed in the last 3 years and Dhelkaya Health (previously Castlemaine Health) has re-opened with significant support (operational and governance) from Bendigo Health.
- Locum medical workforce in many small places often with little experience in working in small rural / regional sites.
- No clear process or support from RANZCOG or RACGP / ACCRM for ongoing CPD for GP Obstetricians for maintenance of skills.
- No sharing of electronic medical records / BOS so the difficulty with transparency of medical information and over-reliance on faxing of clinical information.

Clinical Governance

Loddon Mallee Regional Clinical Council Perinatal Collaborative

The Loddon Mallee Health Network (LMHN) has a commitment to furthering the quality and safety of health care provision, underpinned by the LMHN governance framework which includes the Board Directors and four board committees:

- Quality & Safety.
- Clinical Workforce.
- Corporate Effectiveness.
- Shared Services.

The remit of the Quality & Safety Committee is to monitor and support quality safe and appropriate clinical care and in doing so, the Loddon Mallee Perinatal Collaborative was established and has been overseen by the Loddon Mallee Regional Clinical Council until early 2022. The Loddon Mallee Perinatal Collaborative currently reports into the LMHN Quality & Safety Committee directly, while a Loddon Mallee Clinical Governance review is under way and the Clinical Council is paused.

The purpose of the Perinatal Collaborative is to develop a networked regional model of maternity services that provides support and pathways to move the patient to the right level of care as close to home as possible. The Perinatal Collaborative also provides leadership, expert advice, and support for all health services regarding information, clinical guidelines and practice changes required for the provision of safe and effective maternity care in the Loddon Mallee region.

The work of the Perinatal Collaborative does not replace each health service's own clinical governance obligations.

Maternity Care Planning Meetings (MCP)

To improve communication and share decision making between Health's services the MCP meetings have been established. The main aim and purpose of these meetings is to ensure women safely receive care as close to home as possible. The MCP members make recommendations, coordinate and plan care, which is communicated during the meeting and documented into the respective BOS.

Morbidity and Mortality reviews

The Boards of Directors of all public hospitals in the Loddon Mallee Region which provide maternity and neonatal services ("the relevant health services") have a functional responsibility to take all action reasonably open to them to provide high quality relevant health services to their catchment communities.

The purpose of the Loddon Mallee Regional Maternal and Perinatal Mortality and Morbidity Committee ("the Committee") is to complement the aforesaid functional responsibilities by providing a further layer of maternal and perinatal case review for all public hospitals providing the relevant health services by conducting formal reviews in line with current standards and to advance transparency within and across health services so that communities can be assured that their health services are recognising and responding to recommendations and opportunities to improve clinical outcomes.

The functions of this Committee do not include review of clinical practices or clinical competence of individual clinicians providing maternity and neonatal care to relevant health services ("the reserved quality assurance functions"). The reserved quality assurance functions remain the responsibility of each individual public hospital as part of its functional responsibility noted above.

Regional Profile

The Loddon Mallee region is in Victoria's North-West and includes the major centres of Bendigo, Swan Hill, and Mildura. The region covering North-Western Victoria is bounded by the South Australian border to the North-West, the Murray River to the North and the Macedon Ranges to the South-East. It covers an area of 58,961 square Kilometres and includes 10 Local Government areas (LGA).

The current population is estimated to be 324,124 with 164,673 women residing in the region.

Regional Operating Model

The hospitals in the region currently have no clear visibility of each other's Maternity and Newborn capabilities. Therefore, a clear operating model based on geography and the Maternity and Newborn Capability Framework is required.

SERVICE OVERVIEW

Mildura Base Public Hospital

Maternity Level: **4**

Newborn Level: **3**

Bed numbers

Birth Suites: **4**

Maternity: **12**

SCN: **6**

Staff Model

O&G: **Consultants x 4, VMO x3, Registrar x3, RMO x4.**

Paediatricians: **Consultant x4, Registrar x4, RMO x4.**

Anaesthetists: **5**

Midwives: **45. Nurses 6 – SCN**

MDAS

Maryborough District Health Service

Maternity Level: **2**

Newborn Level: **2**

Bed numbers

Birth Suites: **1 (capacity 2)**

Maternity: **PN rooms in acute ward**

SCN: **Nil**

Staff Model

O&G: **3 GPO**

Paediatricians: **Nil**

Anaesthetists: **6 GPA**

Midwives: **1x coordinator, 4 MGP**

Robinvale District Health Service

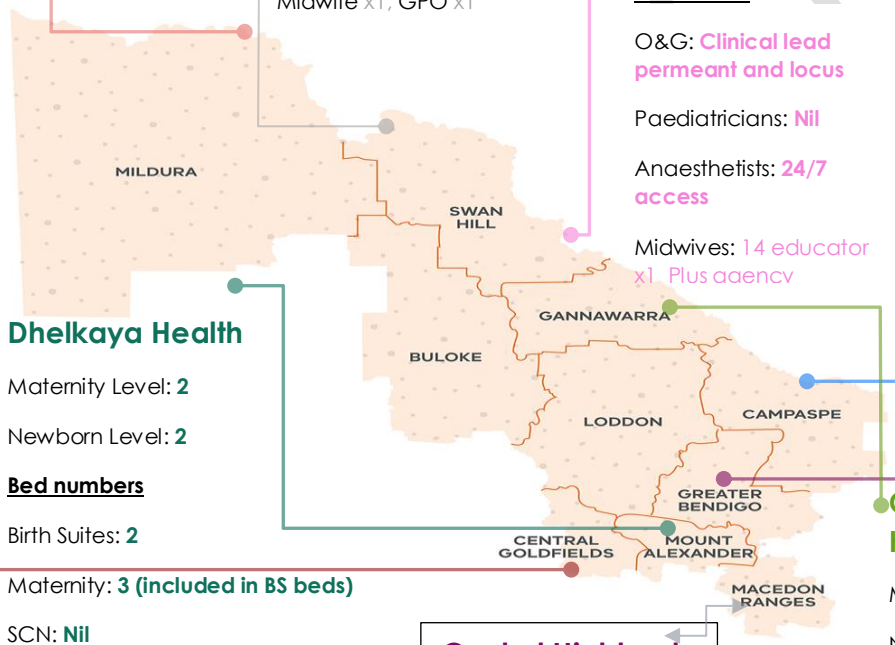
Maternity Level: 1

Birth destination

Mildura Base Public Hospital

Staff Model

Midwife x1, GPO x1



Dhelkaya Health

Maternity Level: **2**

Newborn Level: **2**

Bed numbers

Birth Suites: **2**

Maternity: **3 (included in BS beds)**

SCN: **Nil**

Staff Model

O&G: **4 GPO**

Paediatricians: **Nil**

Anaesthetists: **Nil**

Midwives: **1 Coordinator/Educator**

4 MGP.

Central Highlands Rural Health - Kyneton Health

Maternity Level **1**

Providing Postnatal Home care.

Staff Model

Midwives 3

Swan Hill District Health

Maternity Level: **3**

Newborn Level: **2**

Bed numbers

Birth Suites: **2**

Maternity: **8**

SCN: **Nil**

Staff Model

O&G: **Clinical lead permeant and locus**

Paediatricians: **Nil**

Anaesthetists: **24/7 access**

Midwives: 14 educator x1 Plus agency

Echuca Regional Health

Maternity Level: **3**

Newborn Level: **2**

Bed numbers

Birth Suites: **2**

Maternity: **8**

SCN: **Nil**

Staff Model

O&G: **8 GPO**

Paediatricians: **0.8**

Anaesthetists: **8 + CVAS**

Midwives: **30**

Antenatal Clinic Women's Health/Sexual Health.

Njernda Aboriginal Corporation

Cohuna District Hospital

Maternity Level: **1**

Newborn Level: **1**

Bed numbers

Birth Suites: **1**

Maternity: **PN rooms within acute ward**

Staff Model

O&G, Paediatrician: **Nil**

Midwives: **3**

Bendigo Health

Maternity Level: **5**

Newborn Level: **4**

Bed numbers

Birth Suites: **6 (Capacity 7)**

Maternity: **18 (Capacity 25)**

SCN: 17 cot spaces (funded for 10), 4 pod rooms & one rooming in room.

NICU: **Nil**

Staff Model

O&G: **Consultants 11 (5.8 FTE) Registrar x12 & GPO x5**

Paediatricians: **24/7 onsite cover**

Anaesthetists: **24/7 onsite cover**

Midwives: **Short 10 FTE**

Service Capability Framework

The Victorian Maternity and Newborn Capability Framework provides clear guidance around the level requirements for Maternity and Newborn services in Victoria.

The Victorian System of maternity and newborn care Capability Frameworks for Victorian maternity and newborn services 2019

The Maternity Services Framework details the agreed set of guidelines that the community, clinicians, service providers and managers can use to work together to ensure safe, evidence based maternity and newborn care for women who live in the region, ensuring that women receive the right care, in the right place at the right time.

Capability Levels

The Loddon Mallee region has seven maternity care services which includes five hospitals with birthing capacity. In addition, Maryborough District Health Service, while not within the Loddon Mallee has also been included in this document because of the number of referrals to Bendigo Health. Central Highlands Rural Health (Kyneton Health) has also been included because the service offers a domiciliary service for the region. In the main, the birthing services in the region assess and manage women within their capability and refer to a higher-level capability service when required. However, it has been recognised that some health services do not have a clear understanding of other services capabilities, which may lead to inappropriate referrals. It is important that clinicians understand the service systems and recognise the capability not only of their own service, but also the capability of other services so that appropriate management and referrals occur.

Hospitals' capability levels

Level 5 Bendigo

- Management of normal to moderate risk pregnancies and support to services within the region for moderate risk pregnancy management
- Provide specialist maternity care
- Planned births from 31 weeks
- Can perform intrapartum fetal scalp sampling
- ICU on site
- Medical staffing – FRANZCOG available 24/7 (may not be on site) and Birth Suite Registrar (level 2 trainee or equivalent) on site 24/7

Level 4 Mildura

- Management of normal and moderate risk pregnancies including hypertensive disease
- Planned births from 34 weeks gestation
- Induction of labour from 34 weeks gestation
- VBAC offered
- Level 3 nursery
- HDU on site
- Medical staffing – Advanced DRANZCOG or FRANZCOG available 24/7 (may not be on site)

Level 3 Echuca & Swan Hill

- Management of normal risk pregnancies
- Planned births from 37 weeks gestation including elective and emergency caesarean section (24/7)
- May offer VBAC
- Epidural and spinal anaesthetic available
- Induction of labour from 37 weeks gestation
- Level 2 Nursery
- Medical staffing – Advanced DRANZCOG or FRANZCOG available 24/7 (not on site)

Level2 Dhelkaya & Maryborough

- May not have access to epidural anaesthesia
- May not be able to provide caesarean section on site
- Medical staffing - Advanced DRANZCOG available 24/7 (not on site)

Level 1 Robinvale, Cohuna & Kyneton

- May provide routine pregancy care
- No planned births
- May provide routine Postnatal care

Regional Data

Table 1. Maternity and Newborn Services

Health Service	Maternity Capability	Newborn Capability	Current issues
Bendigo Health	**5**	**4**	Overloaded with non-essential diversion. Medical and midwifery workforce issues.
Echuca Regional Health	**3**	**2**	Reviewing capability to work towards Level 4 Maternity and Level 3 Newborn
Swan Hill District Health	**3**	**2**	Currently reviewing model of care options due to workforce issues. Currently heavy reliant on small group of 14 Midwives plus agency. No permeant Medical workforce.
Mildura Base Public Hospital	**4**	**3**	Fragmented care between external pregnancy care providers and MBPH Midwifery workforce deficit 5FTE heavy reliant on agency workforce
Dhelkaya Health	**2**	**2**	Declining core midwifery staff
Maryborough District Health Service	**2**	**2**	No core midwifery staff

Table 2. Small Rural Health Services

Health Service	Maternity Capability	Newborn Capability	Current issues
Cohuna District Hospital	**1**	**1**	Not a birthing hospital due to difficulty attracting GPO. Had high intervention rate, could be due to low birth numbers which caused accoucheur lack of experience/confidence in normal vaginal birth.
Robinvale District Health Service	**1**	**Nil**	Sole midwifery practitioner difficulties with replacement for leave cover. No succession planning for GPO cover when leave or into the future.
Central Highlands Rural Health Kyneton Health-	**1**	**Nil**	Postnatal home care only.

