
NHS
Highland
Strategy and Transformation
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NHS Highland
Maternity & Neonatal Services
Business Case for Additional Funding in Response to
Planned Shared Maternity Model with Moray 2022

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1 Executive Summary

In March 2021, the Cabinet Secretary for Health and Sport, commissioned an independent review into maternity services for the women and families of Moray: “The Moray Maternity Services Review (Scottish Government, 2021).” The purpose of the review was to describe the best obstetric model that would provide safe, deliverable, sustainable and high-quality maternity services for the women and families of Moray in line with strategic recommendations described in Best Start (Scottish Government, 2017). The findings of the review were published in December 2021, followed by a decision in March 2022 from the Scottish Government to implement a shared maternity model, “model 4,” between NHS Grampian and NHS Highland.

Implementation of a shared maternity model with NHS Highland and NHS Grampian requires additional service provision to be established promptly in order to provide a safe, equitable and high-quality maternity service to women residing in Moray.

Enabling access to a safe, sustainable maternity and neonatal service for Highland and Moray patients and their families will provide stability and robustness to the service, and to those involved in delivering and receiving the services. However, in order to ensure women in Moray can receive the maternity care they need in Raigmore, funding is required to increase our workforce establishment to cover the additionality expected to be received from Moray.

In addition to required revenue investment, there is also a need for capital investment to support the planned refurbishments within Raigmore Hospital’s existing maternity and neonatal unit in line with national strategy.

The purpose of this Business Case is to set out the need, implications, risks, benefits and indicative costs of implementing Scottish Government’s decision to allow Moray women to deliver in Raigmore from December 2023 and to clarify the assumptions made in development of the case.

This standard business case sets out the case for change and how the proposed new arrangements will bring about services which will be more collaborative and integrated. It will also improve quality of care and make better use of the available financial resources by utilising planning and performance intelligence to inform service planning decisions and building a resilient model to deliver maternity services.

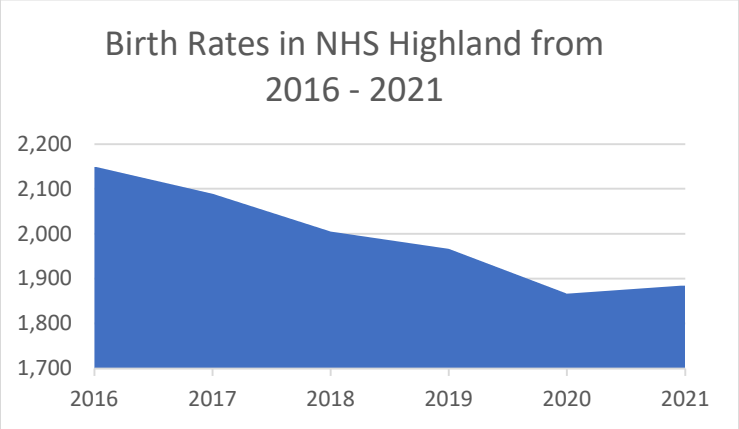
After a two-year consultancy period, and engagement workshops with clinical and non-clinical staff, it was deemed that the current level of Raigmore maternity staffing provision and the infrastructure needed to be enhanced through additional funding to be able to cope with the expected increase in maternity and neonatal activity.

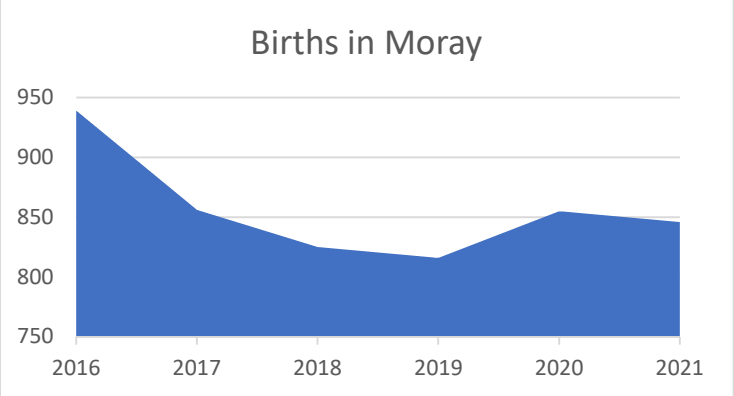
The additional staffing requirements proposed within this standard business case, in addition to the strategically- and guideline-concordant facility refurbishments, are not currently possible within the existing NHS Highland funding resource.

The overall area to be refurbished, focussing on the labour suite and Neonatal Unit, is 3000 m² plus a new construction addition of 300m² of first floor accommodation, increasing the complement to 15 compliant neonatal cot spaces within the Neonatal Unit (including isolation facilities) and 6 fully compliant birthing rooms (including isolation facilities) to accommodate the additional caseload expected to be received from Moray. This results in an estimated construction cost of £4.95m, excluding the cost of a number of backlog maintenance works brought forward to support the scheme, financed from internal cyclical maintenance funding from the Board.

A number of assumptions have been made throughout this business case that are important areas that should be considered:

1. A key feature of model 4, as described in the report commissioned and authored by Scottish Government, is that women are given choice of delivery location. Our available intelligence cannot forecast choice therefore modelling assumptions will be further developed as we implement and understand women's choices more
2. The calculations have been made using a workforce modelling tool therefore we have calculated with a 10% increase in workforce to accommodate a proportion of the Moray women along with ensuring safe staffing levels
3. When the choice was available to women previously only 45 women opted to choose Raigmore as their place of delivery
4. We have focused on the practices that are West of Moray (Forres, Lossiemouth, Kinloss and Elgin proportionately) as these are a shorter travel time but we realise a cohort of these women will choose Aberdeen
5. This amounts to approximately 200 women who are red pathway excluding elective c-section women. These are women who reside closer to Inverness than Aberdeen but this may increase or decrease due to the choices made by women.
6. Midwife led intrapartum care in Dr Gray's will continue to be provided to women
7. Birth rates have reduced in NHS Highland from 2018 and are expected to stabilise over the next 10 years; this will allow continued flexibility to accommodate more women in Raigmore should this be their choice.
8. There is a maximum footprint we can accommodate within the Raigmore site and safe staffing levels have been planned with the bed complement.
9. There is no additionality of birthing rooms, ward space or theatres in this planned refurbishment due to the footprint not being able to be extended
10. There will be additional neonatal capacity (2 additional cots)
11. The redevelopment will make us compliant in terms of current clinical guidelines and safety requirements
12. The workforce model represents the safe staffing levels with the pathways of women and our maximum capacity and demand we can accommodate. NHS Highland will continue to work jointly with NHS Grampian through the Joint Maternity & Neonatal Programme Board through recommending the establishment of an annual workforce and capacity/demand review.
13. To fully accommodate all Moray women, a refurbished maternity and neonatal unit would be required
14. With the planned development of an additional CMU in Highland (location to be strategically assessed) this will further reduce the number of low risk (green pathway) births in Raigmore therefore giving more choice
15. This business case does not include at present antenatal care for the red pathway women and this will further increase costs. This is being explored at present
16. As part of model 4, as described in the report commissioned and authored by Scottish Government, elective c-sections would continue to be delivered at Dr Gray's. We are now aware this may not be feasible therefore further exploration needs to take place on the impact this may have on NHS Highland





	Total Red	Total Green	Overall Total	DGH	Raigmore	AMH
GP Practice Area						
Aberlour/Rinnes/Dufftown	12	15	27	15	0	12
An Caorann, Aberchirder/Portsoy	9	6	15	6	0	9
Seafield & Ardach, Buckie	40	25	65	25	0	40
Forres Medical Centre, Forres	50	26	76	26	50	0
Elgin community surgery, Linkwood, Maryhill, Elgin	123	75	198	75	123	0
Fochabers Medical Practice, Fochabers	14	6	20	20	0	0
Keith Medical Practice, Keith	24	8	32	8	0	24
Macduff Medical Practice, Macduff	17	7	24	7	0	17
Moray Coast Practice, Lossiemouth	39	19	58	19	39	0
RAF Lossiemouth	3	4	7	4	3	0
Deveron Practice, Banff	20	10	30	10	0	20
Total Numbers	**351**	**201**	**552**	**215**	**215**	**122**

*The above numbers do not include elective c-sections (above table being updated)

This business case proposes how elements of maternity and obstetric care can be transferred from Dr. Gray's (NHS Grampian) to Raigmore Hospital (NHS Highland).

The main benefits of this proposal are:

- To ensure women as far as possible in Moray have Raigmore as a choice in maternity care delivery
- To refurbish the Raigmore maternity and neonatal unit with specific features in line with the recommendations of Best Start

- To create additional capacity in recognition of direction from Scottish Government to establish safe maternity pathways in Highland for Moray women through recruiting staff across maternity and neonatal services
- To make best use of all locally available resources
- To present additional opportunities relating to the continuous improvement of maternity and neonatal services for the service user and service providers
- To enhance the maternity and neonatal pathways between Moray and Highland

2 Strategic Case

2.1 Project Context

Delivering healthcare in a sparsely populated environment, special considerations are made in every decision to ensure equitable access to care for all patient groups (NHS Highland 2019). The population of Highland is approximately 235,500, which is an increase of 12.7% from 208,850 in 1998. The population of Moray is approximately 95,700 which is an increase of 10.3% from 86,800 in 1998. Whilst the Highland and Moray populations have increased over the last two decades, the population for Moray is expected to decrease 0.7% while the population for Highland is expected to remain stabilised over the next 10 years. The elements of population declines for Moray are due to overall decreases for individuals of reproductive age (16 – 44 years of age) as well as a declining birth rate. In Highland, the number of births per year is expected to remain stabilised over the next 10 years. In Moray, however, the number of births is expected to stabilise over the next 10 years.

NHS Highland is, geographically, the largest health board in the United Kingdom. NHS Highland's geographical area ranges from rapidly expanding urban environments, to remote and rural island/mainland communities. Nearly 60% of Highland's population live in areas that would be considered remote/rural.

Providing maternity services in rural areas presents many challenges. The planning, co-ordination and delivery of NHS Highland's maternity care services are community- and acute-based to ensure that women and families have access to safe, equitable services as close to home as possible.

Raigmore Hospital (which is covered by this proposal) delivers maternity and neonatal services through consultant and midwifery led MDT while also possessing a maternity and neonatal unit. In addition, there are 7 community teams and 3 community midwifery units (CMUs) designed to deliver care to women and families across the Highland areas. Raigmore Hospital serves as the main maternity unit with several community teams interacting via a hub and spoke model. NHS Highland maternity care locations are as follows:

- Raigmore Hospital
  - Sutherland Maternity Team, Wester Ross Maternity Team, Alness-Invergordon-Tain Community Team, Dingwall-Black Isle-Beauly Team, Nairn Community Team, Aviemore Maternity Team and 3 community teams in Inverness report Raigmore Hospital as their base.
- Caithness CMU
- Ft. William CMU
- Skye & Localsh CMU

In the development of this business case, and in planning improvements within Highland maternity and neonatal services, two years of formal complaints were reviewed in relation to maternity, neonatal, obstetrics and paediatric services. The following key themes were identified in the review of complaints:

- Occurrences where communication from staff to patients deemed unsatisfactory;
- Physical environment not up to the standards patients were expecting;
- Delays in receiving infant feeding support;
- Partners unable to attend antenatal screening appointments due to COVID-19 infection control measures in place;
- The patients self-reporting experiencing trauma as a result of birth plan not being followed;
- Risk of maintaining continuity of carer for women based in Caithness who, due to their risk presentation, need to deliver in Raigmore.

