



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection of maternity services at Mayo University Hospital.

Monitoring programme against the *National Standards for Safer
Better Maternity Services* with a focus on obstetric emergencies

Dates of inspection: 15 May and 16 May 2019

Safer Better Care

About the Health Information and Quality Authority (HIQA)

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA's mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children and Youth Affairs, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

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1.0 Information about this monitoring programme

The *National Standards for Safer Better Maternity Services*¹ were published by HIQA in 2016. Under the Health Act 2007,² HIQA's role includes setting such standards in relation to the quality and safety of healthcare and monitoring compliance with these standards.

HIQA commenced a programme of monitoring against the *National Standards for Safer Better Maternity Services*, with a focus on obstetric emergencies, in maternity hospitals and in maternity units in acute hospitals in May 2018. The *National Standards for Safer Better Maternity Services* will be referred to as the National Standards in this report.

For the purposes of this monitoring programme, obstetric emergencies are defined as pregnancy-related conditions that can present an immediate threat to the well-being of the mother and baby in pregnancy or around birth. HIQA's focus on such emergencies, as we monitor against the National Standards, intends to highlight the arrangements all maternity units have in place to manage the highest risks to pregnant and postnatal women and newborns when receiving care.

Pregnancy, labour and birth are natural physiological states, and the majority of healthy women have a low risk of developing complications. For a minority of women, even those considered to be at low-risk of developing complications, circumstances can change dramatically prior to and during labour and delivery, and this can place both the woman's and the baby's lives at risk. Women may also unexpectedly develop complications following delivery, for example, haemorrhage. Clinical staff caring for women using maternity services needs to be able to quickly identify potential problems and respond effectively to evolving clinical situations.

The monitoring programme assessed if specified³ National Standards in relation to leadership, governance and management had been implemented. In addition, maternity hospitals and maternity units were assessed to determine if they were resourced to detect and respond to obstetric emergencies which occurred, and explored if clinical staff were supported with specialised regular training to care for women and their newborn babies.

This monitoring programme examined if specified³ National Standards in relation to effective care and support and safe care and support had been implemented. The programme assessed whether or not maternity hospitals and maternity units could effectively identify women at higher risk of complications in the first instance. It also examined how each maternity hospital or maternity unit provided or arranged for the care of women and newborns in the most appropriate clinical setting. The programme looked at how risks in relation to maternity services were managed and how the service was monitored and evaluated.

In monitoring against the *National Standards for Safer Better Maternity Services*, with a focus on obstetric emergencies, HIQA has identified three specific lines of enquiry (LOE). These lines of enquiry represent what is expected of a service providing a consistently safe, high-quality maternity service, particularly in its response to obstetric emergencies. These lines of enquiry have been used by HIQA to identify key relevant National Standards for assessment during this monitoring programme.

All three lines of enquiry reflect a number of themes of the National Standards. For the purposes of writing this report, compliance with the National Standards is reported in line with the themes of the National Standards. The lines of enquiry for this monitoring programme are listed in Figure 1.

Figure 1 – Monitoring programme lines of enquiry

LOE 1:

The maternity unit or maternity hospital has formalised leadership, governance and management arrangements for the delivery of safe and effective maternity care within a maternity network*.

LOE 2:

The maternity service has arrangements in place to identify women at higher risk of complications and to ensure that their care is provided in the most appropriate setting.

The maternity service has arrangements in place to detect and respond to obstetric emergencies and to provide or facilitate ongoing care to ill women and or their newborn babies in the most appropriate setting.

LOE 3:

The maternity service at the hospital is sufficiently resourced with a multidisciplinary workforce that is trained and available to detect and respond to obstetric emergencies at all times.

A further aspect of HIQA's monitoring programme was to examine progress made across the maternity services to develop maternity networks. The National Standards support the development of maternity networks in Ireland.

Further information can be found in the *Guide to HIQA's monitoring programme against the National Standards for Safer Better Maternity Services, with a focus on obstetric emergencies*³ which is available on HIQA's website: www.hiqa.ie

* Maternity Networks are the systems whereby maternity units and maternity hospital are interconnected within hospital groups to enable sharing of expertise and services under a single governance framework.

1.1 Information about this inspection

Mayo University Hospital is a statutory acute hospital which is owned and managed by the Health Service Executive. The hospital is part of the Saolta University Healthcare Group[†]. The Maternity Unit is co-located with the general hospital. There were 1506 births at the hospital in 2018.