Table 3. Service data

Hospital	Births 2021-22	Antenatal Care Options	Workforce	Support services	Comment
Mildura Base Public Hospital	851	• Coomealla Health Aboriginal Corporation: Midwifery Program • Koori Maternity Service - Mildura District Aboriginal Service • Public Hospital Maternity Care • Private O&G Care • Dareton Antenatal care	• O&G Consultant, Registrar • Medical and midwifery Agency staff. Midwifery 5 FTE	• DOM • Lactation Consultants (LC)	• DOM and LC service 50 km from Mildura
Robinvale District Health Service	Nil	• Midwife antenatal care • Weekly GPO	• Midwife • GPO	• Skype for endocrinologist appointments • Physiotherapist • Immunisation Nurse • Royal Flying Doctors – Bi-monthly • DOM	• DOM Mon-Fri
Swan Hill District Health	164	• GP shared care • Midwife clinic • Koori Maternity Service - Mallee District Aboriginal Service • Specialist Obstetrician •	• GPO (AN only) • Rotating Consultant Obstetrician provide some antenatal care and intrapartum care	• DOM • Diabetes and Dietitian • Physiotherapy • Exercise physiology • Dental	• DOM 25 Km, Mon-Fri • Director of Obstetrics 0.3 EFT
Echuca Regional Health	457	• GPO shared care with their own midwives • Midwifery led care • Koori Maternity Service - Njernda Aboriginal Corporation	• GPO	• Parenting class • Breastfeeding support • DOM • Physiotherapy • Enhanced Maternity Care • Social Work • Alcohol and Drug Service • Dietetics and Dietician	• Assessment bed often used for birthing DOM Mon- Fri • Director of Obstetrics 0.4 EFT Paediatrician 0.8 EFT
Bendigo Health	1889	• Midwifery Led Model • Obstetric Care • Mamta Caseload • GP Shared care	• O&G Consultant • HMO • Paediatric Consultant • Paediatric Registrar	• DOM 7 days • Social Work • Dietetic and Dieticians support • Childbirth Education • Breastfeeding support • Best beginnings	•

Hospital	Births 2021-22	Antenatal Care Options	Workforce	Support services	Comment
		• Koori Maternity Service - Bendigo District Aboriginal Corporation		• Physiotherapy	
Cohuna District Hospital	0	• GPO antenatal care only • Midwife clinic • GP Shared care	• 8 midwives	• Adhoc Breastfeeding support • DOM	• Antenatal and Postnatal rooms within acute ward and flex to meet needs DOM 2 days per week
Dhelkaya Health	50	• GPO x 4 providing continuum of care • MGP • GP shared care	• 13 Midwives • 4 GPO • 4 MGP • No GPA	• Parenting classes • DOM	• Midwifes work across acute ward and UCC • No Theatre • Antenatal and Postnatal room in acute ward • ex to meet needs • DOM 1-2 days per week covering Mt Alexander Shire, will see patient on ward at other times.
Maryborough District Health Service	60	• GPO x3 • Consultant Obstetrician (Director of Obstetrics) • MGP • GP Shared care	• 2 GPO • 6 GPA • Midwifery 1.6 FTE	• Parenting classes • Diabetes and Dietician • DOM	• Antenatal & Postnatal women in acute ward able to flex to meet needs • DOM 7 days 55 kms from health service

Care Close to HOME, *Woman centred care*

Building on the purpose outlined: *Strategic directions for Australian maternity services which* aims to ensure that Australian maternity services are equitable, safe, woman-centred, informed and evidence-based. Women are the decision-makers in their care and maternity care should reflect their individual needs. The Maternity services across Loddon Mallee region have used this diagram to guide maternity care.

Woman-centred care: Strategic directions for Australian maternity services was prepared under the auspices of the COAG Health Council. August 2019.
https://www.health.gov.au/resources/publications/woman-centred-care-strategic-directions-for-australian-maternity-services

Service Profiles

Bendigo Health

Bendigo Health sits within The City of Greater Bendigo, located in the centre of Victoria, covering almost 3,000 square kilometres. Bendigo has a growing population of more than 110,000 people, and is surrounded by 40,000 hectares of regional, state and national parkland. Bendigo Health is a leading regional health service, with around 4,000 staff. The three main campuses of Bendigo Health are in Bendigo, with many services extended to regional settings including areas such as Mildura, Echuca, Swan Hill, Kyneton, and Castlemaine.

BH provides Level 5 Maternity and Level 4 Newborn service and manages approximately 1,850 pregnancies annually. Due to reputation for high quality care and the capability levels across the LMR BH receives referrals from a wide geographical area which includes Loddon Mallee, Grampians, and Hume Regions.

Collaborative arrangements allow some families to have combined antenatal care to reduce travel and return transfer is encouraged postnatally to ensure women are closer to their significant others, support systems and their familiar care providers to optimise their transition to home.

The Maternity services team performs a thorough risk assessment of women throughout the pregnancy continuum to identify women who require referral to a tertiary maternity service and has built strong relationships with Level 6 maternity units in Melbourne; to support women to have collaborative care as close to home as possible.

There are two types of clinics, Obstetrician/Gynaecologist led clinics and midwife led clinics. Obstetrician / Gynaecologist led clinics include General Gynaecology, High-risk Obstetric Care, Pre-pregnancy planning, Family Planning, Choices, Cervical Screening, Colposcopy and Early Pregnancy Assessment. Midwife led clinics include an Assessments Centre, Midwifery Clinics and Mamta Caseload Midwifery. Mamta is a modified caseload midwifery program, providing care for families through pregnancy, labour and birth, postnatal care and home visiting. The program provides pregnancy care for individuals who are low risk at the time of recruitment and will follow through if the woman is later assessed to meet the criteria for high risk pregnancy. All participants self-refer and are then selected through an internal recruitment process. Currently Mamta care is provided to prox 260 women a year.

BH also offers Lactation, Childbirth Parenting Education Classes, Maternity support workers and perinatal emotional health services. BH works closely with external provides such as BDAC and the Orange door.

The Birthing Suite is a state of the art six bed unit, three have water immersion baths and all concealed services to maintain a homely environment.

The Women's Ward is an 18-bed unit with single rooms all with ensuite bathrooms delivering a diverse range of services for women with gynaecological conditions, pregnancy, and postnatal care.

The Special Care nursery provides care for babies and families from 32 weeks' gestation. The Unit has 17 cot spaces (currently funded for 10), 4 pod rooms and 1 rooming in room. Babies are admitted via the Birth Suite at Bendigo Health and outlying regional health service providers following consultation with the on-call paediatrician and the community.

Dhelkaya Health

Dhelkaya Health-Castlemaine sits within Mount Alexander Shire in central Victoria, just over half an hour from the regional city of Bendigo and is a thriving community of nearly 20,000 residents living across an area of 1,529 square kilometres.

DH-Castlemaine provides Level 2 Maternity and Level 2 Newborn Service and manages 50-60 pregnancies annually. After a review of Maternity services in 2020 DH – Castlemaine now offer Midwifery Group Practice care for women in Castlemaine, Bendigo, Kyneton, Daylesford, Woodend, the Macedon Ranges and surrounding regions. The service offers local pregnancy, labour and birth and early parenting care for healthy women with normal pregnancies; and works closely with a team of local GPO's and Bendigo Health, to support local women and babies who need more specialist care.

In March 2022 Castlemaine Health and Maldon Hospital were amalgamated. The new board was committed to develop a new overarching entity name and collaborated with the Dja Dja Wurrung Clans Aboriginal Corporation, trading as DJAARA, to find a suitable name. DJAARA's Language Repatriation Officer and the Djali Balak Language committee provided their leadership to help define a name in Dja Dja Wurrung language. The name Dhelkaya Health was selected. The name Dhelkaya in English translation means 'Good/Being Healthy'. The choice of an Indigenous name acknowledges the Dja Dja Wurrung's traditional ownership of the lands on which we live and work and expresses their gratitude to the Dja Dja Wurrung for sharing them

Echuca Regional Health

Echuca Regional Health sits within the Shire of Campaspe, located 208 kilometres north of Melbourne. It is 88 kms from Bendigo and 72 kms from Shepparton in the beautiful riverside location of Echuca –Moama. Which encompasses an area of 4,518 square kilometres, and the cross-border Murray River Council, with an area of 11,865 square kilometres and has an estimated population is 36,814.

ERH provides Level 3 Maternity and Level 2 Newborn services and manages approximately 450 births annually. GPO's work in partnership with the midwifery team to provide maternity care to women throughout the birth continuum. The Maternity services team performs a thorough risk assessment of women throughout the pregnancy continuum to identify women who require referral to a Level 4 or-5 or tertiary maternity service for care. Collaborative arrangements allow some women to have combined antenatal care to reduce travel and return transfer is encouraged postnatally to ensure women are closer to their significant others, support systems and their familiar care providers.

Childbirth education classes, domiciliary care, breastfeeding support services are provided by Midwives and Lactation Consultants at ERH. Perinatal emotional mental health services are provided through Community Health, and the Enhanced Maternity Care Program (EMCP). The Maternity team work closely with Njernda Aboriginal Corporation, who through their family support and medical centre provide antenatal and postnatal care.

ERH has an agreement with the LMR perinatal support program provide a Consulting Obstetric and midwifery specialist to assist with clinical governance. The Director of Obstetrics is employed on a part time basis and is on site two days per week and provides mentorship, guidance, and support.

Mildura Base Public Hospital

Mildura Base Public Hospital sits in the north-west Victoria. Located on the Victorian side of the Murray River and has a population of 60,000. Mildura is 565 kilometres north of Melbourne and 395 kilometres from Adelaide. MBPH is the major public referral health service for the Northern Mallee sub-region of the Loddon Mallee region of Victoria, the far west region of New South Wales, and the Riverland area of South Australia. MBPH are a referral centre for smaller regional services including Mallee Track Health & Community Health Services, Robinvale District Health Service is a referral Ouyen, Wentworth, Balranald and Manangatang.