As a result of COVID-19, NHS Highland currently faces significant financial pressures in delivering services and remobilising service delivery. In addition, recruitment of maternity and neonatal-based staff entails a level of risk due to available skill mix required to deliver the expected level of services. In acknowledgement of the risks to service delivery aforementioned, NHS Highland has developed a five-year strategy, Together We Care, to take a whole-systems approach to:

- Delivering the best possible health and care outcomes for our population;
- Planning and attracting a sustainable workforce and supporting colleagues to nurture their careers whilst also listening to and learning from their experiences in developing future plans;
- Working in partnership with our stakeholders to transform and integrate health and care through continuous quality improvement practices.

As part of the development of the Together We Care strategy, NHS Highland held 45 engagement sessions with members of the public, the NHS Highland workforce, and community 3rd sector organisations and stakeholders to allow members of the Highland population to actively provide their views on what matters most to them. In addition, 1,700 survey responses were received, which allowed insight as to where strategic priority should be given over the next five years. Drawing on the results from the Together We Care survey and the feedback received at the internal and external engagement sessions, improving maternity and neonatal services was deemed by the Board to be progressed as a strategic improvement opportunity. Table 1 demonstrates the strategic need for improvement in maternity and neonatal services through sampling maternity-related quotes obtained through the Together We Care engagement activities and survey.

Table 1: Maternity Themes Obtained through Together We Care Engagement

Maternity-Related Quote	Details of respondent
"As a midwife maternity services are lacking way behind other areas in women's choice. Women's services are often undervalued and underinvested in. Women deserve a welcoming place to birth their babies where the family unit is supported. We have a crisis with a shortage of midwives so need to retain everyone that we train and encourage midwives to stay with good development opportunities, training and learning and making their job manageable."	NHSH employee East Ross
"Improved and safe guarding maternity services, midwives who are passionate about women giving birth at home or in their locality."	Member of public Caithness
"Maternity and early childhood care- from my experience it seems whilst staff are brilliant they are overworked, with not enough time to spend on the 'care' part of the role."	Member of public Lochaber
"In highland, maternity and woman's health in rural area needs significant development."	Member of public Inverness-shire
"There needs to be more midwives available to offer evidence based support to new mums in their most vulnerable time."	NHSH employee Inverness-shire
"Key priorities should be maternity women and child health with a rainbow service incorporating all services and personnel under one umbrella"	NHSH employee Ross-Shire

“Joined up approach to maternity services in Caithness”	Partner / Community Caithness
“Children and families starting with more support for first time mothers before and after birth leading to happier childhoods and less mental health issues.”	Member of public Inverness-shire
“Distance maternity patients have to travel for routine appointments not available locally, problematic with weather road conditions, safety and time element. It is a long way from far north to Raigmore if there are any adverse weather/road conditions as well as family/economic situations. Is any thought given to those of us with no family/transport/finance assistance to travel all that way.”	Member of public Caithness
“NHS Highland has the opportunity to demonstrate how there doesn't need to be health board silos and can lead the way with their maternity services opening up choice and support to the women of Moray.”	Member of public Nairn-shire

2.2 National Strategic Direction through Implementation of Best Start

Best Start sets the national strategic aim for improving access to safe, high quality, equitable maternity and neonatal care across all health boards in Scotland. Best Start has the following 6 guiding principles at the core of its strategic recommendations:

- Family-centred, safe and compassionate approach to, recognising unique circumstances and preferences
- Fathers, partners and other family members are actively encouraged and supported to become an integral part of all aspects of maternal and new-born care
- Continuity of care and carer, across the whole maternity journey, with vulnerable families being offered any additional tailored support they may require
- Services are redesigned using the best available evidence, to ensure optimal outcomes and sustainability, and maximise the opportunity to support normal birth processes and avoid unnecessary complications
- Staff are empathetic, skilled and well supported to deliver high quality safe services, every time
- Multi-professional team working is the norm with an open and honest team culture, with everyone’s contribution being equally valued.

NHS Highland was an early adopter of Best Start, however the impact of the COVID-19 pandemic stalled substantial progress from being made on implementing Best Start recommendations from March 2020 – April 2022. From April 2022, the Best Start project has been relaunched and complimented by the strategic direction and planned deliverables of NHS Highland’s Together We Care Strategy. At present, there are a number of risks that may affect the pace of delivering the Highland-selected Best Start recommendations, including current shortage of midwifery and medical workforce, sustaining CMU model given the relatively high number of vacancies within community midwifery, lack of suitable parent accommodation at Raigmore and shortage of overall clinical capacity required to take work forward.

The original timeframe for Best Start implementation envisaged a five-year implementation timeline, ending in 2022. However, because health boards prioritised the COVID-19 response over the last 2 years, the Scottish Government has allowed for a two-year extension to the implementation period of Best Start. In acknowledgement of this extension period, the Best Start Implementation Programme Board agreed the following priorities for health board delivery:

- Planning: Develop and submit Best Start Implementation Plans to implement 28 Best Start recommendations for local delivery by 31st August 2022.

- Reporting: Submit Best Start data to the SG across a suite of 28 local recommendations by 31st October 2022 and then again semi-annually.
- Continuity of Carer: Continue roll out of continuity of carer, with particular focus on women and families experiencing social complexity and/or women with poorer maternity outcomes (including black, Asian and minority ethnic women).
- SAER: Implement new Significant Adverse Event guidance (2021) and report progress.

In order to adhere to the recommendations outlined within Best Start, additional staffing is required to safely support Moray women who choose to access maternity services from Raigmore. The provision of additional activity will support the 6 guiding principles of Best Start and further solidify a sustainable and safely staffed maternity and neonatal workforce, family-centred services and create opportunities to ensure maternity and neonatal care providers receive the appropriate training required to enable them to empathetically treat patients with dignity, fairness and respect. Additionally, the design of the available space within the Raigmore maternity and neonatal units must be refreshed to support the clinical delivery in line with Best Start ambitions.

At the moment, Raigmore does not have designated space for transitional care. In addition, the bed and patient flow system in the current maternity and neonatal unit does not support individual patient factors (e.g. a bereaving mother will be ward-situated adjacent to a mother who has a healthy new-born). The capital proposal as outlined in this business case will mitigate the inhibitors to the delivery of the Best Start principles through refurbishing an existing ward in line with Best Start strategic direction. The refurbishment of the maternity unit will support and facilitate patient-centred, individualised care delivery through the proposed refurbishments.

2.3 Current Arrangements

2.3.1 Raigmore Maternity and Neonatal Service Details

Raigmore Hospital is the only acute-district hospital that is based within the NHS Highland health board. Raigmore Hospital consists of 8 floors which house an emergency department, teaching facilities, a designated outpatient department, an intensive care unit, theatre suite, and several units in relation to treatment specialties. Only the services as they relate to this specific proposal are described. The maternity unit at Raigmore Hospital currently consists of:

- An obstetric theatre with access to a second theatre when required
- 6 birthing areas within a labour suite
- A level-2 neonatal unit containing 14 cots for intensive care, high dependency and special care needs
- 2 wards that accept obstetric patients
- Antenatal outpatient clinics
- Antenatal scanning facilities

Antenatal and Postnatal Beds

The bed and patient flow system in the current maternity and neonatal unit does not support individual patient considerations (e.g. a bereaving mother will be situated adjacent to a mother who has a healthy new-born). The capital proposal as outlined in this business case will address these inhibitors through ensuring patient-centred care is the core of the refurbishments as outlined in this proposal. In addition, the service would ideally be able to separate antenatal and postnatal women during their admissions. Further work is to be pursued by the NHS Highland Maternity & Neonatal Programme exploring aligning capacity through demand and understanding how skill-mix within services can be leveraged at maximum capability.

Furthermore, the establishment of an additional CMU (location to be strategically assessed as outlined in the Executive Summary) will mitigate the issues aforementioned in relation to patient flow by releasing a portion of low-risk demand currently being treated at Raigmore into the community midwifery unit once built and safe care pathways have been established.

High Dependency Admission Area

It should also be noted that maternity services currently use a four-bed high dependency **area** (not a high dependency **unit)** and occasionally high-risk women may require transfer to the ITU / high dependency area, some distance away from their baby.

As an early adopter for Best Start NHS Highland needs to follow guidance on room sizes and bed spacing, which are currently below the recommendations. As part of the capital proposal within this business case, spacing and room sizes will be addressed to facilitate compliance with the associated guidance.

2.4 Joint Implementation Plan with NHS Grampian

“Model 4” is described as a Moray Networked Model and includes a Community Maternity Unit (midwife-led) in Dr. Gray's Hospital, with access to consultant intrapartum care in Raigmore or Aberdeen, depending on the woman’s preferences. This would see an increase in the proportion of births taking place in Raigmore which is geographically closer to home for a percentage of women in Moray. Emergency and urgent transfers would also go to Raigmore. It is expected that the CMU in Dr. Gray’s Hospital would be able to deliver approximately 20% of babies in Moray (all of which would be "low risk"), and potentially an additional 20% with the repatriation of women having elective caesarean sections.

The establishment of safe maternity and neonatal care pathways will be operational across Grampian and Highland by December 2023 assuming the identified Highland-specific risks outlined in section 2.6.2.2 can be fully mitigated.

Area of Maternity Care	What we have now	What we will have	What needs to change	When it will be completed
Choice of Place of Birth	Women in Moray can choose between • Midwife-Led birth in Dr Gray's Hospital • Midwife Led birth in Aberdeen Maternity Hospital • Consultant – Led birth in Aberdeen Maternity Hospital • Home birth	Women in Moray will be able to choose between • Midwife-Led birth in Dr Gray's Hospital • Midwife Led birth in Aberdeen Maternity Hospital • Midwife – Led birth in Raigmore Hospital • Consultant – Led birth in Aberdeen Maternity Hospital • Consultant – Led birth in Raigmore Hospital • Home birth	• Upgraded and new facilities in Raigmore Hospital will make sure the hospital has the capacity for women who choose to give birth in Raigmore Hospital. • Recruit additional staff in Raigmore Hospital to delivery clinically safe, quality services	December 2023
Antenatal Care - Planned and Unplanned	• Antenatal care that is delivered mainly by Midwives, but supported by consultants in Dr Gray's Hospital and Aberdeen Maternity Hospital. • Maternity Triage 24 hours a day delivered by Midwives supported by on call obstetrician for emergencies • Antenatal Day Assessment services supported by obstetricians	• Antenatal care that is delivered mainly by Midwives, but supported by consultants in Dr Gray's Hospital, Aberdeen Maternity Hospital and Raigmore Hospital as close to home as possible • Maternity Triage 24 hours a day delivered by Midwives • Care closer to home in Moray for women who require input from a Fetal Medicine Specialist. • Expanded Antenatal Day Assessment supported by obstetricians. • Reduced travel to Aberdeen for antenatal care	• Scope flexibility of existing workforce to deliver antenatal care as close to home as possible in a networked model • Develop the Fetal Medicine service in Dr Gray's Hospital • Scope expansions to the antenatal day assessment provision	December 2023 Scoping complete Autumn 2022 Scoping complete Autumn 2022
Midwife-Led Births	• Midwife-Led births in Dr Gray's Hospital - A hybrid model	• Midwife –Led births in Dr Gray's Hospital – a nationally	Continue to ensure that women have all the information they need to make	Already in place

	where women with intrapartum complications transferring to either Raigmore Hospital or Aberdeen Maternity Hospital depending on clinical indication and availability with contingency emergency support from local consultants.	recognised, evidence based Midwife – Led model of care where all women with intrapartum complications transfer to the agreed consultant unit in Aberdeen Maternity Hospital or Raigmore Hospital. • Tertiary support will also be available in Aberdeen Maternity Hospital if required.	informed choices about their place of birth.	
Consultant-Led Births	Consultant-Led births in Aberdeen Maternity Hospital	Choice of o Consultant Led births in Aberdeen Maternity Hospital o Consultant Led births in Raigmore Hospital	• Recruit additional staff in Raigmore Hospital to accommodate the extra births. • Provide high quality information to women which supports informed choice.	December 2023 Already in place
Elective Caesarean Sections	Women from Moray can choose to have an elective caesarean section in Aberdeen Maternity Hospital	Women from Moray can choose to have an elective caesarean section in • Aberdeen Maternity Hospital • Dr Gray's Hospital	• Develop the physical and clinical staffing infrastructure in Dr Gray's Hospital to provide elective sections as a safe option • Consider a pathway that offers the options for women of Moray to have elective sections within Raigmore Hospital in the future	The timeframe for establishing safe maternity pathways for Moray women is not sufficient for the level of development. This will be offered as part of Model 6. December 2023

The key risks to establishing safe and sustainable maternity and neonatal pathways for Moray women and their families within NHS Highland can be found in section 2.6.2.2, but these can be summarised as:

1. Delays with receiving the funding needed to support the recruitment of additional staff and refurbishment planned to take place in Raigmore.
2. Delays in recruiting the additional staff required to make the current maternity and neonatal service within Highland robust and sustainable in order to equitably and safely treat Highland patients.
3. Delays in recruiting the additional staff required as part of implementing shared maternity pathways between NHS Highland and NHS Grampian.
4. The decant process within Raigmore may be time challenged due to other system pressures which could affect the pace of the planned maternity and neonatal unit refurbishments.
5. Construction resources required for the maternity and neonatal unit refurbishments may be difficult to source due to challenges experienced as a result of Brexit and supply chain issues.