To prepare for this inspection, inspectors reviewed a completed self-assessment tool[‡] and preliminary documentation submitted by Mayo University Hospital to HIQA in June 2018. Inspectors also reviewed information about this hospital including previous HIQA inspection findings; information received by HIQA and published national reports. Information about the unannounced inspection at Mayo University Hospital is included in the Table 1.

Table 1: Inspection details

Dates	Times of inspection	Inspectors
15 May 2019	09:15hrs to 19:00hrs	Dolores Dempsey Ryan Denise Lawler
16 May 2019	07:45hrs to 18:30hrs	Aileen O' Brien Katrina Sugrue

During this inspection, the inspection team spoke with the following staff at the hospital:

- representatives of the Hospital's Management Team
- the hospital's lead consultants in each of the clinical specialties of obstetrics, anaesthesiology and paediatrics.

In addition, the inspection team visited a number of clinical areas which included:

- Assessment areas where pregnant and postnatal women who presented to the hospital with pregnancy-related concerns were reviewed. These included the Emergency Department and the Labour Ward Assessment Room.
- The Labour Ward where women were cared for during labour and childbirth.
- The Intensive Care Unit where women who required additional monitoring and support were cared for.

[†] Saolta University Healthcare Group is a hospital group which includes Mayo University Hospital, Portiuncula University Hospital, University Hospitals Galway (University Hospital Galway and Merlin Park Hospital), Sligo University Hospital, Letterkenny University Hospital, and Roscommon University Hospital. Maternity services are provided in all of the hospitals in the group with the exception of hospitals in Roscommon and Merlin Park.

[‡] All maternity hospitals and maternity units were asked to complete a self-assessment tool designed by HIQA for this monitoring programme

- An operating theatre for women undergoing surgery, for example in the case of caesarean section.
- The Special Care Baby Unit where babies requiring additional monitoring and support were cared for.
- The combined antenatal and postnatal ward where women were cared for before and after childbirth.

Information was gathered through speaking with midwifery and nursing managers, and staff midwives in these clinical areas and doctors assigned to the maternity service. In addition, inspectors looked at the clinical working environment and reviewed hospital documentation and data pertaining to the maternity service during the inspection.

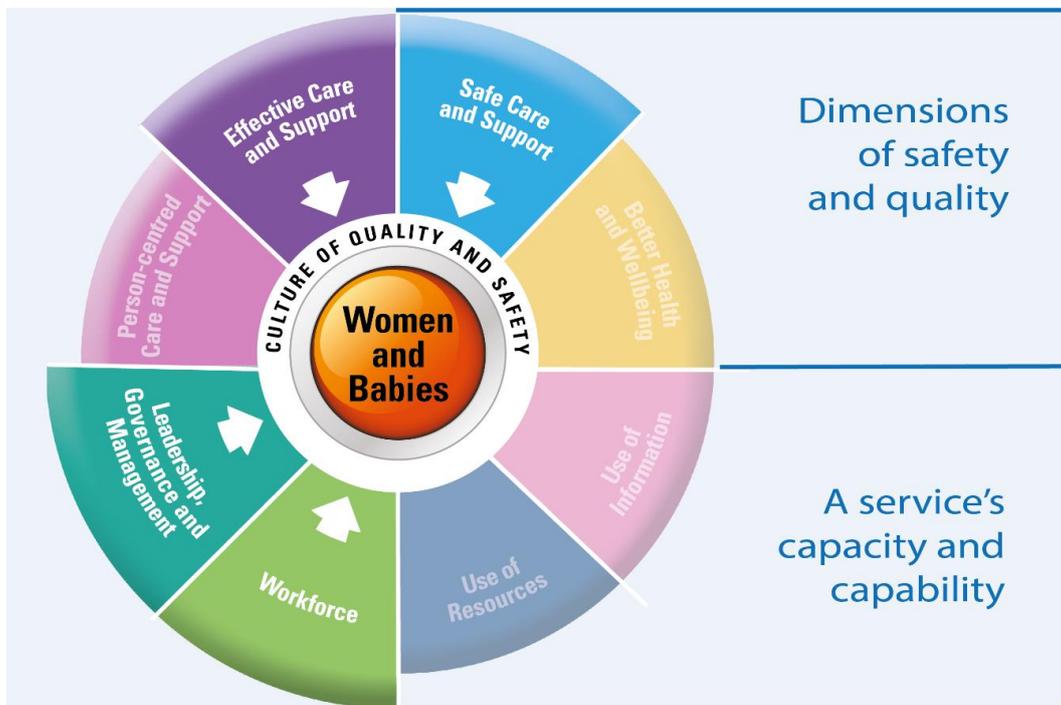
HIQA would like to acknowledge the cooperation of the hospital management team and all staff who facilitated and contributed to this unannounced inspection.