Mildura Base Public Hospital (MBPH) provides Level 4 Maternity, and Level 3 Neonatal Service. It offers maternity care to a wide geographical area which includes Victoria, South Australia and New South Wales and is responsible for between 800 -900 births per year. This has remained steady for the last five years. The Maternity unit is comprised of twelve-bed antenatal/postnatal ward staffed for eight, four birthing rooms staffed by two, 3 bay pregnancy assessment unit and six bed staffed for four Special Care nursery.

MBPH provides quality women centred maternity and neonatal care for women and their families during pregnancy, childbirth, and the immediate post birth period. This care is provided by experienced doctors, midwives, and nurses. MBPH collaborates with several external pregnancy care providers such as Mallee District Aboriginal Services (MDAS), Sunraysia Community Health Services, Dareton Community Health Services, and Robinvale District Health Services.

MBPH offers a Domiciliary and Lactation Home Visiting postnatal service staffed by highly experienced Midwives and Lactation Consultants.

Swan Hill District Health

Swan Hill District Health sits in the Shire of Swan Hill in north-west Victoria sitting on the banks of the Murry River, 344 kilometres from Melbourne. It is an agricultural and horticultural area heavily reliant on the river to feed its vast waterways. Swan Hill and Robinvale are the two largest service centres in the municipality. SHDH services a 100 kilometre radius area which includes a number of smaller towns such as Lake Boga,

Manangatang, Nyah, Nyah West, Piangil, Ultima and Woorinen South. With an estimated catchment area of around 40,000 people spread across a wide area.

SHDH provides Level 3 Maternity and Level 2 Newborn service and manages approximately 200 pregnancies annually. Obstetricians work in partnership with the midwifery team to provide maternity care to women throughout the birth continuum.

SHDH can take referrals from Level 1 and Level 2 maternity services in the region by agreement. All risk is considered with an appropriate management plan in place to continually monitor, assess and manage any identified risks.

The Maternity services team performs a thorough risk assessment of women throughout the pregnancy continuum to identify women who require referral to a Level 4 or Level 5 maternity service for care. Collaborative arrangements with BH allow some women to have combined antenatal care to reduce travel and return transfer is encouraged postnatally to ensure women are closer to their significant others, support systems and their familiar care providers.

Childbirth education classes, domiciliary care, breastfeeding support services are provided by Midwives and Lactation Consultants at SHDH. Perinatal emotional mental health services are also provided through Perinatal Emotional Health program (PEHP) provided by Bendigo health utilising community child and maternal health offices. The Maternity team work closely with MDAS who through their family support and medical centre provide antenatal and postnatal care.

In early 2022 a review of maternity service took place to address workforce challenges and meet the diverse needs of the community. A re-design operational model of care has been proposed which will meet the needs of both the community and workforce. In March 2022 SHDH employed a Clinical Midwife Consultant to lead the re-design project.

Cohuna District Hospital

The Cohuna Township is situated on the Murray Valley Highway, 68 km from Echuca (to the East) and 33 kilometres from Kerang (to the West). Bendigo is the nearest "regional centre" located 120 kilometres to the south. A small rural community with a township population of approximately 2,986 residents, Cohuna is part of the Gannawarra Shire servicing a catchment population of approximately 7,000 people. It is recognised as an area of extreme disadvantage in particular young families (Southern Mallee Primary Care Partnership, Community and Wellbeing profile report).

CDH is a Level 1 Maternity Service and until recently managed 60 pregnancies annually. In May 2021 maternity at CDH underwent significant change due to the retirement of the only credentialed GPO. A during the latter part of 2021 a review of model of care options was undertaken and in January 2022 work commenced on implementing a phased re-designed approach to a new look maternity service. Phase 1 would see CDH in collaboration with GPO, ERH and BH provide pregnancy and postnatal care to the families of the Gannawarra shire. Regular fortnightly MCP

meeting are held to coordinate and plan care. CHD make arrangements for women to access services that may not be available on site such as perinatal emotional mental health services.

Robinvale District Health Service

The town of Robinvale is located between the Murray River towns of Mildura and Swan Hill in the north-west of Victoria. It is connected by a bridge to Euston on the other side of the river in New South Wales.

The Australian Bureau of Statistics 2019 reported Robinvale had a population of 3,359 however due to the diverse nature of its community Swan Hill rural city council report it is closer to 8,000. This also in part due to a much broader catchment reflective of the twin towns and surrounding areas in both states. The region currently boasts the biggest almond farms in the Southern Hemisphere; the second largest Australian concentration of fresh stone fruit, pistachios and table grapes after Sunraysia; and the second largest wine grape production region in Victoria.

When compared to Australia, the key characteristics of the Robinvale community include cultural diversity, with significant populations of Tongan, Fijian, Italian, Greek, Malaysian, Philippino, Chinese, Hong Kong, Indian, Thai, Vietnamese and Cambodian migrants, and a significant Aboriginal population.

The Robinvale community has a higher proportion of young families (including one parent family households); a higher proportion of population living in rental accommodation and group households, compared to the state average.

RDHS provide a diverse range of services to communities across a catchment area of approximately 60,000 square kilometres. In addition to service delivery in its immediate area, RDHS provides outreach services to the communities of Ouyen, Boundary Bend and Manangatang in Victoria and Dareton, Wentworth and Balranald in New South Wales. RDHS supports a comprehensive range of services that includes a maternity program (ante and post-natal care), maternal child health nursing and visiting nursing services.

RDHS is a Level 1 Maternity service, which delivers antenatal as well as postnatal home care to 100 families annually to women of Robinvale and surrounding districts. Women attend antenatal appointments with a sole employed midwife. A visiting GPO attends weekly and provides pregnancy and women's health care. The shared care model with MBPH is based on a collaborative approach to providing care close to home. This arrangement ensures women have early access to obstetric care prior to birthing, receive appropriate medical care for pregnancy, and can be 'booked in' to MBPH by the RDHS midwife. Under this arrangement, women only need to travel outside of the Robinvale catchment for pregnancy ultrasound appointments. During a review of antenatal care at MBPH it was highlighted that there is an urgent need for RDHS to have full access to MBPH BOS ensuring full and accurate documentation of pregnancy care.

Antenatal classes are offered on site for the first-time parents and others who may want to have refresher classes. The midwife works closely with external care

providers such as Murray Valley Aboriginal Cooperative and the Maternal and Child Health Nurse.

Maryborough District Health Service

Maryborough sits in the Central Goldfields Shire on the Pyrenees Highway, 58 kilometres north of Ballarat and 168 kilometres northwest of Melbourne. MDHS services a population of 7,900 in the Central Goldfields and Pyrenees Shire with campuses in Maryborough, Dunolly and Avoca. The strong clinical and social links between the three campuses ensure that the community is cared for by qualified staff committed to high standards of person-centred care

MDHS is a Level 2 Maternity and Level 2 Newborn services that provides maternity services for approximately 50-60 women each year across the continuum of pregnancy. A further 50-60 women have elements of their pregnancy care with MDHS but due to service capability will birth at a service with a higher level of care.

The catchment of MDHS for maternity services takes in the local government areas of the Central Goldfields and areas of the Pyrenees and Northern Grampians Shires. Further opportunities exist within the catchment to attract more women to have their pregnancy care with MDHS and birth locally when clinically appropriate.

In early 2020 due to community demands to access a full continuity maternity service and in response to an external review, MDHS employed a project officer to review maternity service model of care options. After wide community and stakeholder consultation MDHS proposed that all maternity services at MDHS be further strengthened and underpinned by a midwifery continuity of care model in collaboration with GPO's and supported by our regional partnerships being BH and GH – Ballarat campus. In May 2022 the "Maryborough Model" MGP was launched providing the families an option to receive maternity care close to home.

Central Highlands Rural Health Kyneton Health

Kyneton sits in the Macedon Ranges shire and is situated on the banks of the Campaspe River. Kyneton is an historic rural town showcasing some of the finest heritage and bluestone buildings outside Bendigo and Ballarat. Kyneton is a growing rural hub with an artistic and gastronomic focus including the renowned Piper Street precinct and a varied events calendar.

Kyneton Health at Central Highlands Rural Health offers a comprehensive range of hospital and community-based services. Serving the people of the Macedon Ranges for more than 160 years. Providing and responding to the needs of our local community, collaborating with healthcare partners to deliver Best Care to our patients.

IN 2019 Central Highlands Rural Health was formed with the joining of Hepburn Health and Kyneton District Health. Servicing Macedon Ranges Shire and Hepburn Shire ensuring residents can access the very best health care closer to home.

Kyneton Health moved to a level 1 maternity service in October 2019. As a Level 1 service, staff cannot support labour and birth, but can manage and care for women while arranging referral and transfer to an appropriate level of care.

CHRH-Kyneton Health offer access the following services:

- Victorian Infant Hearing Screen Program
- Lactation consultant
- Physiotherapist
- Childbirth Education
- Domiciliary home care

Since moving to a level 1 maternity Kyneton Health have re-established the domiciliary home care service in the Macedon Ranges and beyond working closely with Joan Kirner, RWH and Northern hospitals.

Patient Flow in the Region

Women who reside in the Loddon Mallee region have access to Level 1-5 maternity serves and Level 1-4 Newborn services and three Koori Maternity services – MDAS, Njernda and BDAC.

Transfer of Care

Diversion

There are occasions where Maternity and Newborn Services in the Loddon Mallee region will declare an inability to provide maternity and /or newborn services for a period. There are two situations:

- **A planned period** where the service identifies that it is unable to offer its capability level,
- **An emergency obstetric situation** beyond the capability of the service.

When either of these occur, it is known as referring or transferring care, and the region has well developed systems and agreements to ensure that women in the region are provided with safe responsive systems of care.

Change of clinical risk profile

While services endeavour to provide care within their capability so that the woman births as close to home as possible, there may be instances where a woman's clinical risk profile changes, which may require transfer of her care to a higher capability service.

Transfers between Maternity Services

A highly visual, colour coded assessment tool is used to assess clinical risk, flag escalation potential and to facilitate appropriate health service selection, within the guidelines of the capability frameworks for Victorian Maternity and Newborn services.

Traffic Light Consultation and Referral System (V2 March 2022)

Green	**ACCEPT** – Suitable for collaborative care
Amber	**Consult** – Requires consultation with colleagues and consider consultation with HIGHER level service. Following consultation may be suitable for antenatal care and birthing
RED	**REFER** – Not suitable for care Requires referral and/or transfer to a HIGHER Level service

All women should be managed and considered on an individual basis to ensure women-centred care and avoidance with grouping women together into categories of risk. It is acknowledged that one woman can be identified to belong in separate levels of risk in all stages of the childbearing continuum. Therefore, early identification and escalation is critical to successfully providing safe and appropriate maternity care.