2.5 Patient Pathways in NHS Highland

Women using maternity services are currently identified as being on either a high risk (consultant-led care) or low risk (midwife-led care) pathway, following triage at their booking appointment with a midwife against agreed criteria.

Discussion with all women is facilitated throughout the course of their pregnancy to enable them to make decisions regarding care and birth preferences, including place of birth. The pathway for maternity care requires women to have continuous risk assessment throughout their pregnancy, labour and the postnatal period taking into account that risk status is dynamic and may change over time. It is anticipated that women may move between low-risk and high-risk, in both directions, as a result of clinical recommendation or other factors. A change in risk from low- to high-risk at any stage in pregnancy may result in a woman who had planned to deliver in a community midwifery unit (CMU) to instead deliver in Raigmore Hospital.

2.5.1 Antenatal Care

Community-based midwives are responsible for booking women. At the first booking appointment, an initial risk assessment is completed by the community midwife, and subsequently graded as high risk or low risk depending on the criteria and risk presentation at the time of booking. It is assumed that women classed as low risk would not go to Raigmore Hospital to deliver; instead, they would intend to deliver at the respective CMU. Women typically have 8-10 appointments with their primary midwife during their pregnancy. It is to be noted that some women may need more or might have appointments with other members of their healthcare team depending on level of risk. Women who are deemed as high risk are assumed to be booked to deliver in Raigmore. It is to be noted that once a low-risk woman changes to high-risk, her birth plan will be amended to have Raigmore Hospital as the intended location of delivery. Depending on level of high risk, the clinical judgement would be made with regards to how often they are seen with an appointment. Low risk women are dealt with via the respective community team and can be referred to Raigmore Hospital at any point in their pregnancy should they require. All women who are accessing NHS Highland maternity services can use the Badgernet app to view their test results, view their maternity notes, their birth plan, and how to get in touch with their maternity unit/primary midwife.

2.5.2 Intrapartum Care

As part of implementing Best Start, continuity of carer is always striven for with regards to delivering antenatal, intrapartum and postnatal care to women, however there may be clinical incidences during labour where continuity of carer is not possible due to a sudden change in risk (e.g. a low-risk women changing to high-risk at the time of delivery due to labour complications). This would result in a change of primary carer for the woman during her delivery. Women who experience high risk complications while in labour in a CMU will be shifted to being on the high-risk pathway, which entails an intrapartum transfer from

the respective CMU to Raigmore where she will have consultant-led care over the remaining course of her labour.

2.5.3 Postnatal Care

Postnatal care for women who were low-risk at the time of delivery is led by their respective community midwifery team. Low risk women have access obstetric input as required. Women who were deemed high-risk at the time of delivery have postnatal care that is fulfilled by the respective community midwifery team once discharged.

2.5.4 Red Pathway Planning Assumptions for Moray Women and Families

Women on the Red Pathway will be managed in a shared care model with Community Midwives and the Obstetric services in the Acute Sector.

At the dating scan an estimated due date will be determined, and at this point the woman will be informed that home birth or birth in a midwifery led unit would not be suitable, and therefore a choice of place of birth would be offered as either Raigmore Hospital or Aberdeen Maternity Hospital.

All women will follow scanning protocol which indicates that a scan should be performed on average every 3 to 4 weeks, with few exceptions when fewer scans will be required.

2.5.5 Service Implications for Red Pathway Women

Women who are high-risk may be more likely to choose to deliver in Raigmore if they are based in the West of Moray. Women on a Red Pathway are more likely to have extra service needs. These needs are required to be assessed through clinical collaboration assessing pathways and available data.

2.6 Why is the Proposal a Good Thing?

This proposal addresses the key service changes that are required in order to create a safe, sustainable maternity and neonatal service for Highland and Moray patients. This proposal will deliver an expanded clinically led and effective maternity service model within Raigmore Hospital and will adhere to local and national strategy through providing Moray women with more choice in their birth plan. As well as aligning to strategy and direction from Scottish Government, the proposal will make better and more efficient use of the footprint of the existing maternity and neonatal space within Raigmore.

This proposal will also support the development of an integrated maternity and neonatal service delivery model between NHS Highland and NHS Grampian and facilitate the stated intention to take additional women from Moray who choose to deliver in Raigmore.

With appropriate refurbishment of the existing hospital space, acute maternity and neonatal services within NHS Highland will be better positioned to further improve existing pathways around the needs of the women thereby facilitating a better personalised care service delivery model while also supporting the needs of women and families directly through modifying the available space in accordance with patient and staff feedback.

2.6.1 Drivers for Change

The key drivers for change are:

- Current workforce and physical space arrangements are a barrier to services being integrated and co-located for Moray women
- To deliver national and local strategies and policies
- Difficulties with staff recruitment and retention
- Existing NNU facility is non-compliant with space regulations

- To respond to the direction from Scottish Government to implement a shared service delivery model for Moray women by December 2023
- To further provide equitable access for all patients, including Moray women
- To enable monitoring and oversight of performance within maternity and neonatal
- To utilise existing space within Raigmore Hospital in a meaningful, intentional way that benefits staff and patients
- To potentially improve the sustainability of NHS Highland maternity and neonatal services in the most efficient way possible
- Existing scanning suite is not fit for purpose

2.6.2 Organisational Goals

The opportunity now presented would allow NHS Highland and NHS Grampian to meet the expectations directed from the Scottish Government in implementing a linked maternity network model for intrapartum care.

NHS Highland recognises the importance of delivering safe, equitable and high quality care to for Highland and Moray women. The refurbishments planned to take place within the maternity and neonatal units within Raigmore as well as the additional workforce required to treat additional patients will benefit the organisation as described in section 2.6.2.1 below. These benefits can be summarised as:

- Continuing to deliver clinically excellent care for NHS Highland patients and for Moray women who choose to deliver in Raigmore.
- Provide services and facilities that are compliant with Best Start recommendations and other Scottish Government directives.
- Ensuring NHS Highland is the employer of choice through focusing on improving workforce culture and developing a recruitment and retention strategy in the context of maternity and neonatal.
- Person-centred care remains the primary aim of service delivery.
- Services are evidenced to be sustainable and high quality through enhanced monitoring of performance metrics and utilisation of benchmarking comparator data from other boards.

2.6.2.1 Investment Objectives

Investment objectives will be achieved over two elements of this programme of work:

I) Additional Workforce Requirements to Support Additional Patients from Moray: Funding is required to enable recruitment opportunities for additional staff as part of enabling Moray women to access to safe, sustainable services within NHS Highland.
II) Refurbishment of Existing Maternity & Neonatal Units within Raigmore Hospital: Reconfiguration of maternity and neonatal unit to comply with strategic direction from Best Start and to support additional patients expected to be received from Moray.

It is proposed that the two investment opportunities entailed within this programme of work as aforementioned will be realised and beneficial as follows:

Additional Workforce Requirements to Support Additional Patients from Moray

- Create capacity for establishing safe maternity and neonatal pathways for Moray women directed by the Scottish Government
- Support integrated service delivery between NHS Highland and NHS Grampian
- Enhance existing workforce through further establishing a more sustainable and robust maternity and neonatal service
- Identify quality improvement opportunities through designated maternity and neonatal analytic support

- Avoid locum costs within obstetrics and gynaecology and paediatrics through recruitment of substantive staff
- Adhere to direction and recommendations from Scottish Government in the delivery of services to maternity and neonatal patients

Refurbishment of Existing Maternity & Neonatal Unit within Raigmore Hospital

- Significantly improve the use of existing NHS Highland facilities through refurbishment of Raigmore maternity and neonatal units in line with current local and national policy and guidance.
- Significantly enhance the suitability of patient accommodation within Raigmore maternity and neonatal units.
- Addition of 2 neonatal unit cots.
- Opportunity to adhere to national strategic direction through creating additional functionality and efficiency of existing space (e.g. Best Start & transitional care bed space and implications for designated space to train staff).
- Opportunity to create usable, multipurpose space to be able to support operational and strategic direction.

2.6.2.2 Risks

The Maternity and Neonatal Programme Board overseeing the development of the business case considered risks associated with the additional workforce and refurbishment being proposed.

- Delays in business case approval process resulting in lost time to enable recruitment and refurbishment work to take place.
- If additional workforce required is unable to be funded, this would result in increased pressure and further capacity constraints within the neonatal unit, ward 9, ward 10, labour suite and high dependency area which may present a risk to service delivery and quality of care.
- There is a risk that the decant has the potential to limit the number of beds at Raigmore, which is already under pressure. This could potentially further induce strain on NHS Highland having enough beds to deliver the activity in the remobilisation plan submitted to the Government.
- Recruitment of medical and midwifery staff in NHS Highland across a range of disciplines may not happen as quickly as the service requires due to competing organisational priorities or external factors.
- Sharing patient clinical information in a digital and timely manner to the same quality standards may be a risk. Interoperability links between the Dr Gray's Hospital and Raigmore Hospital Badgernet systems need to be made.
- Lack of suitable facilities to take additional maternity and neonatal caseload that is in line with national policy and strategy.

It is noted that most if not all of these risks can be mitigated with a detailed risk register attached within the appendix.

Delivery of the identified objectives and monitoring/mitigation/elimination of all risks will be a critical element of transferring a portion maternity and neonatal activity from NHS Grampian to NHS Highland. Performance against the benefits, and escalation of identified risks and presentation of newly identified risks (where applicable) will be monitored at the Maternity and Neonatal Programme Board meetings which take place fortnightly and comprise clinical, non-clinical and executive membership. The architecture and governance/accountability structures of this Programme Board can be found subsequently in this proposal.

2.6.2.3 Constraints & Dependencies

As with most redesign of service of this nature, there are constraints and dependencies which will also inform the way forward.

Constraints

- Utilising an existing building to carry out facility upgrades is constraining architecturally.
- No alternative sites or patient accommodation opportunities have been identified.
- Uncertainty regarding when funding from Scottish Government will be available to enable recruitment plans with associated timescales.
- There may be limited capital monies available to deliver in the timescale required.
- There is no under-croft or column below the ground floor, which eliminates cost effective and expedient alteration to services
- The Maternity Block is bounded on north, south and west sides by emergency fire access roads, with a modular theatre and Main Theatre Suite extension (with Maternity offices on ground floor) to the east.
- All principal hospital underground services run parallel to the west elevation.
- Extending the current Maternity Block footprint is not possible as a result of the above referenced obstacles, leaving only the north west elevation as a potential location to increase physical floor area, with support structure spanning the underground services.

Dependencies

- The business case is dependent on women in Moray choosing Raigmore as their delivery location.
- Service users and staff will need to be supportive of the expected increase in activity and the planned refurbishments in Raigmore Hospital.
- Raigmore Hospital requires additional staffing provision to be able to cope with the expected increase in activity within Raigmore. This additionality of staffing requirement is currently not funded.
- To enable the any significant refurbishment of the current Maternity Block accommodation, the decant of current services out of the Maternity Block is necessary.
- The central, first floor location of the Obstetric Theatre is the most convenient position, as it has the closest link to the Labour Suite, neonatal unit and the main Theatre Suite.

3a Economic Case: Workforce

3a.1 Maternity & Neonatal Workforce Summary

The current workforce profile within the context of delivering maternity and neonatal services is mixed in demographics, contract type and skill. The current level of staffing within maternity and neonatal services in acute maternity and neonatal services currently lacks the necessary robustness to be able to cope with additional caseload as part of establishing safe maternity pathways for Moray women. To further enable the services to deliver clinically excellent, sustainable, cost effective and equitable care, additional staffing is required within the following service areas in the context of maternity and neonatal:

- Obstetrics & Gynaecology
- Neonatology & Paediatrics
- Midwifery & Nursing
- Domestics, Porters & Catering
- Pharmacy
- Administrative Support
- Radiology
- EHealth & Analytic Support
- Allied Health Professionals
- Medical Physics

3a.2 Additional Workforce Requirements to Support Additional Patients from Moray

Workforce modelling consultancy activities and discussions have been undertaken across all service groups that have a professional stake in the delivery of maternity and neonatal services. The purpose of the workforce modelling consultancy activities was to understand from the service leads what the workforce requirements would be to support the additional families who will be cared for at Raigmore Hospital as part of establishing safe maternity pathways for Moray women. The following additional workforce requirements to cope with the expected level of demand, as detailed in the planning assumptions, can be found through section 3a.2.1 - 3a.2.13.

3a.2.1 Obstetrics & Gynaecology

Obstetrics and gynaecology entails varied responsibilities that combine medicine and surgery. For low-risk patients accessing maternity services, midwives handle most of the care and uncomplicated deliveries. Obstetricians, however, deal with more complicated pregnancies and births and perform surgical and non-surgical procedures in the delivery of services.

Risk classification is guided using national frameworks, KCND. Currently in Highland, there are more women who are classified as high-risk than low-risk due to criteria in how risk is assessed (e.g. the risk threshold to be classed as “high” is relatively easy to meet). In Raigmore last year, 36% of women who delivered were classified as low-risk while 64% were classified as high-risk. This is in line with national averages for red and green pathways. The risk classification can sometimes result in additional checks/measures of assurance which require clinical time and resource in place.

Obstetricians perform c-sections as a key part of their service delivery. Approximately 380 elective c-sections per annum are conducted in Raigmore. In addition to elective c-section procedures, approximately 350 emergency c-sections are conducted in Raigmore each year. An obstetric consultant performs these procedures and the service is responsible for ensuring that the availability of obstetricians within the rota take into account planned and unplanned (emergency) care.

Emergency and urgent transfers pan-Highland would also go to Raigmore which would need the time of an obstetrician.

The obstetric and gynaecology service is not robust enough to centrally provide services to NHS Highland patients due to shortage of available staff capacity. In order to ensure the needs of Moray patients are met, the following additional staffing requirements are proposed for obstetrics and gynaecology in the context of the additional caseload expected to be received from Moray, and in order to strengthen the existing capacity within the obstetric/gynaecology team* (to address the Highland-based need):

- 3.7 WTE Obstetrics & Gynaecology Consultants
- 1.0 WTE Obstetrics & Gynaecology Specialty Grade Doctors
- 1.5 WTE Obstetrics & Gynaecology Junior Grade Doctors

*A portion of this has already been requested from NHS Highland to Scottish Government as part of RMP4 funding to support waiting lists. A detailed breakdown of the funding as it relates to this proposal can be found in section 4.1.3. The WTE requested to cover obstetrics and gynaecology within the context of this business case assumes the waiting list funding will be received.

3a.2.2 Neonatology & Paediatrics

NHS Highland had an external review of the Neonatal service and there are 2 recommendations contained in the findings of this review which have not yet been completed:

1. Increase in the number of Medical Staff
2. Increase in clinical space

There is concern in NHS Highland that additional activity into the neonatal unit cannot be accommodated without taking forward the outstanding recommendations of the review to increase the clinical space and the number of medical and nursing staff in the Unit.

NHS Highland is an early adopter Board for the Scottish Government Best Start Strategic Policy Document and, in line with this, the neonatal unit at Raigmore Hospital will require the following facilities:

- Kitchen facilities for parent
- Family accommodation
- Toilet and shower facilities for parents
- Adequate space/seating for kangaroo care
- Designated space for transitional care

In addition, other national quality of care standards define the need for an adequate isolation room, a family friendly waiting area, and additional parentcraft rooms (with gas and air and associated equipment).

The Paediatric Unit in Raigmore Hospital accepts on average 3,000 inpatients annually and 2,600 children are seen through the day-case unit. Approximately 80 babies per year are readmitted to paediatrics as they develop of jaundice or feeding problems following discharged from maternity services. This business case assumes that any paediatric readmissions for feeding problems / jaundice (estimated 21 babies) will be managed by the Paediatric Service in NHS Grampian.

The working assumptions of the general paediatric service of the increase on the neonatal unit are as follows:

- Re-admissions of Moray babies for jaundice/ feeding problems will take place within NHS Grampian;
- Babies born in Moray but requiring retrieval:
    - These babies can be admitted to Raigmore Neonatal Unit if we have the cot space and we can provide intensity of care required;
    - Moray babies who have been cared for in a tertiary centre can be transferred to us if we have the cot space available;
- Follow up arrangements for Moray babies born in Raigmore Hospital: all paediatric follow up needs to take place within NHS Grampian, this includes:
    - Performance of radiology and any other investigations (e.g. bloods). This also involves follow up of results;
    - Involvement of NHS Grampian paediatricians in discharge planning of complex patients (e.g. babies going home on oxygen). NHS Highland expect the arrangements for this will be put in place by NHS Grampian paediatricians;
    - Community liaison service;
    - Outpatient follow up:
        - General paediatrics;
        - Neonatal follow up clinic;
        - Community paediatric follow up.

It is estimated that activity will increase by 15%, although precise data on this is unavailable in NHS Highland and a step change in staffing will be required. The associated increases in staffing, to meet British Association of Perinatal Medicine guidelines, might be able to be implemented on a step change basis to aid recruitment difficulties in the North of Scotland.

To meet the care needs of the additional expected caseload from Moray and to ensure NHS Highland safe staffing levels are met would call for an increase* in:

- 5.5 WTE Band 5 Neonatal Nurses
- 3.1 WTE Specialty Doctors
- 4.0 WTE Junior Grade Paediatric Doctors

*A portion of this has already been requested from NHS Highland to Scottish Government as part of funding to support safe staffing provision of neonates in acknowledgement of BAPM 2 requirements. A

detailed breakdown of the funding as it relates to this proposal can be found in section 4.1.3. The WTE requested to cover the paediatrics within the context of this business case assumes the BAPM 2 funding will be received.

Equipment for NNU

More equipment would be required (e.g. monitors, cots, etc.).

Babies On Postnatal Ward Who Require Antibiotics

With an additional 190 deliveries in Raigmore Hospital it is assumed that an additional 18-20 babies will go through Raigmore's neonatal unit for antibiotic treatment per year. Additional resource and facility is required to meet the needs of the antibiotic treatment.

Outpatients Following Discharge From NNU

Outpatient checks following discharge from Raigmore are assumed to take place by paediatricians in Moray.

Neonatal Community Liaison Service

NHS Highland have 11.5 hours per week to provide a neo-natal community liaison service, to visit babies discharged from the unit into the community. They previously have never extended this service to women out with NHS Highland and it is assumed that this service will be provided by NHS Grampian for the Moray women as there is not sufficient capacity to provide a service to Moray from this limited resource. This is also in line with ensuring that most of the ante-natal care is continued to be provided in Moray.

3a.2.3 Midwifery & Nursing

Midwives provide support to women before, during and after childbirth, making sure babies receive the care they need at the earliest stages of life. Midwives are experts in childbirth, and the role of a midwife can be demanding and carry a high level of responsibility.

The midwifery specialty within NHS Highland utilises a Safer Staffing Workforce Tool. The limitation of utilising this tool is that it can only be run and calculated on known activity and acuity. Therefore, the planning assumptions when calculating the additional midwifery workforce need as part of creating safe maternity pathways for Moray women have been calculated using the crude percentage of workforce required based on the expected increased activity (190 additional patients from Moray). This completion of rota would mean the number of midwives needed to cover the labour suite over a 24-hour period and day shift in Ward 9a and 10, calculated on a 12-hour shift rota and an estimation of anticipated acuity. Additional cover for obstetric scanning has been included for potential for cranial scans for neonates.

Intrapartum transfers to Raigmore will require consultant-led care and have an increased chance of requiring augmentation of labour, epidural analgesia and assisted delivery. This higher acuity would have the potential for requiring 1:1 or 1.5:1 care from midwives.

Risk in pregnancy and labour is dynamic and the initial assessment for midwifery led care can change by the end of the pregnancy. The current induction of labour rates of 40% would mean an extra 76 induction of labour episodes with a potential increased uptake of epidural analgesia.

The additional requirement for caesarean section working on the current rate of 35% would be an additional 66 cases requiring additional midwifery care for preparation and in theatre with Maternity Care Assistant care required in the post-operative period.

The increased activity in the neonatal unit would require an additional nurse on each shift with maternity care assistant input to neonatal unit and transitional care which is calculated as part of cover for the maternity unit.

Safe levels of midwifery staffing requirements to meet the additional expected caseload from Moray would call for an increase in:

- 0.2 WTE Band 7 Obstetric/Midwife Sonographer
- 10.9 WTE Band 6 Midwives
- 6.7 WTE Band 4 Maternity Care Assistants (Working Across Maternity and Neonatal Services)
- 1.2 WTE Band 2 Healthcare Support Workers

The workforce tool will be run regularly to ensure safe staffing levels are maintained in order to provide clinically excellent, high-quality care.

Rather than placing the new, proposed midwives requested within this proposal within a designated ward / maternity suite, the recommendation from NHS Highland midwifery leadership is to rotate the midwives according to planned and unplanned activity. This will further contribute to an environment that works using a whole-system healthcare delivery approach rather than discrete wards operating in silos. This approach will further strengthen the continuity of carer arrangements already in place within NHS Highland.

3a.2.4 Anaesthetics & Theatres

a) Anaesthetic Assessment

Raigmore Hospital routinely (once a month) offers a pre-operative anaesthetic assessment for women identified for elective Caesarean section or who have a complex clinical history. It is assumed Moray women will access this clinic assessment.

b) Epidural Service

The anaesthetic team in Raigmore Hospital provides an epidural service 24/7 and the epidural rate is currently 21%. It is anticipated that this number will increase as a result of taking on 190 more deliveries from Moray.

c) Increased Theatre Provision

It has been agreed that further access to theatres will be required for approximately 20-25 hours a week – anticipated to be 8am-1pm each day, rather than a 2nd obstetric theatre being provided. This would mean there would be an extra in general theatre for these hours to cover the elective sessions, freeing up theatre 11 for emergency work. This negates the need for a second obstetric theatre.

To effectively offer NHS Highland theatre services to Moray patients as part of establishing safe pathways of care for this population, it is proposed that the budget used to purchase theatre stock for obstetric activity is increased by £4,185. Additional staffing and theatre provision to service the additional activity from Moray will not be required.