Regardless of risk and planned hospital of birth, it is recommended that all women be 'booked into' their local maternity health service in the early antenatal period. These women will require an appropriate management plan be put into place to continually monitor, assess, and manage the identified risk.

This traffic light assessment tool has the potential to see women progress from green, to amber to red during their confinement and to likewise be 'stepped down' from red to amber to green. Pregnancy and birth are not without risk and all women require diligent clinician care to ensure appropriate care and service provision is availed for both the woman, her baby and her family.

GREEN - ACCEPT
Normal risk pregnancies are considered 'Green' and are suitable for low-risk models of care. Women identified to be normal risk at booking, will be offered continuity of care throughout the continuum of pregnancy in an agreed model of care depending on the specific care models available at the given health service. All care should be provided within the clinician's professional scope of practice and within the health service's policies and procedures. Appropriate use of the traffic light tool should occur if a woman's pregnancy risk alters from normal risk and requires escalation

AMBER - CONSULT
Pregnancies that are 'Amber' are not suitable for midwifery-led shared care but may still be suitable to birth at the booking Health Service. These women are flagged as Amber for various reasons and will require increase monitoring during their pregnancy. Increased monitoring may include additional antenatal reviews and testing, transfer to consultant led care models and consultation with Medical Specialists. Referral for any level of consultation should be clearly documented in the woman's clinical record including an individualised care plan and any change or transfer of care responsibility. At consultation with a higher-level facility further care may be required ➢ Tier 1 – Consultation only with advice given that may include additional reviews, tests etc. at referring site ➢ Tier 2 – Appointment at higher level facility and / or plan to birth a higher-level facility e.g., previous postpartum haemorrhage

- Tier 3 – Some antenatal care and birth planned at higher level facility with some potential for shared care between the referring service and the higher-level facility e.g., high BMI
- Tier 4 – Requirement for transfer for all antenatal and intrapartum care e.g., woman with complex medical needs such as antiphospholipid syndrome

RED - REFER

'Red' categorised women or infants are identified as high risk by the referring health service and are considered unsuitable to remain under their current caregiver and/or health service. Referral to higher-level maternity or neonatal service is required. These women may be identified as suitable for antenatal shared-care between current and higher-level maternity services.

Women who present in the 'refer' criteria that require time-critical management should have early consultation with the Paediatric Consultant or PIPER or Ambulance Victoria.

Booking assessment

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Age								
<16 years								
17-24 years								
25-39 years								
>40 years no complications								
>40 with complications								
Anaesthetic difficulties								
Previous failure or complication (e.g. difficult intubation, failed epidural) – request anaesthetic consultation and referral								
Malignant hyperthermia or neuromuscular disease								
Body Mass Index (BMI)								
BMI >17 or <35								
BMI <19 refer to dietitian								
BMI 35-39 refer to dietitian/allied health								
BMI 40-45								
BMI 46-50								
BMI >50								
Connective tissue/ System diseases								
Autoimmune Disease								
Rare disorders such as: Systemic Lupus Erthematosus (SLE) Anti-phoposlipid syndrome, Scleroderma, Rheumatoid arthritis, Oeriateristis nodosa, Marfan's Syndrome, Raynaud's disease								
Cardiovascular								
Cardio Vascular Disease								
Essential hypertension								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Drug dependence or misuse								
Alcohol consumption >? Per day								
Drug use								
Smoking >								
Endocrine								
Pre-existing type 1 diabetes mellitis								
Pre-existing type 2 diabetes mellitis– diet controlled								
History of gestational diabetes mellitis								
Diabetes mellitis – requiring insulin or oral medication								
Thyroid disease including hypothyroidism & hyperthyroidism								
Endocrine disorder requiring treatment such as: Addison' Disease, Cushing's Disease or other								
Gastrointestinal								
Hepatitis B with positive serology (Hep B S AG+)								
Hepatitis C (Hep C Antibody +)								
Genetic								
Genetic – any condition								
Haematological								
Haemoglobinopathy								
Thrombo-embolic process (family history)								
Coagulation disorders								
Anaemia at booking defined as Hb<10g/dl								
Anaemia at booking defined as Hb<9g/dl								
Infectious Disease (detected on booking or serology)								
HIV infection								
Rubella (active)								
Cytomegalovirus (active)								
Parvo-virus (active)								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Varicella/Zoster virus infection (active)								
Herpes genitalis (primary infection)								
Herpes genitalis (recurrent infection)								
Tuberculosis (active history of)								
Syphilis - Positive serology and treated								
Syphilis - Positive serology and not yet treated								
Syphilis - Primary infection								
Toxoplasmosis								
Any recent history of a viral, microbial parasitic infection								
Mental Health Disorders								
History or current mental health disorder with main care provider GP								
History or current mental health disorder with main care provider psychiatrist/primary mental health care team								
Musculo-skeletal								
Pelvic deformities including previous trauma, symphysis rupture, rachitis								
Spinal deformities (e.g. scoliosis, slipped disc, etc.) arrange anaesthetic review								
Neurological								
Epilepsy without medication and no seizures within the last 12 months								
Epilepsy with medication and/or seizure(s) in the last 12 months								
Subarachnoid haemorrhage, aneurysms (history of)								
Multiple sclerosis								
AV malformations								
Myasthenia gravis								
Spinal cord lesion (para or quadriplegia)								
Muscular dystrophy or myotonic dystophy								
Renal function disorders								
Disorder in renal function with or without dialysis								
Urinary tract infections (recurrent/symptomatic)								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Pyelonephritis								
Respiratory disease								
Mild asthma								
Moderate asthma (oral steroids in the past year and/or maintenance therapy)								
Severe lung function disorder								
Cervical abnormalities								
Cervical surgery / cone biopsy: should have dual booking can deliver at level 3 if normal cervix till term								
Cervical surgery with subsequent vaginal birth								
Abnormalities in cervix cytology (diagnostics / follow up)								
Pelvic floor reconstruction								
Colposususpension following prolapsed uterus (if considering vaginal birth)								
Fistula and / or previous rupture and vaginal repair								
Uterine abnormalities								
Myomectomy								
Bicoruate uterus								
Other								
Intra Uterine Contraceptive Device (IUCD) insitu								
Infertility treatment (this pregnancy)								
Female genital mutilation (FGM) (consider organisation recent practice)								

Booking Assessment - Pre-existing gynaecological disorders

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Fetal growth disturbance								
Previous baby > 4.5 kg								
Previous baby > 4.0 kg								
Previous baby diagnosed FGR and/or <2.5kg								
Haematological disorders								
Active blood group incompatibility (Rh, Kell, Duffy, Kidd)								
ABO-incompatibility								
Hypertensive disorders								
Hypertension								
Pre-eclampsia								
Eclampsia / HELLP syndrome								
Obstetric emergency or assisted birth								
Forceps or vacuum extraction								
Caesarean section								
Caesarean section >3								
Septate uterus with previous caesarean section								
Shoulder dystocia								
Parity								
Multiparous parity <5 with history of uneventful pregnancies								
Grand-multiparous parity >5 previous births								
Perineal trauma (severe)								
3rd degree tear								
4th degree tear								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Poor perinatal outcomes								
Asphyxia (APGAR <7 at 5 mins)								
Perinatal death								
Child with congenital and/or hereditary disorder								
Previous baby with serious birth trauma requiring ongoing care								
Postpartum depression								
Requiring ongoing medication								
Puerperal psychosis								
Postpartum haemorrhage as result of								
Perineal trauma								
Cervical tear								
Other causes								
Pregnancy abnormalities								
Recurrent miscarriage (3 or more times)								
Pre-term birth (<37 weeks) in a previous pregnancy								
Pre-term birth (32 weeks) in a previous pregnancy								
Cervical incompetence (requiring cervical suture)								
Placental abruption								
Cholestasis of pregnancy								
Symphysis pubis dysfunction								
Social								
Late booking (>28 weeks gestation)								
No antenatal care (>28 weeks gestation)								
Concealed pregnancy, (Level 2 refer based on clinical assessment)								
Previous DHHS/CPU involvement (women and/or partner)								
Third stage abnormalities								
Manual removal of placenta								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Manual removal of placenta x 2								
Placenta accrete / morbidly adherent placenta								

Obstetric History Antenatal

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Antenatal screening								
Risk factors for congenital abnormalities								
Suspected/confirmed fetal abnormalities								
Cervical cytology								
Cervical cytology – High grade (CIN II & III)								
Cervical cytology – Low grade (CIN I)								
Early pregnancy disorders								
Hyperemesis gravidarum (persistent)								
Suspected ectopic pregnancy (level 3 transfer only if no available staff/safe)								
Recurring vaginal blood loss prior to 16 weeks								
Vaginal blood loss after 16 weeks								
Endocrine disorders								
Diabetes mellitus – diet controlled								
Diabetes mellitus - requiring insulin/medication								
Pre-existing type 1 and type 2 diabetes mellitus								
Gestational Diabetes Mellitus Diet								
Gestational Diabetes Mellitus - metformin								
Addison's disease, Cushing's disease or other endocrine disorder requiring treatment								
Thyroid disease including Hypothyroidism/Hyperthyroidism								
Fetal presentation / growth concerns								
Non cephalic presentation at full term								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Breech presentation >34 weeks gestation								
Breech presentation >32 weeks gestation								
Multiple pregnancy								
Failure of head to engage at full term (primigavida)								
Symphysis – fundal height >3 cm or <3 cm above gestational age								
Suspected/confirmed FGR (<10th centile or incordinate growth or <2400g at term)								
Suspected confirmed fetal macrosomia (>95th centile or greater than 4500g at term)								
Gastrointestinal								
Hepatitis B with positive serology (Hep B S AG+)								
Hepatitis C (Hep C Antibody+)								
Inflammatory bowel disease including ulcerative colitis and Crohn's disease								
Haematological disorders								
Coagulation disorders								
Blood group incompatibility								
Thrombosis								
Anaemia >37 weeks (Hb<10g/dl)								
Hypertensive disorders								
Gestational hypertension (>20 weeks gestation)								
Pre-eclampsia								
Eclampsia/ HELLP syndrome								
Chronic hypertension								
Infectious diseases								
HIV infection								
Rubella								
Toxoplasmosis								
Cytomegalovirus								
Parvo-virus (active)								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Varicella/Zoster virus infection								
Tuberculosis (active history of)								
Herpes genitalis (primary infection) (infection late in pregnancy)								
Herpes genitalis (recurrent infection)								
Syphilis – positive serology and treated								
Syphilis – (primary infection) (positive serology and not yet treated)								
Mental health disorders								
First presentation mental health disorder during pregnancy with main care provider GP								
First presentation mental health disorder during pregnancy with main care provider psychiatrist/primary mental health care team								
Musculo-skeletal								
Slipped disc								
Pelvic instability								
Placental abnormalities								
Low lying placenta ≥ 34 weeks								
Antepartum haemorrhage unknown cause								
Placenta praevia								
Placenta accrete/percreta/increta								
Vasa praevia								
Suspected placental abruption- Transfer if safe								
Post-term pregnancy								
>41 weeks completed gestation								
Oligohydramnios (AFI <5)								
Polyhydramnios (AFI >25)								
Renal dysfunction disorders								
Urinary tract infection(s)								
Pyelonephritis								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Respiratory disease								
Asthma – mild								
Asthma – moderate/severe								
Acute respiratory illness								
Social								
Previous DHHS/CP involvement								
Surgical								
Laparotomy during pregnancy								
Laparoscopy during pregnancy								
Threat of / actual preterm labour/birth								
Cervical insufficiency								
Pre-term pre-labour rupture of membranes <37 weeks gestation								
Pre-term pre-labour rupture of membranes <32 weeks gestation								
Threatened pre-term labour <37 weeks gestation								
Threatened pre-term labour <32 weeks gestation								
Pre-term labour <37 weeks gestation								
Pre-term labour <32 weeks gestation								
Uncertain duration of pregnancy								
Amenorrhoea >20 weeks and uncertain of dates								
Uterine abnormalities								
Fibroids								
Other high risk pregnancy issues								
No antenatal care at <30 weeks								
Confirmed oligo/poly hydramnios on ultrasound								
Reduced and/or abnormal fetal movement patterns								
Concealed pregnancy								
Baby for adoption								
Fetal death in utero								