3a.2.5 Domestics, Porters & Catering Services

As a result of taking additional women from Moray, NHS Highland is expecting the level of medical waste within the maternity and neonatal units in Raigmore Hospital to increase by at least 10% in line with the expected additional activity. A full review of the portering and domestic service was conducted, and it was deemed that 1.0 WTE band 2 porter will be required to cope with the expected level of medical waste.

3a.2.6 Pharmacy Services

Pharmacy Services are mainly involved in care for these women / babies during any hospital admission, and after the birth of the baby whether this is looking after the mother and/or baby directly. The drug spend

budget for Raigmore Maternity & Neonatal is to be uplifted by 10% in line with increased activity. In addition, and to further support the increase in pharmaceutical activity in Raigmore, 0.4 WTE Band 7 pharmacist and 0.5 WTE Band 3 Pharmacy Support Worker are being proposed within this business case. Their role would be to support the existing pharmacy staff already in place through the following:

- Obstetric wards and the neonatal unit would require additional drug top-ups to their ward stock during the week. This is currently undertaken once weekly by a Pharmacy Assistant. This will need to increase to twice weekly to ensure drug stock is available on the wards for these women / babies.

- Medicines are often regularly supplied to Obstetrics using patient supply packs where medicines are packaged within pharmacy into suitable pack sizes and pre-labelled for use at patient discharge. The increase in use of these patient supply packs would involve more work within the Pharmacy Pre-Packing Unit and increase the volume of medicines labelled at any one time.

- Neonatal total parenteral nutrition numbers will rise if Moray babies 28 weeks to 32 weeks are admitted to the neonatal unit and therefore likely to result in an increase of approximately 19 babies per annum that may need complex prescriptions. Additional staff resource would be required within the Pharmacy Aseptic Unit to ensure this work can be processed/undertaken. The current labelling system for neonatal TPN prescriptions requires to be upgraded as it is out of date and therefore the purchase of a new TPN labeller will become essential if the workload increases.

- Medicine Information enquiries may rise for investigating safety of drugs in pregnancy and breastfeeding. This is currently provided by the Medicine Information Service in NHS Grampian, but would transfer to NHS Highland.

- Clinical Pharmacists currently review all babies within the neonatal unit and cover complex Obstetric patients. An increase in time will be required for these Pharmacists to address clinical issues and follow up enquiries. Currently we have 1.6WTE Pharmacists working across Obstetrics, the neonatal unit and the Children's Ward. This additional work will require Raigmore Hospital's Woman and Child pharmacist staffing to be increased to 0.4 WTE band 7 pharmacist.

- Increased Dispensary workload for any discharge prescriptions.

3a.2.7 Administrative Support Services

Administrative Staff will be required to support the clinical increase in activity in obstetrics, the neonatal unit, medical paediatrics and maternity at Raigmore Hospital:

- Obstetrics & Gynaecology:
  - 3.0 WTE Band 4 Administrative Staff
- Paediatrics/Neonatology:
  - 2.0 WTE Band 4 Administrative Staff

3a.2.8 Radiology Services

It is estimated that 1 cranial ultrasound per week will be required to be provided by the Sonographer at Raigmore Hospital and will be reported by a Consultant Radiologist. The ultrasound department in Raigmore Hospital could not manage the increase workload if full activity is transferred.

In addition to additional activity, and within the context of neonatology, the radiology service at NHS Highland has agreed to train an extra 2 sonographers to conduct ultrasounds on the heads of neonates. Protected time to train will be required to ensure the sonographers receive the training required to support

the additional caseload from Moray. Additional consultant clinic time of 0.5 session per week will be required to facilitate neonatal ultrasound training as agreed by NHS Highland radiology services.

3a.2.9 Analytic & eHealth Support

NHS Highland implemented Badgernet Electronic Maternity Record in May 2020. The advantage of this component of digital transformation was to enable data collection and data sharing between care providers to support the ongoing improvements in patient safety and quality of care. Badgernet is a full end-to-end paper-light electronic maternity record system. It allows real-time recording of all events wherever they occur: in the hospital, community, or home. This includes events from women that are on high risk and low risk pregnancy pathways. All events recorded are available to any clinician (with appropriate access) wherever they are based.

Currently there is limited functionality within Badgernet to support regular monitoring and reporting. The activity reports produced from Badgernet currently are manually and tediously extracted resulting in a labour-intensive process which relies on a single-person system. NHS Grampian have worked with Clevermed (the suppliers of Badgernet) to create an interface to the data tables in the background of Badgernet to facilitate BOXI reporting. A solution is required to produce data to monitor relevant intelligence in the context of establishing safe pathways of maternity and neonatal care for Moray women and their families which will further compliment NHS Grampian surveillance.

Currently, NHS Highland does not have an automated reporting mechanism in place to enable the active, live monitoring of NHS Highland or Moray maternity and neonatal patients. Ideally, reporting metrics, utilising the same data field specification that NHS Grampian have in their board reports for maternity and neonatal, would be the preferred option in ensuring that performance metrics are monitored and risk informed by available data is mitigated as part of daily management within the services.

A Maternity & Neonatal dashboard is being scoped by the NHS Highland Senior Health Analyst with support from operational areas (e.g. Badgernet Lead Midwife). Data is required from Badgernet in order to produce this dashboard, which will be used as a key platform for services to access performance metrics and aid in identifying areas of risk, trend/activity and projection modelling for maternity services. Analytical support will be required in maintaining the dashboard, link with the services with regards to data quality queries, and link directly with Clevermed to address any data queries within Badgernet. Upon consulting with the NHS Highland team, it was deemed that the following staff resource will be required to enable robust monitoring of Moray and Highland maternity and neonatal patients:

- 1.0 WTE Band 6 Badgernet Analyst

Additional resource will be required to provide a whole-systems linkage with Badgernet (specifically for CTG monitoring) between Dr Gray's and Raigmore units. In addition, these systems will need to be linked to the North of Scotland Care Portal which will enable interactive electronic communication of patient information between NHS Highland and NHS Grampian, as part of the regional strategy for eHealth. Estimate will be £150K non-recurrently with £40k recurring pa.

Additional hardware is estimated at £100k, and will include mother and baby VC units and head cameras. These will enable the operational units to operate effectively.

Further joint investigation on behalf of NHS Highland and NHS Grampian eHealth departments is required to enable a streamlined process/system of health records linkage between the two health boards (specifically for Dr. Gray's and Raigmore facilities) for maternity and neonatal patients as part of providing safe and sustainable services within Highland to Moray women.

3a.2.10 Neonatal AHP Working Arrangements with The Highland Council

AHPs provide unique specialist care within neonatal services that deliver many benefits for families. Early intervention and early detection of deficit is key to achieving the best outcomes for the high-risk population being cared for on neonatal units. Early intervention promotes better long-term outcomes and reduces the pressure on community services. Families whose babies likely would have later required multiple hospital admissions, or involvement from several community services over many years, are saved this added stress. In addition, the NHS is saved the additional cost down the line.

The Best Start, published in 2017, laid out a new model of neonatal and maternity care in Scotland. This recognised the role of AHPs within neonatal services as fundamental to effective and timely repatriation and discharge planning as well as transition to both hospital and community paediatric services.

Best Start also recognised the important contribution that an effective and highly specialist AHP service can make to improve outcomes for high-risk neonates. The report recommended (recommendation 47) that a framework for consistent and equitable speciality AHP support be provided for neonatal units. It was also recommended that a national Framework for Practice should be developed which outlines clear pathways for new-born care and supports the development of consistent and equitable specialty AHP outreach support for local neonatal units from larger units.

Through the Best Start implementation programme, Scottish Government funded a review ("Scottish Neonatal AHP Workforce Review," Hilary Cruickshank on behalf of the National Neonatal Network AHP Forum, 2022) of specialist neonatal AHP provision across Scotland to identify the level of existing provision, highlight any service gaps and develop recommendations for how these could be addressed. In line with the Scottish Neonatal AHP Workforce Review, investment will be required to develop and support AHP input to neonatal units.

These recommendations are not currently being met across all AHP and neonatal services in NHS Highland. Whilst NHS Highland currently provide funding for acute physiotherapy to the neonatal unit in Raigmore Hospital and for follow up clinics, there is no funding available for other AHP services.

The Highland Council provide Dietetic, Speech and Language Therapy (SLT) and Occupational Therapy (OT) in response to urgent need but are unable to provide ongoing support and surveillance, early intervention or prevention without additional funding support. In considering the planned refurbishment of the neonatal unit as proposed in this business case (2 additional cots), this business case includes the investment and need to support the following neonatal-AHP service inclusions in line with Scottish Government findings:

- Occupational Therapy (band 7): 0.81 WTE
- Dietetics (band 7): 0.46 WTE
- Physiotherapy (band 7): 0.81 WTE
- Speech & Language Therapy (band 7): 0.35 WTE

3a.2.11 Psychology Services

There is a neonatal psychologist within the neonatal unit that will be doing interventions perinatal mental health. NHS Highland's strategy, Together We Care, has helped develop a programme of work centred on improving the access to and quality of post pregnancy mental health care and substance use services. Continued collaboration between NHS Grampian and NHS Highland is required to determine the pathways for Moray families accessing these services postnatally.

3a.2.12 Medical Physics

The medical physics service within Raigmore and the implications of establishing safe, sustainable pathways of care to Moray women in the context of maternity and neonatal is being scoped.

3a.2.13 Corporate Services

Implementation of model 4 will rely on support from various departments within corporate services including communications and engagement, project support and administrative support. Corporate services in relation to the investment required as outlined in this standard business case will work collaboratively with Highland maternity and neonatal services to further ensure a robust, structured and rigorously planned approach in implementing model 4 is maintained.

3a.3 Indicative Costs for Proposed Revenue Investment and other Non-Pay Areas

The proposed revenue investment will cost approximately £2,953,954 excluding VAT. The proposed non-pay cost will be approximately £366,322 for year 1 excluding VAT. A detailed breakdown of these cost areas can be found in section 4.

3b Economic Case: Infrastructure

3b.1 Stakeholder Engagement

Over the course of the planning cycle associated with developing this business case and the wider Maternity and Neonatal Programme, highly attended workshops and discussions took place with stakeholders across the realm of maternity and neonatal service delivery, including midwives, consultants, operational managers and executive directors. Further engagement workshops and regular, planned, active communication with this stakeholder group has been scoped and developed into a communications and engagement plan.

In addition, ongoing discussions are taking place with NHS Highland and NHS Grampian relating to a shared communications and engagement plan to ensure that messaging regarding the updates entailed with establishing safe and sustainable maternity and neonatal care pathways for Moray women and their families are consistent and shared between the two health boards. This will be particularly important in the recognition of the Raigmore maternity and neonatal refurbishment work as proposed within this business case, and assuring NHS Highland stakeholders on the ability of meeting construction timescales.

Also included in the communications and engagement plan is a course of actions associated with collecting and using patient lived experience to inform of improvement opportunities within maternity and neonatal services. Utilising lived experience and engaging with the population directly helps make NHS Highland maternity services more visible and further informs of a qualitative and quantitative evidence-based approach of using quality improvement methodology to create more sustainable services for patients who will use NHS Highland's maternity and neonatal services in the future.

3b.2 Proposed Accommodation Schedule

refurbishing the existing Raigmore maternity and neonatal unit has been scoped over the previous 2 years in anticipation of the expected level of increased activity in Raigmore once safe and sustainable maternity and neonatal pathways for Moray women and their families have been established. Refurbishing the existing maternity and neonatal unit in Raigmore will create a more sustainable service through ensuring the refurbishments contained within this proposal meet national guidance and clinical standards as far as is practical within the physical constraints of the existing building. The overall area to be refurbished, focussing on the labour suite and Neonatal Unit, is 3000 m^2 plus a new construction addition of 300m^2 of first floor accommodation, increasing the complement to 15 compliant cot spaces within the Neonatal Unit (including isolation facilities) and 6 fully compliant birthing rooms (including isolation facilities) to accommodate the additional caseload expected to be received from Moray. This results in an estimated construction cost of £5m, excluding the cost of a number of backlog maintenance works brought forward to support the scheme, financed from internal cyclical maintenance funding from the Board.

3b.3 Do Nothing/Do Minimum & Other Options

This Option Appraisal is based on the request to investigate options to provide additional delivery/birthing rooms (and associated accommodation where applicable) to accommodate the potential for an additional 190 births per annum to take place at Raigmore Hospital (currently approximately 1,900 births take place in Raigmore on average per year).

The requirement for these additional rooms results from the displacement of low-risk births from the current Labour Suite, to accommodate the higher risk births from the Moray area. This appraisal focusses on only the birthing accommodation necessary to provide capacity within the existing Labour Suite and increase in size of the neonatal unit cost spaces to compliant dimensions and services and does not include the

additional resources that will be necessary as a result of the increased proportion of higher risk patients attending Raigmore Hospital.

The current Maternity Unit (Zone 8) was opened in 1988, and contained 3 numbered wards (8, 9 & 10), Labour Suite and Special Care Baby Unit (neonatal unit). A dedicated Operating Theatre was added within the existing Labour Suite in 2004, and a realignment of the wards occurred in 2016 to enable the Endoscopy Unit to relocate to Ward 8, leaving Ward 9 and 10 as Maternity wards, with Ward 9 physically divided into two operational areas. Associated scan rooms, outpatients and administrative accommodation is located adjacent to the Maternity building, all accessible via internal corridors.

In line with the relevant guidance, a review of a wide range of historical documents and several ongoing processes has identified the following physical refurbishment options as summarised:

1. Do nothing: the status quo
2. Conversion of the current administrative, staff changing and medical record accommodation within the ground floor, relocating the current occupants and services to alternative accommodation. Refurbishment and extension/increase in floor area of both the Labour Suite and neonatal unit
3. Conversion of Ward 9B. This option will require the relocation of the current specialties to a location to be identified, within the main Ward Block.
4. The provision of a stand-alone modular building that would accommodate the delivery suites with all associated services and accommodation.

An analysis of these options is presented in the table below:

1. Do nothing: the status quo	
Heading	**Rationale**
Description	Continue to provide maternity and neonatal services in the same way from the existing facilities layout without change.
Main Advantages	Familiarity for colleagues and historical maternity and neonatal patients.
Main Disadvantages	Missed opportunity to provide improved services and premises; Poor accommodation and use of accommodation; Not sustainable; Not considerate of national strategic recommendations; Current risks remain, identified improvement opportunities are not realised.
Conclusions	The do nothing/minimum is not a viable option. It delivers none of the organisational goals.
2. Conversion of ground floor to accommodate additional patients & refurbishment of neonatal unit and labour suite	
Heading	**Rationale**
Description	Conversion of ground floor to accommodate additional patients & refurbishment of neonatal unit and labour suite.
Main Advantages	Provides compliant neonatal cost spaces and services, compliant Birthing Rooms and Alongside Midwife Led Maternity rooms, and additional examination rooms on ground floor
Main Disadvantages	Invasive works requiring significant need to decant service.
Conclusions	Delivers cohesive accommodation with established and expedient, relevant adjacencies.
3. Conversion of Ward 9B	
Heading	**Rationale**
Description	Conversion of Ward 9B. This option will require the relocation of the current specialties to a location to be identified, within the main Ward Block.

Main Advantages	Potentially less inconvenience caused by refurbishment works
Main Disadvantages	Restricted available floor area. Prevents any likelihood of implementing other Best Start recommendations
Conclusions	Does not deliver vision to provide space that is multi-functional and adherent to strategic and government direction.
4. Stand-alone building	
Heading	**Rationale**
Description	The provision of a stand-alone modular building that would accommodate the delivery suites with all associated services and accommodation.
Main Advantages	Potentially less inconvenience caused by refurbishment works; Reduces decant requirement
Main Disadvantages	Cost and separation of services; Suitability of site and impact on underground services; High cost expected; Building timescale considered to be the longest when compared to the other options.
Conclusions	Raigmore Estate does not have the area to accommodate an additional building of the size of what would be required for a maternity and neonatal area.

3b.4 Options Appraisal

It became clear through discussions with relevant clinical and non-clinical stakeholders that only one option (option 2) should be considered for further appraisal alongside option 1 (do nothing, which is required to be considered as a basis for comparison).

Option 3 was discounted because this option offered insufficient floor space to enable construction of compliant refurbished space.

Option 4 was discounted because the long-term occupation of ground adjacent to the southwest of the Maternity Block over existing principal underground services, the impact to privacy within the existing Wards 9 & 10 and cost.

3b.5 Preferred Facilities Option in line with Increased Activity & Recognition of Strategic Service Solutions

The current preferred option is a realignment of current accommodation across the three principal areas within the current Maternity Block.

This consists of the following changes to the block on the first and ground floors:

- The extension and provision of compliant Birthing Rooms adjacent to the existing Labour Suite enables the provision of a functional Labour Suite, and to create an Alongside Unit.
- Within the neonatal unit, the realignment of existing spaces and the additional floor space resulting from the Labour Suite proposal, enable an increased number and compliant cot spaces and associated accommodation.
- Former circulation spaces and inadequate single rooms will be converted into a large 5-cot ITU unit, in addition to an upgrading of adjacent rooms and compliant isolation rooms.
- The central area between Labour Suite and neonatal unit will be rearranged to offer an improved layout with efficient preparation rooms, storage, staff bases and increased staff changing rooms to provide adequate facilities for current (and future) staff numbers.

- The neonatal unit parent overnight room accommodation will be increased with one 'in-ward' suite and one out of the ward into a self-contained unit with appropriate help-call facility.
- The two Maternity wards (Ward 10, first floor and Ward 9, ground floor) will be upgraded and realigned to provide improved, dedicated triage and pre- and postnatal wards.
- The current ground floor Central Core area occupied by a medical records area and Community Midwives' accommodation will be converted to an outpatient consulting/examination suite.
- The fire safety and compartmentation will be improved with the extension of the hospital fire sprinkler system into all these areas (completing coverage to the whole block), with fire and smoke ventilation dampers and control, in addition to building fabric improvements throughout.

Advantages and disadvantages of preferred refurbishment option

Option 2: Conversion of the current administrative, staff changing and medical record accommodation within the ground floor, relocating the current occupants and services to alternative accommodation. Refurbishment and extension/increase in floor area of both the Labour Suite and neonatal unit	
Advantages	**Disadvantages**
Increases provision and provides compliant patient areas and facilities.	Depends on appropriate decant to enable works to be carried out.
Updates 34-year-old accommodation to deliver today's healthcare services in line with current clinical and facility guidelines.	Displaces records, office and storage accommodation.
Offers multi-purpose spaces to provide patient isolation, clinical examination and staff training.	
Minimises impact on other wards, areas and surrounding features.	
Mitigates risk of taking additional activity as directed by Scottish Government.	
Enables an improved bed flow system across maternity and neonatal services.	

3b.6 Indicative Costs for Preferred Facilities Option

The construction cost for option 2 is estimated at £5m excluding VAT, professional fees, equipment and displaced staff services as previously indicated. A detailed breakdown of this cost is being developed.

4 Financial & Management Cases

4.1 Financial Case

Costs have been developed based on similar workforce-related projects for NHS Highland. The costs are indicative and will be reviewed annually to ensure budgetary compliance.

4.1.1 Revenue Costs

Indicative revenue costs are shown in the table below.

4.1.2 Disposal of Assets

There are no assets owned by NHS Highland in scope for disposal.

4.1.3 Required Investment

Area	Total Costs (£)
Workforce	2,953,954[1]
Workforce (Invergordon CMU)	700,000
Capital (Raigmore Decant and Refurbishment)	5,000,000
Non-Pay (e.g. consumables, equipment and IT)	366,322
Grand Total	**9,020,276**

- [1]This figure assumes the already-requested funding of £845,131 from Scottish Government to support obstetrics & gynaecology waiting times and paediatric safe staffing levels in recognition of BAPM 2 will be approved. This will add further robustness to the maternity services within Highland.
- This excludes monies that might be obtained from endowments and third parties in order to enhance the specification of equipment.
- These costs are presented as indicative only and will be reviewed annually.

Summary of Proposed Workforce Revenue Funding Required [1,2,3]

Department	Role	Band	Funding to Cover NHSH Safe Staffing Levels		Funding to Cover Additional Patients from Moray		Funding Requirement to cover NHSH Safe Staffing Levels and Moray Additionality*		Assumption: Funding Requested via SG is Approved		Business Case Proposal: Overall Requirement to cover NHSH Safe Staffing Levels and Moray Additionality Assuming Previously Requested Monies Approved°	
			WTE	Annual £*	WTE	Annual £*	WTE	Annual £*	WTE	Annual £*	WTE	Annual £*
Midwifery	Midwife	Band 6	0.00	0	10.90	594,012	10.90	594,012			10.90	594,012
	Neonatal Nurse	Band 5	0.00	0	5.50	260,430	5.50	260,430			5.50	260,430
	Maternity Care Assistant	Band 4	0.00	0	6.70	250,006	6.70	250,006			6.70	250,006
	Health Care Support Worker	Band 2	0.00	0	1.20	37,314	1.20	37,314			1.20	37,314
	Midwife Sonographer	Band 7	0.00	0	0.20	11,749	0.20	11,749			0.20	11,749
Obstetrics & Gynae	Consultant		3.00	365,656	1.70	207,205	4.70	572,861	1.00	121,885	3.70	450,976
	Speciality Doctors		1.30	100,283	0.70	53,998	2.00	154,281	1.00	77,140	1.00	77,140
	Junior Grade Doctors		1.50	133,706	1.00	89,137	2.50	222,843	1.00	89,137	1.50	133,706
	Admin Staff	Band 4	2.15	72,622	0.85	28,711	3.00	101,333			3.00	101,333
Paediatrics	Consultant		4.00	487,541	0.00	0	4.00	487,541	4.00	487,541	0.00	-
	Speciality Doctors		3.10	239,135	0.90	69,426	4.00	308,562	0.90	69,426	3.10	239,135
	Junior Grade Doctors		3.00	267,412	1.00	89,137	4.00	356,549			4.00	356,549
	Admin Staff	Band 4	1.00	33,778	1.00	33,778	2.00	67,555			2.00	67,555
AHPs (THC)	OT	Band 7	0.70	42,214	0.11	6,332	0.81	48,546			0.81	48,546
	Dietetics	Band 7	0.40	24,122	0.06	3,618	0.46	27,741			0.46	27,741
	Physio	Band 7	0.70	42,214	0.11	6,332	0.81	48,546			0.81	48,546
	S&L	Band 7	0.30	18,092	0.05	2,714	0.35	20,806			0.35	20,806
Radiology	Consultant		0.00	0	0.05	6,094	0.05	6,094			0.05	6,094
Pharmacy	Pharmacist	Band 7	0.00	0	0.40	24,122	0.40	24,122			0.40	24,122
	Pharmacy Support Worker	Band 3	0.45	13,245	0.05	1,471	0.50	14,716			0.50	14,716
Lab Services	N/A		0.00	0	0.00	0	0				0	0
Medical Physics			0.00	0	0.00	0	0				0	0
Porters	Porter	Band 2	0.00	0	1.00	28,022	1.00	28,022			1.00	28,022
Domestics	N/A		0.00	0	0.00	0	0	0			0	0
Decontamination	N/A		0.00	0	0.00	0	0	0			0	0
Theatre Staff	N/A		0.00	0	0.00	0	0	0			0	0
Planning and Performance	Analyst	Band 6	0.00	0	1.00	50,171	1.00	50,171			1.00	50,171
Corporate Services	Various	Various					*TBC*	120,000			*TBC*	120,000
			21.60	**1,840,020**	**34.47**	**1,853,781**	**56.07**	**3,813,800**	**7.90**	**845,131**	**47.67**	**2,968,670**

*All costs at average point of band

°The calculations used to determine the additional workforce required to cover NHSH safe staffing levels and additional patients from Moray assume the already-requested funding of £845,131 from Scottish Government to support gynaecology waiting times and paediatric safe staffing levels in recognition of BAPM 2 will be approved. This will add further robustness to the maternity and neonatal services within Highland.