Intrapartum

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Gestation								
< 37 weeks								
< 34 weeks								
< 32 weeks								
Hypertensive disorders								
Pregnancy induced hypertension								
Pre-eclampsia								
Labour complications								
Meconium stained liquor								
Blood stained liquor								
Maternal pyrexia								
Cholestasis								
Suspected maternal sepsis								
Active genital herpes in late pregnancy or at onset of labour								
Abnormal fetal heart rate pattern with non-reassuring features								
Prolapsed cord or cord presentation								
Vasa praevia								
Arrival in labour unbooked (escalate care to on call Obstetrician)								
Suspected placental abruption and/or praevia (Call CODE, Obstetric emergency)								
Fetal death during labour (Call CODE, Obstetric emergency)								
Shock/maternal collapse (Call CODE, Obstetric emergency)								
Prolonged first stage of labour (Call GPO/Obstetrician)								
Prolonged second stage of labour (Call CODE, Obstetric emergency)								
Prolonged third stage of labour (Call CODE, Obstetric emergency)								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Postpartum haemorrhage >500 mls (Call CODE, Obstetric emergency)								
Retained placenta (Call GPO/Obstetrician)								
Shoulder dystocia (Call CODE, Obstetric emergency)								
Suspected uterine rupture (Call CODE, Obstetric emergency)								
Malpresentation/multiple pregnancy								
Abnormal fetal presentation (Call GPO/Obstetrician)								
Breech presentation (Call GPO/Obstetrician prepare for transfer / caesarean)								
Unengaged head in active labour in primipara (Call GPO/Obstetrician)								
Multiple pregnancy (Call GPO/Obstetrician)								
Pre-labour rupture of membranes (PROM)								
Term PROM (without signs of labour)								
Pre-term PROM <37 weeks gestation								
Pre-term PROM <34 weeks gestation								
Pre-term PROM <32 weeks gestation								
Severe adverse maternal morbidity								
3rd degree perineal tear (Transfer if no OT available)								
4th degree perineal tear (Transfer)								
Retained placenta with/without PPH								
Uterine inversion (Call CODE obstetric emergency)								
Postpartum Haemorrhage >1000mls (Call CODE obstetric emergency)								
Postpartum Haemorrhage >1000mls requiring blood products (Call CODE obstetric emergency +/- transfer)								

Postnatal - Maternal Indications

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Abnormal postnatal observations								
Suspected maternal infection								
Suspected retained products/abnormal fundal height								
Temperature over 38° C on more than one occasion								
Persistent hypertension								
Vulvar Haematoma								
Urinary/faecal incontinence								
Urinary retention								
Severe adverse maternal morbidity								
Thrombophlebitis								
Thromboembolism								
Haemorrhage > 500mls								
Anaemia requiring blood products								
Postpartum eclampsia								
Uterine prolapse								
Social/mental health problems								
Serious psychological disturbance								
Significant social isolation and lack of social support								
DHHS/CP involvement								

Postnatal - Neonatal Indications

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Neonatal complications/abnormalities noted at birth								
Infant less than 2500g								
APGAR less than 7 at 5 minutes								
Suspected meconium aspiration								
Requiring respiratory support CPAP/IPPV (<4 hours)								
Less than								
3 vessels in umbilical cord								
Excessive moulding and cephalhaematoma								
Abnormal finding on physical examination								
Excessive bruising, abrasions, unusual pigmentation and/or lesions								
Birth injury requiring investigation								
Birth trauma								
Bleeding from any site								
Congenital abnormalities (e.g. cleft lip or palate, congenital dislocation of hip, ambiguous genitalia)								
Major congenital abnormality requiring immediate intervention (e.g. omphalocele, myomenginocele)								
Neonatal complications/abnormalities noted following birth								
Requiring respiratory support CPAP/IPPV (>4 hours)								
Requiring respiratory support CPAP/IPPV (>24 hours)								
Apnoeas/bradycardias								
Abnormal heart rate or pattern								
Abnormal cry								
Persistent abnormal respiratory rate and/or pattern								
Persistent cyanosis or pallor								
Jaundice in the first 24 hours								
Suspected pathological jaundice after 24 hours (low range phototherapy)								

Booking Assessment	RDHS	CDH	DH	MDHS	ERH	SHDH	MBPH	BH
Suspected pathological jaundice after 24 hours (requiring multiple light therapy)								
Hypoglycaemia								
Temperature instability								
Temperature less than 36° C unresponsive to therapy								
Temperature more than 37.4° C unresponsive to non-pharmaceutical therapy								
Suspected sepsis								
Vomiting and/or diarrhoea								
Bile stained vomit								
Abdominal distention								
Infection of umbilical stump site								
Feeding issues								
Significant weight loss >10% birth weight								
Failure to pass urine or meconium within 24 hours of age								
Failure to pass urine or meconium within 36 hours of age								
Suspected clinical dehydration								
Suspected seizure activity								
Social								
DHHS/CP involvement								

Travel Distance – Region and State

Distances between Level 1-6 maternity Services by road (Google Maps)

		Distance										
		Mildura	Robinvale	Swan Hill	Echuca	Bendigo	Cohuna	Dhelkaya	Melbourne	Maryborough	Adelaide	Kyneton
Time	Mildura Base Public Hospital		88	220	374	404	311	430	542	395	397	461
	Robinvale and District Health Service	1h 7min		133	286	319	223	356	468	331	484	385
	Swan Hill District Health	2h 32min	1h 29min		154	186	90	223	335	219	509	254
	Echuca Regional Health	4h 10min	3h 9min	1h 44min		88	65	131	220	167	664	138
	Bendigo Health	4h 28min	3h 30min	2h 17min	1h 4min		124	38	150	70	618	69.4km
	Cohuna District Hospital	3h 34min	2h 27min	1h 2min	45min	1h 24min		160	272	168	600	191lm
	Dhelkaya Health	4h 44min	3h 52min	2h 28min	1h 31min	35min	1h 51min		126	38	626	45.3km
	The Royal Women's Hospital	6h 10min	5h 20min	3h 41min	2h 31min	1h 42min	3h	1h 20min		166	735	82.3km
	Maryborough District Health Service	4h 25min	3h 37min	2h 24min	1h 51min	55min	1hr 51min	48min	1h 56min		588	85.8km
	Adelaide Women's and Children's Hospital	4h 25min	5h 26min	5h 21min	7h 19min	6h 57min	6h 37min	7h 3min	8h 11min	6h 34min		668km
	Central Highlands Rural Health Kyneton Health-	5h	4h 13min	2h 45 min	1h 37 min	54 min	2h 10 min	32 min	1h 5min	1h 8min	7h 22min	

Regional Interhospital Transfer of Care

Loddon Mallee region provide level 1-5 maternity care and 1-4 Newborn care. In most cases, Ambulance Victoria will be called to transfer women who have presented or been admitted to hospital and are in the care of the maternity team at that site.

Tertiary Level Transfer of Care

Transfer of this nature occur the women's clinical risk profile exceeds a Level 5 capability.

In emergency situations PIPER coordinates and facilities expert advice, referral and transport to the appropriate maternity, newborn and paediatric services within Victoria.

Each maternity service has a direct link to PIPER teams and where gestation is less than 32 weeks, or there are medical reasons for an emergency transfer the PIPER team will be consulted in relation to urgent transfers.

Arrange an emergency transfer consultation

Telephone PIPER dedicated 24-hour emergency line on 1300 137 650

- The referral is conferenced with the PIPER Neonatal Consultant and the PIPER retrieval team
- Stabilization advice is provided as required
- PIPER Neonatal mobilizes a team, organizes an appropriate NICU/SCN bed and Proceeds to the referring hospital

Obtain expert high-risk obstetric advice

Telephone PIPER dedicated 24-hour emergency line on 1300 137 650

- The referral is conferenced with the PIPER Consultant Obstetrician and the call coordinator
- Advice is provided
- PIPER will assist with organising the transfer and the appropriate healthcare facility required for the referred woman

Requesting PIPER Transfer

The Obstetrician/GPO in collaboration with the senior midwife will make the decision to transfer. In smaller services where the medical officer is unavailable the registered nurse or midwife can initiate a call to PIPER requesting advice and transfer.

Birthing Service Contacts

Health Service	Coordinator Phone Number	On-Call Doctor/ Switchboard
Mildura Base Public Hospital	50223343	50223333
Robinvale District Health Service	50518446	50518198
Swan Hill District Health	0436357438	50339300
Echuca Regional Health	54855301 (ANUM)	54855000
Bendigo Health	54547272 (Birth suite AMUM) 54548582 (Birth suite) 54548903	5454600
Cohuna District Hospital	54565300	54565300
Dhelkaya Health	54713473 (Acute unit)	54713473
Maryborough District Health Service	5461 0333	5461 0333

Antenatal Contacts

Health Service	Antenatal phone number	Antenatal fax number
Bendigo Health	5454 7288	5454 7286
Mildura Base Public Hospital	5022 3480	5018 8700
Echuca Regional Health	54855301	54855320
Swan Hill District Health Service	5033 9269	50339303
Castlemaine Health Service	54713474	5471 3530
Cohuna District Health	54565300	54562627
Maryborough District Health Service	54610492	54610370
Kyneton District Health	54229930	54229918
Robinvale District Health	50518446	50518198

Transport Services Contact

Service	Emergency	Non-Emergency
PIPER	1300 137 650	1300 659 803
Ambulance Victoria	000	Nil

Regional Agreements

Loddon Mallee Regional Maternity and Neonatal Referral Pathway

Background

The Loddon Mallee region (LMR) consists of 7 health services that provide maternity and neonatal services to their local community. Maternity services and neonatal services are also provided by MDHS and Central Highlands Rural Health – Kyneton Health provides maternity services. Each maternity service in Victoria is classified in terms of capability for maternity and neonatal service according to six levels of care. There are variables that can influence the level of capability for a health service and where variation does occur, and aspects of care cannot be provided it is incumbent on the health service to have clear organisational policies and procedures in place to facilitate consultation, referral, or transfer to a higher-level service provider.

There should be clearly defined links between different levels of service to improve transition between service providers to increase the likelihood of continuity of care practices. The links need to take into consideration the geographical location, the capability, and services available. Inter-organisational relationships should be formalised in documented communication, referral, and transfer arrangements with other health services. All women and neonates should have access to primary maternity care and there should be established service links to enable access to higher capability services if required.

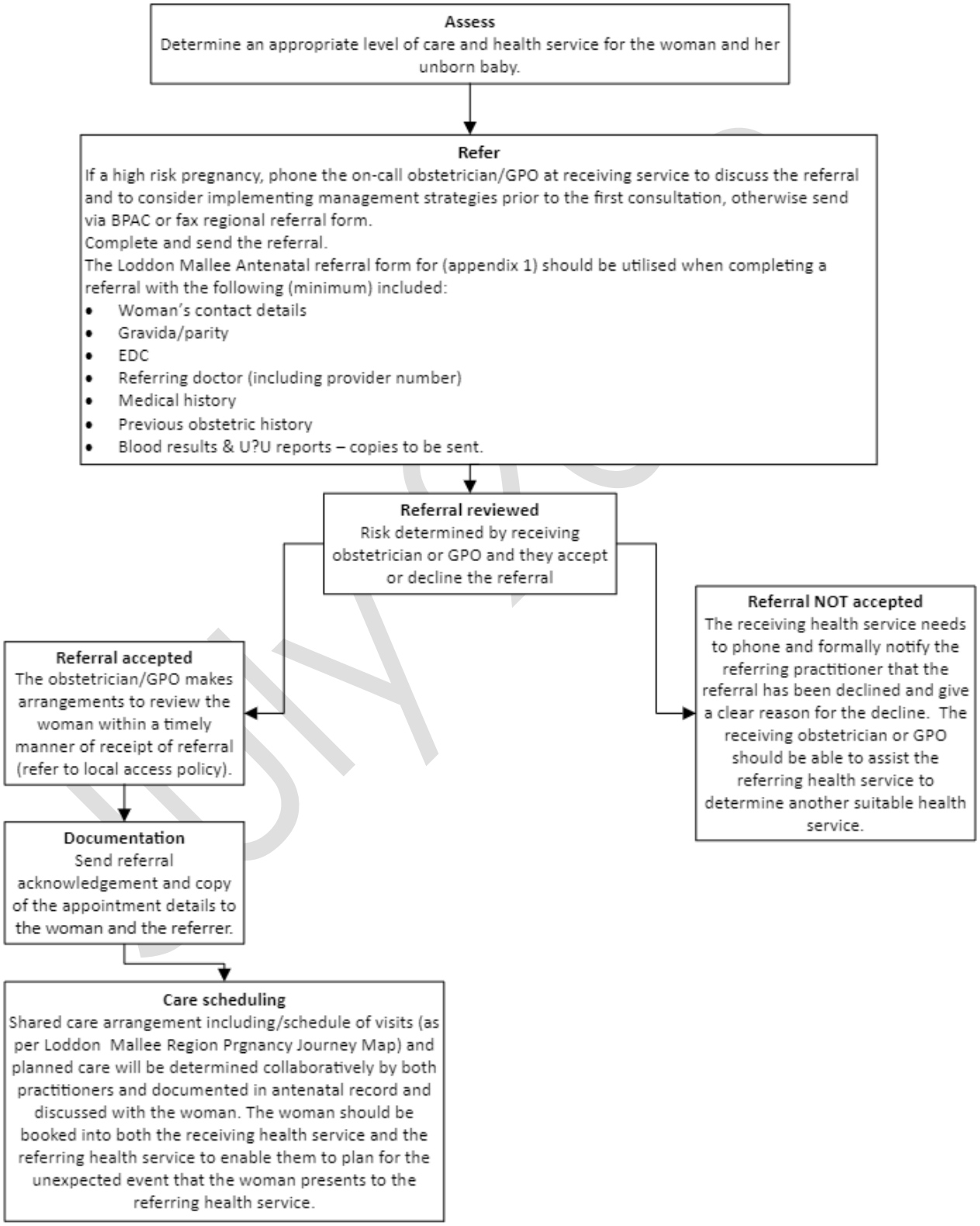
Pathways

When a woman is unable to be safely managed at her local health service due to risk factors and/or complications, there must be established policies and procedures in place for consultation, referral and if required, transfer to a higher level of care. It is equally as important that the woman is transferred back to her local health service as soon as it is deemed medically safe to do so.

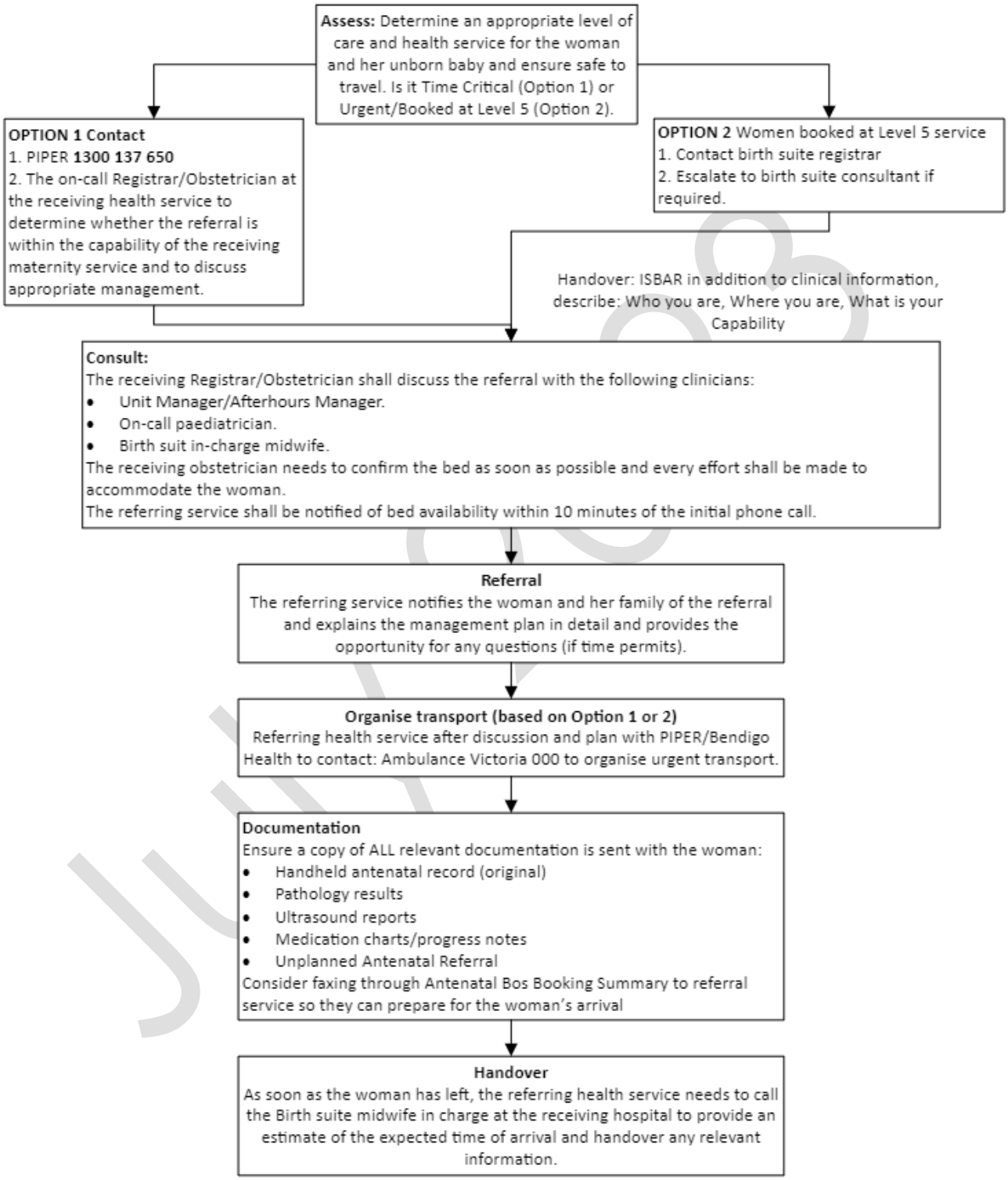
The pathway flowcharts are designed to streamline the referral and transfer process within the region to ensure that the process is easy to follow for all health professionals. The referral pathways are divided into five categories; planned antenatal, unplanned antenatal (time-critical or non-time critical), neonatal and back transfer (neonatal and postnatal), to ensure that all referrals or transfers are categorised to ensure the safest outcome. The relevant contact details for each health service are listed in the appendices.

Pathway	Description
Planned antenatal	A planned referral from a lower-level health service to a higher-level service due to a pregnancy complication or pre-existing co-morbidity that is outside the capability of the referring service. The antenatal referral shall be organised as early as possible to ensure an adequate care schedule can be implemented
Unplanned antenatal	**Non-time critical** A pregnant woman who presents to a health service exhibiting a pregnancy complication, co-morbidity or at a gestation that is outside the capability of the health service and the woman requires transfer to a higher-level health service but her condition is not likely to deteriorate rapidly. For example, a woman presents to a level 3 health service with premature rupture of membranes at 34/40 but is not contracting **Time critical** A pregnant woman who presents to a health service exhibiting a pregnancy complication, co-morbidity or at a gestation that is outside the capability of the health service, who requires immediate transfer for management of her pregnancy as her condition is likely to deteriorate but can be safely transferred. E.g., A woman presents to a level 3 health service with a significant antepartum haemorrhage at 31 weeks but is stable enough for transfer
Neonatal (acute)	A neonate requires care at a higher-level health service within Loddon Mallee but is stable and able to be transferred without an escort see State-wide Transport Incubator Guidelines, https://www.rch.org.au/piper/guidelines/Statewide_incubator_documents/
Neonatal (back transfer)	A neonate has required care at a higher level of capability but is stable enough to be transferred back to a health service closer to where parents reside. Mother has already been discharged
Postnatal (back transfer)	A woman and her newborn have been referred to a higher-level health service for care and are now both stable enough and have been classified within the capability of the primary health service closer to home

Planned Antenatal Pathway



Unplanned Antenatal (Time Critical/Urgent) Pathway



Intra-regional acute maternal transfers

The expectation is that Bendigo Health (BH) will accept **ALL maternal in-utero transfers from subregional sites** within the Loddon Mallee region for standard clinical indications. Similarly BH will provide tertiary obstetric advice to the subregional sites as requested. PIPER does not need to be involved in this process.

The attached flowchart is the process for referring and accepting in utero transfers

The default position is that BH will accept within the region and that delays to transfer should be minimised to reduce clinical risk.