- [1]This excludes monies that might be obtained from endowments and third parties in order to enhance the specification of equipment.
- [2]These costs are presented as indicative only and will be reviewed annually.

- [3]These costs are presented as recurrent costs to further enable substantial service provision.

Summary of Proposed Non-Pay Funding Required

Non Pay Funding Required			
		Year 1	Year 2
eHealth	Linkage with Badgernet	150,000	40,000
eHealth	Hardware Costs (VC units/Head Cameras)	100,000	
Neonatal Unit	Non Pay Suppllies	9,719	9,719
Maternity Unit	Non Pay Suppllies	18,582	18,582
Labour Theatre	Non Pay Suppllies	4,185	4,185
Lab Services	Tests	37,322	37,322
Pharmacy	Drugs	22,714	22,714
Catering	Trolleys		500
Corporate Services	Training	2,800	2,800
Corporate Services	Laptops	21,000	
		366,322	**135,822**

4.2 Management Case

4.2.1 Programme Governance

This programme of work, including the development of this standard business case, is governed by a Programme Board chaired by the Chief Officer of Acute, led by the Head of Strategy and Transformation and facilitated by the Maternity and Neonatal Programme Manager. Formal membership of the Programme Board also consists of the following roles within the context of maternity and neonatal services:

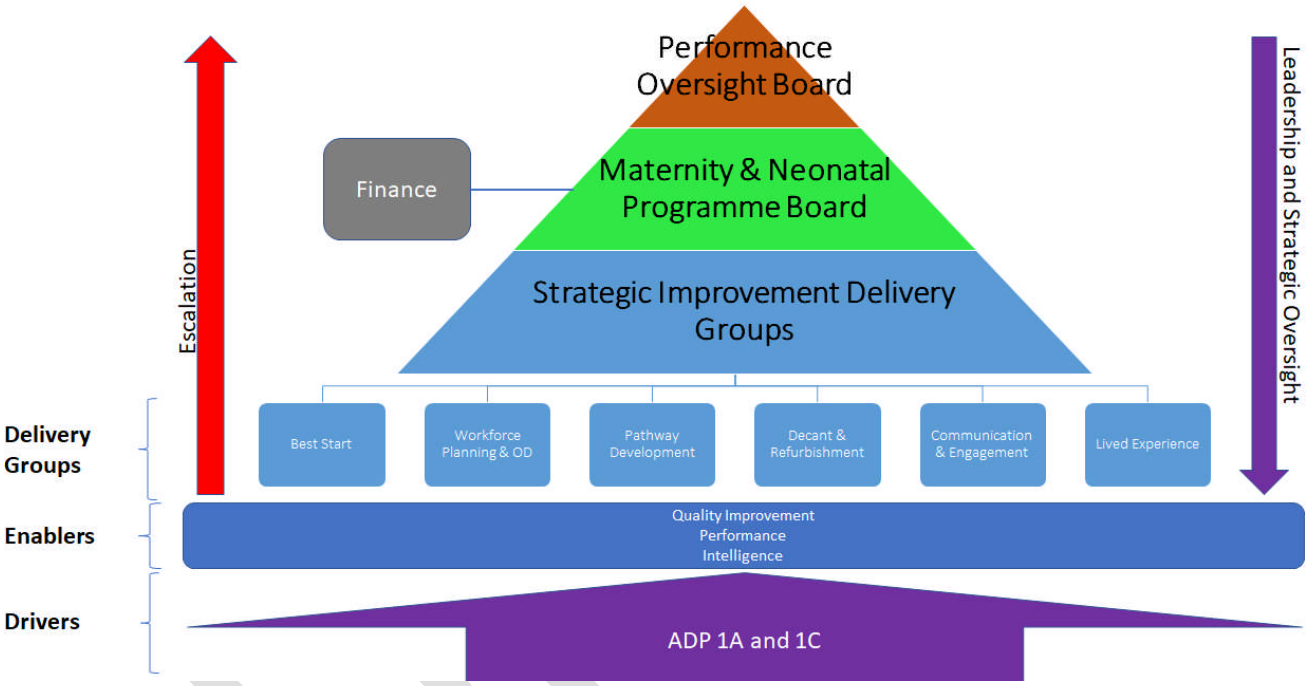
- Deputy Medical Director - Acute
- Board Nurse Director
- Director of Midwifery
- Deputy Director of Midwifery
- Director of Estates, Facilities & Capital Planning
- Head of Estates
- Deputy Director of Finance
- Head of Communications
- Programme Manager
- Service Planning Manager
- Lead Health Analyst
- Head of Operations: Women and Children Services
- Service Manager(s): Obstetrics & Gynaecology, Neonatal services & NNU, Paediatrics.
- Clinical Director – Women's and Children's
- Lead Consultant - Obstetrics & Gynaecology
- Consultant Paediatrician - NNU
- Obstetrics & Gynaecology Consultants
- Acute Staff-Side Lead
- Senior HR Advisor

The scope of the maternity and neonatal programme is to:

- Provide leadership in delivering the review to improve outcomes for people who engage with maternity services
- Use meaningful lived experience to support our implementation by engaging with our service users at all stages and engaging closely with our 3rd sector colleagues to ensure the patients voice is at the heart of the maternity programme oversight board
- Establish robust arrangements which provide assurance to stakeholders that the recommendations of the Moray review and other associated recommendations are being implemented by NHS Highland. It will set and agree milestones and deliverables and track progress against them
- Provide oversight to the development of the business case to improve the infrastructure necessary to create the environment required across our geography
- Provide strategic planning oversight to the Raigmore refurbishments contained within the standard business case and utilise the Programme Board to escalate risks that may impede the progress of the construction
- Ensure our workforce is supported through a workforce plan that encompasses organisational development, recruitment, listening and engagement
- Use intelligence to understand needs of our population, current themes of risk areas (e.g. DATIX and complaints) balancing the demands on the system for patient care and wellbeing and the need for sustainable services
- Ensure any key risks identified requiring further guidance are escalated to the Children and Families Board with regular reporting to other groups as required

- Ensure planned improvements in quality and outcomes are achieved, with supporting intervention for significant risks to benefits realisation. This will involve reviewing all associated workplans and the risk register.
- Provide oversight to the Best Start Action plan to ensure we are supporting this throughout NHSH
- Promote the development and delivery of best practice, evidenced based care, with an emphasis on ensuring equitable, consistent high quality service provision and a seamless transition in care across the whole patient pathway

There are 6 strategic improvement delivery groups that report to the Maternity and Neonatal Programme Board. The 6 strategic improvement delivery groups' remit is pivoted on ensuring the effective use of resources that benefit patients and their carers to create a connected, coordinated and fully integrated maternity service for the population it serves.



4.2.2 Project Management of Capital Planning Work

The proposed maternity reconfiguration will be a design and build project procured via framework Scotland 3 (FS3) in respect of both the design and construction by the appointed principal supply chain partner (PSCP) and project managed by the FS3 lead advisor team, already appointed in respect of the capital programme over the next five years for NHS highland, and as directed by the NHS highland capital planning team.

4.3 Next Steps

This standard business case will be submitted to Scottish Government to propose the requested, required funding as part of ensuring the safe, equitable, measured and methodical establishment of maternity and neonatal care pathways for Moray women and their families. Once funding is secured, the Maternity and Neonatal Programme can:

- Begin to develop a recruitment strategy that is supported through a workforce plan that also encompasses organisational development, listening and engagement.
- Continue to consult with Raigmore hospital-based staff on planning and associated timescales entailed as part of the refurbishment works due to take place in the maternity and neonatal units.
- Continue to work in partnership with NHS Grampian over the course of developing the agreed pathways and workforce to enable Moray women and their families to access NHS Highland maternity and neonatal services.
- Monitor progress against key joint milestones whilst continuing to escalate and mitigate risk through the appropriate actions.

5 Conclusion

Establishing safe maternity pathways for Moray women and their families as well as sustainable services within NHS Highland require i) additional service provision to be established in Raigmore and ii) refurbishment to take place in the existing maternity and neonatal unit in order to provide an equitable and high-quality maternity service to women residing in Moray.

The revenue and capital investment requested within the context of this proposal will also support the co-delivery of maternity and neonatal services in an integrated and sustainable way that will address the concerns raised from front-line staff and patients about increased service demand as a result of establishing safe maternity and neonatal care pathways for Moray women and their families. In addressing these concerns through the requests as outlined in this standard business case, it will also mean that NHS Highland is able to meet its obligations regarding being able to take additional maternity and neonatal activity from Moray.

Appendix Summary:

- Appendix 1: Raigmore Activity Modelling Scenario 1: Average capacity 2018-2022 with 190 additional caseload modelled 3 different ways.
- Appendix 2: Raigmore Activity Modelling Scenario 2: Average capacity 2018-2022 with 190 additional caseload modelled as a proportion
- Appendix 3: Risk Register
- Appendix 4: Ambulance Transfers from Dr. Gray's Hospital to Raigmore Hospital (Moray & Banff Pregnancies)
- Appendix 5: KCND Pathways for Moray Patients Booked July 2020 – May 2022
- Appendix 6: Equality and Diversity Impact Assessment

Appendix 1: Raigmore Activity Modelling Scenario 1: Average capacity 2018-2022 with 190 additional caseload modelled 3 different ways.

CATEGORIES	Average	%	+ 190 Moray	+ 48 Moray (25% of 190)	+ 95 Moray (50% of 190)	+ 142 Moray (75% of 190)
BIRTHS	1,868		2,058	1,916	1,963	2,010
Bookings Raigmore	786	42.1%	786	786	786	786
SVD	928	49.7%	1,022	952	975	998
FORCEPS	157	8.4%	173	161	165	169
VENTOUSE	59	3.2%	65	61	62	63
EM LSCS	369	19.8%	407	379	388	397
EL LSCS	359	19.2%	395	368	377	386
PRIMS DELIVERED	812	43.5%	895	833	853	874
PRIMS SVD	306	37.7%	337	314	322	330
PRIM ASSISTED	175	21.5%	193	179	184	188
IOL	809	43.3%	891	830	850	870
vaginal breech	1					
Undiagnosed breech in labour	2	0.1%	2	2	2	2
VBAC	36	1.9%	40	37	38	39
Preterm up to 28 weeks	4	0.2%	5	4	4	5
Preterm 28+1 to 32	11	0.6%	12	12	12	12
Preterm 32+1 to 36+6	122	6.5%	134	125	128	131
STILLBIRTH	5	0.2%	5	5	5	5
INTRAPARTUM SB	0	0.0%	0	0	0	0
MATERNAL DEATH	0	0.0%	0	0	0	0

Appendix 2: Raigmore Activity Modelling Scenario 2: Average capacity 2018-2022 with 190 additional caseload modelled as a proportion