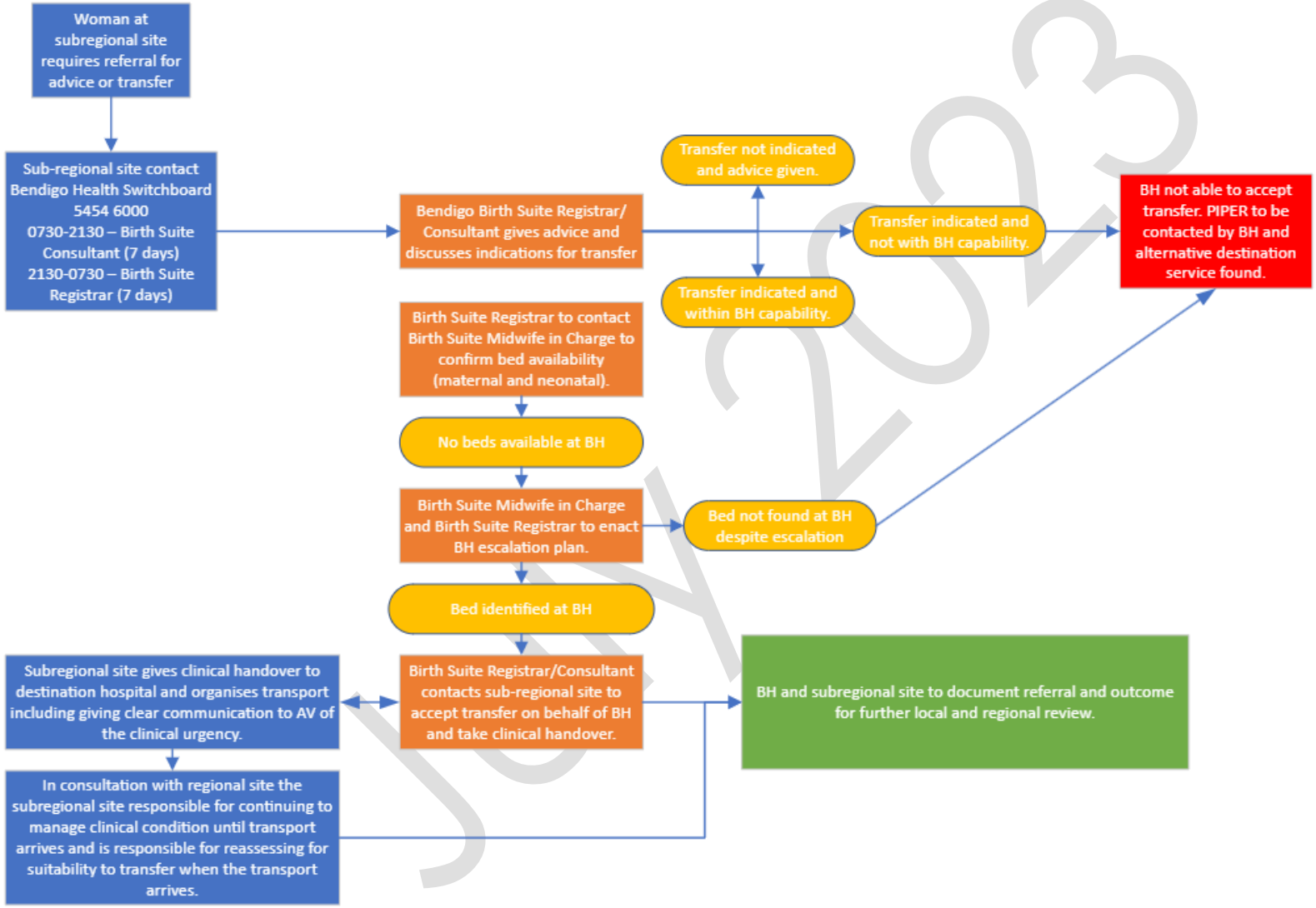
Indications to contact PIPER

1. For referral of women requiring Level 6 maternity care.
2. For support and advice if there is disagreement between clinicians about the safety or appropriateness of transfer between the regional and sub-regional site
3. When maternal transfer is deemed unsafe and a baby is born with care requirements outside the capability of the birth hospital

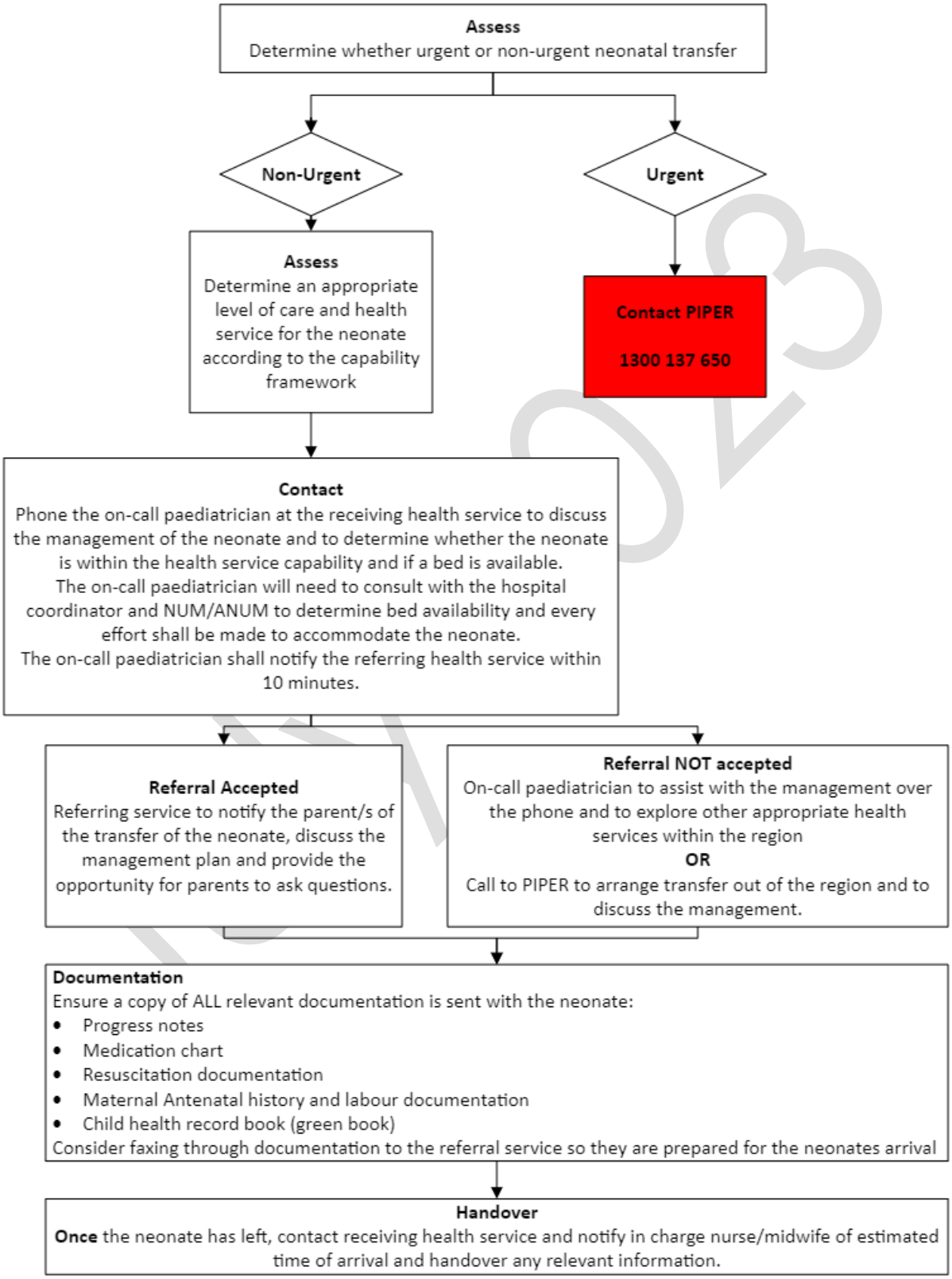
Responsibilities of Bendigo Health Registrar / Consultant

1. To receive the call from a subregional site and discuss the clinical presentation with the subregional clinician. This will include giving immediate clinical advice and discussing any request for transfer
2. To contact the Birth Suite Midwife in Charge to confirm bed availability
3. If there is no bed then to enact the Maternity Demand Escalation Plan in conjunction with the midwife in charge
4. If there is no bed or the referral is outside of BH capability i.e., less than 32 weeks gestation then to contact PIPER for further advice
5. Once a decision has been made about a transfer destination then to contact the subregional site to inform them and to take clinical handover
6. To continue to provide clinical advice and support to the subregional site during the transfer process
7. To document the referral and the clinical decisions on the Excel spreadsheet in O&G Team folder on G drive. This will be collated as a report for BH as well as for review by the regional mortality and morbidity triage process

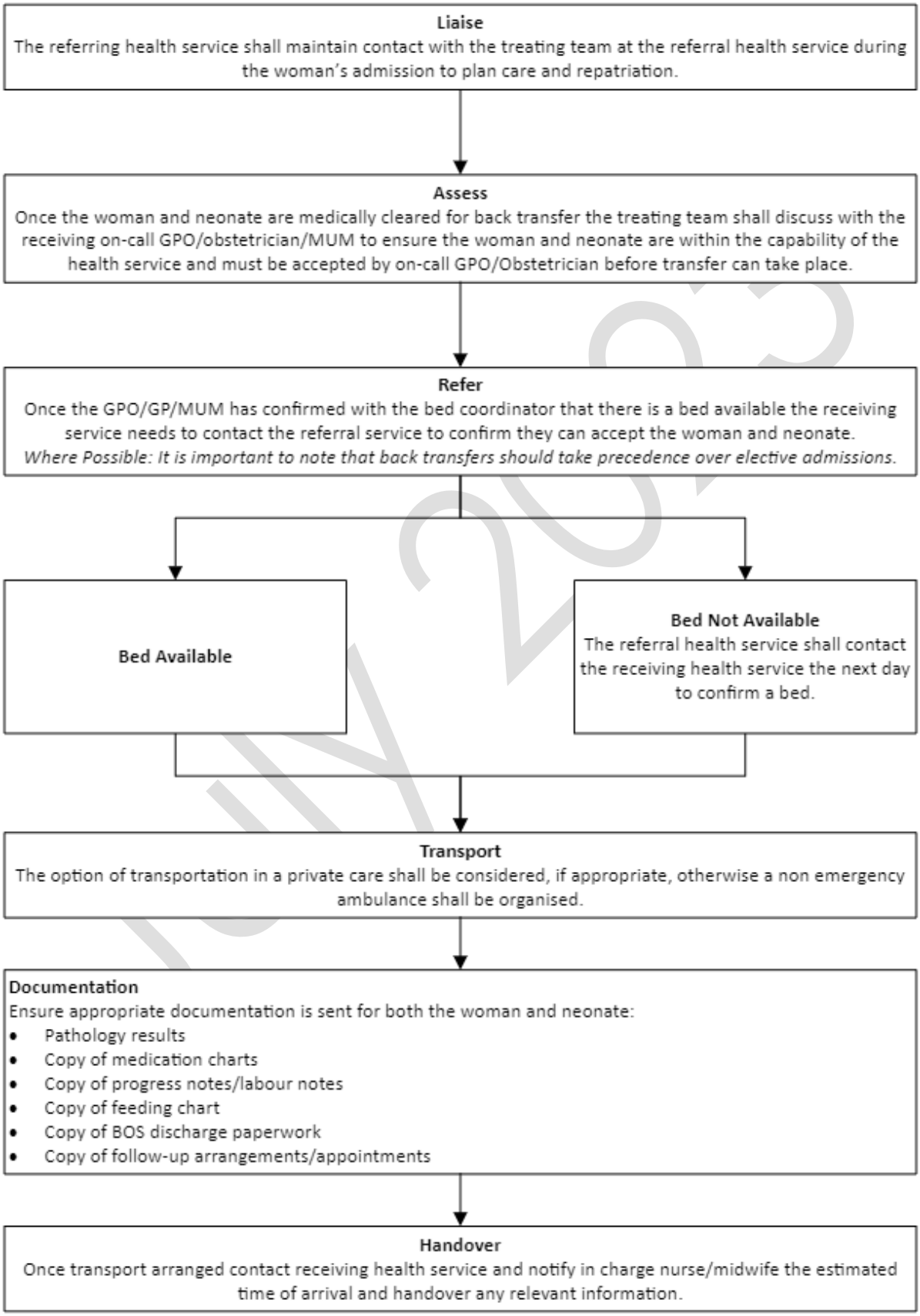
Advice and transfer decision flowchart



Neonatal (acute) Pathway

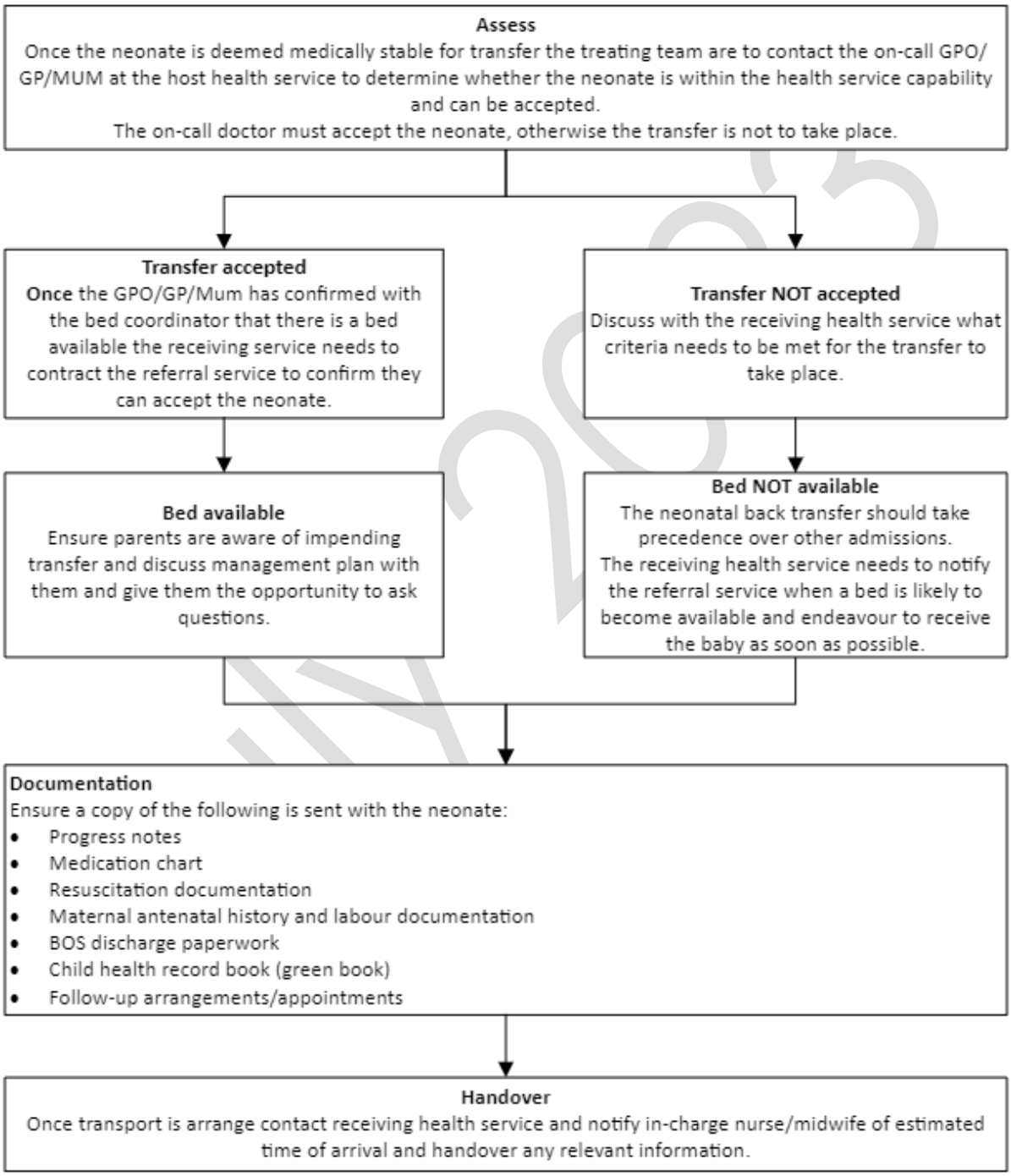


Maternal Postnatal Pathway



Neonatal Back Transfer Pathway

(If a mother has already been discharged)



Domiciliary

Using PowerBI, mapping of domiciliary coverage for the Loddon Mallee has been done. Health Services with access to Power BI can use the interactive map available through Bendigo Health's Perinatal Collaborative channel in SharePoint to identify if domiciliary cover is provided. For convenience, where domiciliary services are not provided have also been mapped.

Clinical Guidelines -

It is widely accepted that Maternity and Newborn services across the LMR access and adopt clinical guidance set out by SCV.

https://www.safercare.vic.gov.au/clinical-guidance/maternity
https://www.safercare.vic.gov.au/clinical-guidance/neonatal

GP Referral Form

NOTE: To be used if electronic option unavailable

GP Referral

To …… Health

for Pregnancy Care

omniana-0312.1-bh

Referral Date: <Todays Date>

GP Review Date: <GP review date>

Feedback Requested: Yes

Referral to:
Women's Health Centre
…….Health

Address

Phone:

Fax:

Email:

Referring General Practitioner:
<DrName>

<Practice>

<UsrAddress>

Phone: <UsrPhone> Fax: <UsrFax>

Email: <PracEmail>

Provider No.: <DrProviderNo>

Patient / client details

Name: <Pt First Name> <Pt Surname>

Date of Birth: <Pt DoB>

Preferred Name/s: <Pt Pref Name>

Sex: <Pt Sex>

Title: <Pt Title>

Address: <Pt Street>

Address: <Pt City> <Pt State> <Pt Postcode>

Phone: <Pt Phone H> Work: <Pt Phone Wk>

Mobile: <Pt Phone Mob>

Email: <Pt Email>

Alternative Contact: <Alternative contact>

Indigenous status: <ATSI Status>

Interpreter required: <Interpreter required?>	DVA Number: <Pt DVA No>
Preferred language is: <Preferred language?>	Insurance: <Pt Health Ins>
Pension Card Number: <Pt Pension No>	Medicare Number: <Pt MC No>

Consent to referral and sharing of relevant information: Yes No

Attach 'Patient Consent Form' if restrictions apply.

Reason for patient referral_____

Current Obstetric History

LNMP: <<Clinical Details: LNMP>>

Estimated delivery date:

Gravida: <<Clinical Details: Gravida>>

Parity: <<Clinical Details: Parity>>

Known multiple pregnancy: <<Known multiple pregnancy>>

Height: <<Height (cm)>> cm

Weight: <<Weight (kg)>> kg

BMI*: <<BMI>>

*must be included to enable triage and booking

Last PAP test: *date & result* <<Last PAP test (date & result)>>

Female circumcision: <<Female circumcision>>

<<Clinical Details: Pap Smear/ cervical screening

☐ Has <Pt First Name> been a patient at this hospital before? Yes / No

Past Obstetric History *Check if applicable* ☒

☐ Previous severe pre-eclampsia	☐ Previous small baby <2800g	☐ Previous fetal abnorma (specify)
☐ Mid trimester loss OR miscarriage x 3 or more	☐ Previous preterm birth <35 weeks (specify gestation____)	☐ Previous Caesarean, h many_____
☐ Still birth	☐ Placental abruption	☐ Gestational diabetes
☐ Other (specify)	☐ Rhesus isoimmunisation	☐ PPH >= 1000mls

<Details of obstetric history>

Risk Factors Relevant to Pregnancy *Check if applicable* ☒

☐ Diabetes pre pregnancy	☐ Cervical surgery	☐ Previous cone biopsy /2 or more LLETZ
☐ Heart disease	☐ Anaemia	☐ Epilepsy
☐ Asthma requiring admissions or oral steroids within past 12 months	☐ DVT or pulmonary embolus	☐ Thalassemia / haemoglobinopathy
☐ Psychiatric disorders	☐ Hepatitis B or C	☐ High blood pressure/or on medication
☐ Renal disease	☐ SLE	☐ Thyroid disease
☐ **Alcohol and other substance use (specify)**		☐ Smoking

☐ Family history of genetic disease (specify) _____

Clinical Information

Warnings: <Comment>

Allergies:
<Reactions>

Current Medication:

<Selected Rx>

Social History:

- ☐ Protective Factors
- ☐ Mental Health concerns/Hx
- ☐ Family Violence
- ☐ Child protection issues
- ☐ Legal/ correction issues
- ☐ Psychosocial issues
- ☐ Housing
- ☐ Refugee

Past Medical / Surgical History:
<PMH All>

Pregnancy investigations

Investigations /Test Results *Please fax all results with referral*

Pathology Provider: <<Pathology Provider>>

- ☐ FBE
- ☐ Blood group and antibodies
- ☐ Rubella
- ☐ Hepatitis B
- ☐ Hepatitis C
- ☐ HIV serology
- ☐ MSU / urinalysis
- ☐ Ferritin
- ☐ Syphilis serology
- ☐ Thalassemia testing/ Hb electrophoresis
- ☐ Consider GTT at 16 weeks: if past GDM, PCOs, BMI>35, Family history of diabetes, previous baby >4.5kg
- ☐ Morphology 20 week Ultrasound (please provide details of ultrasound provider)

Consider:

☐ Dating ultrasound 10-13 weeks ☐ Vitamin D ☐ Chlamydia

☐ GTT at 16 weeks: if past GDM, PCOS, BMI>35, Family history of diabetes, previous baby >4.5kg

Aneuploidy Screening

Aneuploidy screening options have been discussed with the patient: ☐ Yes ☐ No

If yes:

☐ First Trimester Combined Screen (please provide details of ultrasound provider)

☐ Second Trimester MSST

☐ Non-invasive Prenatal screening using cell free DNA (please provide details of provider)

The patient has declined aneuploidy screening ☐ Yes ☐ No

Pregnancy Journey Map