CATEGORIES	Average	%	Average + 5%	Average + 10%	Average + 15%	Average + 20%
BIRTHS	1,868		1,961	2,055	2,148	2,242
Bookings Raigmore	786	42.1%	826	865	904	944
SVD	928	49.7%	974	1,021	1,067	1,113
FORCEPS	157	8.4%	165	173	181	189
VENTOUSE	59	3.2%	62	65	68	71
EM LSCS	369	19.8%	388	406	425	443
EL LSCS	359	19.2%	377	395	413	431
PRIMS DELIVERED	812	43.5%	853	893	934	974
PRIMS SVD	306	37.7%	322	337	352	368
PRIM ASSISTED	175	21.5%	183	192	201	210
IOL	809	43.3%	849	890	930	971
vaginal breech	1					
Undiagnosed breech in labour	2	0.1%	2	2	3	3
VBAC	36	1.9%	38	40	42	44
Preterm up to 28 weeks	4	0.2%	4	5	5	5
Preterm 28+1 to 32	11	0.6%	12	12	13	14
Preterm 32+1 to 36+6	122	6.5%	128	134	140	146
STILLBIRTH	5	0.2%	5	5	5	5
INTRAPARTUM SB	0	0.0%	0	0	0	0
MATERNAL DEATH	0	0.0%	0	0	0	0

Appendix 3: Risk Register

Description	Status	Date Identified	Identified By	Owner	Overall risk rating	Mitigating Actions	Last Date Reviewed
The delivery of the programme is put at risk by the COVID-19 pandemic, this could cause issues in a number of areas, including operational capacity to manage the change, disrupt access to the contractor – depending on the situation at Raigmore hospital and any national guidance that is in place.	Accepted	26/03/2022	Maternity & Neonatal Programme Board	Maternity & Neonatal Programme Board	9	Accepted risk. Enforce that M&NN planning remains a board priority. Look to prioritise other areas of work within maternity & NN when absolutely necessary.	24/08/2022
There is a risk that the increase in additional in-patient activity has the potential to limit the number of beds at Raigmore.	Open	26/03/2022	Maternity & Neonatal Programme Board	Katherine Sutton	12	Monitor actively through available intelligence (intelligence dashboards), plan appropriately according to known demand.	24/08/2022
Recruitment of medical and midwifery staff in NHS Highland across a range of disciplines may not happen as quickly as the service requires due to competing organisational priorities	Open	26/03/2022	Maternity & Neonatal Programme Board	Karen King, Rashmi Srivastava, Tracey Gervaise	15	Each job family within the W&C directorate will have a workforce plan which focuses on strategising and monitoring recruitment. Monitor recruitment of additional staff (as entailed in the business case) and current staff establishment through the use of intelligence from Workforce Planning and Finance.	24/08/2022
NHS Highland's Induction Rate may increase as a result of taking patients from NHS Grampian	Open	26/03/2022	Maternity & Neonatal Programme Board	Karen King, Rashmi Srivastava, Tracey Gervaise	9	Proportion of women from Moray unlikely to present (characteristic-wise) differently from current NHSH maternity population. Monitor actively through available intelligence.	24/08/2022
Capacity and active, consistent engagement from operationally-based staff across maternity & neonatal services is required in order to realise the benefit of ongoing improvement work (e.g. Best Start).	Open	26/03/2022	Maternity & Neonatal Programme Board	Tracey Gervaise	12	Escalate any improvement related delays/issues and risks in this area to the Maternity & Neonatal Programme Board. Recruiting additional workforce and establishment required into post will help further mitigate.	24/08/2022
Increased pressure in NNU with approximately 20% of high risk women delivering intensive need babies who require NNU. This may result in increased workload within the service.	Open	26/03/2022	Maternity & Neonatal Programme Board	Philine Van Der Heide	16	The proposed solution in the business case mitigates this (2 additional cots within NNU; additional staff required to have a safe staffing level within paediatrics/neonatal).	24/08/2022
Risk that annual funding to progress Best Start recommendations comes relatively late in the year, which has happened previously.	Open	08/04/2022	Maternity & Neonatal Programme Board	Karen King, Elaine Ward	16	Finance to actively monitor situation.	24/08/2022
Due to the influx of dashboards in planning, intelligence support entailed with the NTC, and other competing priorities, the BI team may not be able to process the maternity & NN dashboard request as quickly as originally thought.	Open	16/05/2022	Maternity & Neonatal Programme Board	Iain Ross	12	The analyst proposed within the business case can mitigate an element of this risk through working jointly with eHealth.	24/08/2022
The implementation of model 4 entails that women living in Moray will have the option of Raigmore in delivery. This will mean increased activity. The element of "choice" is difficult to predict and plan for, so much of the planning work currently is pivoted on evidence-based estimates.	Open	01/05/2022	Maternity & Neonatal Programme Board	NHS Grampian	12	Align closely with NHSG on their comms, engagement and messaging to patients directly with regards to having Raigmore as an option of delivery and Highland co-supporting Moray women's maternity care. Mirror reporting metrics and specifications to evidence activity.	24/08/2022
Delays in business case approval process may result in lost time to enable recruitment and refurbishment work to take place; If additional workforce required is unable to be funded, this would result in increased pressure and further capacity constraints within the neonatal unit, ward 9, ward 10, labour suite and high dependency area which may present a risk to service delivery and quality of care.	Open	01/05/2022	Maternity & Neonatal Programme Board	NHS Highland Performance Oversight Group	12	Engage directly with SG upon request should SG require any additional information before a decision to allocate funding is received.	24/08/2022
There is a risk that the decant has the potential to limit the number of beds at Raigmore, which is already under pressure. There is a risk that the decant has the potential to disrupt the flow of services within the maternity and neonatal unit.	Open	01/05/2022	Maternity & Neonatal Programme Board	Caron Cruickshank, Eric Green	9	Monitor actively through available intelligence; ensure staff are consulted upon with regards to planned decant process; ensure staff (clinicians and non-clinicians) receive fair notice of decant prior to taking place.	24/08/2022
Sharing patient clinical information in a digital and timely manner to the same quality standards may be at risk when Moray patients access maternity and neonatal care at Raigmore.	Open	01/05/2022	Maternity & Neonatal Programme Board	NHS Highland Performance Oversight Group, NHS Grampian	9	Short-Life Working Group launched to explore this area, and the strategic future of digital applications in the maternity clinical setting. Badgernet have assured NHSH that the system is set up to allow patient interchanges between boards.	24/08/2022
Lack of suitable facilities to take additional maternity and neonatal caseload that is in line with national policy and strategy. The current maternity block restricts the efficiency and suitability of adequate, practical bed flow.	Open	01/05/2022	Maternity & Neonatal Programme Board	Katherine Sutton	16	The capital planning element of the business case proposal offers a solution to this, thus improving the quality and experience of care received for maternity patients and their families.	24/08/2022

Appendix 4: Ambulance Transfers from Dr. Gray's Hospital to Raigmore Hospital (Moray & Banff Pregnancies)

Hosp Location	Transfer Type	2018	2019	2020	2021	2022*	Total
Raigmore Hospital	Intrapartum transfers	20	28	11	13	3	**75**
	SAS transfers	0	2	1	1	0	**4**
	Transfers - other complications	0	0	0	0	0	**0**
	Total	**20**	**30**	**12**	**14**	**3**	**79**

**2022 data is from 01-01-22 to 30-04-22*

Appendix 5: KCND Pathways for Moray Patients Booked July 2020 – May 2022

MORAY AND BANFF PATIENTS	Moray and Banff Locality				
Number of Episodes	KCND Pathway				
Intended Location Of Delivery	**Amber Pathway**	**Green Pathway**	**Not Recorded**	**Red Pathway**	**Grand Total**
2020	**21**	**202**	**102**	**229**	**554**
Aberdeen Maternity Hospital	13	27	55	146	241
Dr Grays, Elgin, Maternity	8	175	47	81	311
Raigmore Maternity				2	2
2021	**40**	**325**	**202**	**381**	**948**
Aberdeen Maternity Hospital	20	59	109	255	443
Dr Grays, Elgin, Maternity	20	266	90	125	501
Raigmore Maternity			3	1	4
2022	**14**	**131**	**45**	**125**	**315**
Aberdeen Maternity Hospital	3	20	25	90	138
Dr Grays, Elgin, Maternity	11	111	20	35	177
Grand Total	**75**	**658**	**349**	**735**	**1817**

Data Source : Badgernet Maternity - Care Plan update notes
Booking Date From JUN2020 TO MAY2022
Moray and Banff Patients Locality :-
LOCAL_HSCP_LOCALITY_NAME in ('Banff & Buchan','Buchan','East','West') and
CITY_DESCRIPTION not in ('Fraserburgh','Ellon','Peterhead','Turriff')

Appendix 6: Equality and Diversity Impact

A person-centred rapid impact assessment has been completed which shows no potential for unlawful discrimination and no major changes to the project have been identified.

Protected Characteristics	Impact Assessment
• Age • Gender • Disability • Ethnicity • Religion • Sexual orientation • Gender reassignment • Pregnancy and maternity • Marriage and civil partnership • Carers • Rural and remote communities • People living in poverty • Homelessness	• Conducted on 05-06-22

Points considered as part of the rapid impact assessment:

1.Age

Any discriminatory employment practices including recruitment, personal development, promotion, entitlements and retention – Not applicable

Services should be provided, regardless of age, on the basis of clinical need alone – This is met

2.Disability

Reasonable steps that can be taken to accommodate the disabled persons requirements, including:

- Physical access - full disabled access provided
- Format of information – not agreed, but will follow NHSH policies
- Time of interview or consultation event - for Elgin to confirm
- Personal assistance – follow current NHSH policy
- Interpreter – Provided as part of NHSH policy
- Induction loop system is provided in Raigmore but in these wards?
- Independent living equipment – N/A
- Content of interview of course etc. N/A

Steps to make reasonable adjustments to service delivery and employment practices to ensure 'accessible to all' – This is met

3.Gender reassignment

Equal access to recruitment, personal development, promotion and retention - Yes

Equality of opportunity in relation to health care for individuals irrespective of whether they are male or female - Yes

The maintenance of confidentiality about an individual's sexuality - Yes

4.Marriage and civil partnership

Equal access to recruitment, personal development, promotion and retention - Yes

Equality of opportunity in relation to health care for individuals irrespective of whether they are single, divorced, separated, living together or married or in a civil partnership - Yes

5.Pregnancy and maternity

Equal access to recruitment, personal development, promotion and retention for female employees who are pregnant or on maternity leave - Yes

Equality of opportunity in relation to health care for women irrespective of whether they are pregnant or on maternity leave - Yes

Unlawful to treat a woman unfavourably because she is breast feeding - Unit available

6.Race and ethnicity
The provision of an interpreter for people whose first language is not English - Yes

Written communication and the use of language particularly jargon or colloquialisms etc - Yes, follows NHS Highland policy

7.Religion/belief and culture
Prayer facilities for service users and staff - Yes
Respect in terms of religion, belief and culture - Yes
Respect for requests from staff to have time off for religious festivals and strategies - Yes

8.Dietary requirements - Part of NHSH Policy

9. Sex/gender
Equal access to recruitment, personal development, promotion and retention - Yes
Gender of staff when caring for patients of opposite sex - Yes
The provision of single sex facilities, toilets, wards etc - Will be for family friendly accommodation, respecting the family wish to be together and in line with Best Start.

10.Sexual orientation
Recognition of same sex relationships in respect to consent - N/A
The maintenance of confidentiality about an individual's sexuality - Yes
Equality of opportunity in relation to health care for individuals irrespective of whether they are male, female, single, divorced, separated, living together or married - Yes

11.Carers
Reasonable steps that can be taken to accommodate carer's requirements, such as:

- Time of meetings or interviews - Yes
- Flexible working - Yes
- Carer's assessments - Yes
- Childcare arrangements that do not exclude a candidate from employment and the need for flexible working N/A unless one of our staff - Yes

12.Social Deprivation
Have you designed the service to recognise the greater health needs of people who are socio-economically deprived? Yes e.g. baby milk, grows.

Have you considered the needs of people with complex health and social problems? Yes

How can you ensure that people who are less articulate do not experience barriers to care? NHS Highland Policy tries to minimise barriers

Have you considered the needs of people with low education levels and poorer literacy skills? Yes

Have you addressed the barriers people face regarding the cost of accessing healthcare, e.g. cost of transport? Yes