1.2 How inspection findings are presented

This inspection was focused specifically on maternity services and the systems in place to detect and respond to obstetric emergencies, as outlined in the published Guide³ to this monitoring programme. Therefore as part of this inspection programme, HIQA monitored compliance with some, but not all of the National Standards. Report findings are based on information provided to inspectors during an inspection at a particular point in time.

The National Standards themes which were focused on in this monitoring programme are highlighted in Figure 2. Inspection findings are grouped under the National Standards dimensions of Capacity and Capability and Safety and Quality.

Figure 2: The four National Standard themes which were focused on in this monitoring programme



Based on inspection findings, HIQA used four categories to describe the maternity service’s level of compliance with the National Standards monitored.

These categories included the following:

- **Compliant:** A judgment of compliant means that on the basis of this inspection, the maternity service is in compliance with the relevant National Standard.
- **Substantially compliant:** A judgment of substantially compliant means that the maternity service met most of the requirements of the relevant National Standard, but some action is required to be fully compliant.
- **Partially compliant:** A judgment of partially compliant means that the maternity service met some of the requirements of the relevant National Standard while other requirements were not met. These deficiencies, while not currently presenting significant risks, may present moderate risks which could lead to significant risks for patients over time if not addressed.
- **Non-compliant:** A judgment of non-compliant means that this inspection of the maternity service has identified one or more findings which indicate that the relevant National Standard has not been met, and that this deficiency is such that it represents a significant risk to patients.

Inspection findings will be presented in this report in sections 2 and 3. Section 2 outlines the inspection findings in relation to capacity and capability and Section 3 outlines the inspection findings in relation to the dimensions of safety and quality. Table 2 shows the main report sections and corresponding National Standards, themes and monitoring programme lines of enquiry.

Table 2: Report sections and corresponding National Standard themes and inspection lines of enquiry

Report sections	Themes	Standards	Line of enquiry
Section 2: Capacity and Capability:	Leadership, Governance and Management	5.1, 5.2, 5.3, 5.4, 5.5, 5.8 and 5.11	LOE 1
	Workforce	6.1, 6.3, 6.4	LOE 3
Section 3: Dimensions of Safety and Quality:	Effective Care and Support	2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8.	LOE 2
	Safe Care and Support	3.2, 3.3, 3.4, 3.5	

2.0 Capacity and Capability

Inspection findings in relation to capacity and capability will be presented under the themes of the National Standards for Safer Better Maternity Services of Leadership, Governance and Management and Workforce.

This section describes arrangements for the leadership, governance and management of the maternity service at this hospital, and HIQA's evaluation of how effective these were in ensuring that a high quality safe service was being provided. It will also describe progress made in the establishment of a maternity network from the perspective of this hospital. This section also describes the way the hospital was resourced with a multidisciplinary workforce that was trained and available to deal with obstetric emergencies twenty-four hours a day.

During this inspection, inspectors looked at 10 National Standards in relation to leadership, governance and management and workforce. Of these, Mayo University Hospital was compliant with seven National Standards and substantially compliant with three National Standards.

Inspection findings leading to these judgments and key findings in relation to the hospital's level of compliance with the National Standards monitored during this inspection are included in Table 3 and Table 4 within this section.

A risk identified during inspection was escalated by HIQA in writing to the General Manager at Mayo University Hospital following inspection. The response received from the hospital in relation on how this risk was mitigated is described in this report.

2.1 Leadership, Governance and Management

Leadership, governance and management refers to the arrangements put in place by a service for clear accountability, decision-making and risk management as well as meeting its strategic and statutory obligation. A well-governed maternity service is clear about what it does, how it does it, and is accountable to the women who use the service and the people who fund and support it. Good governance arrangements acknowledge the interdependencies between organisational arrangements and clinical practice and integrate these to deliver safe, high-quality care.

Inspection findings in relation to leadership, governance and management are described next.

Inspection findings

2.1.1 Maternity service leadership, governance and management

Maternity network

Saolta University Health Care Group had established structures and arrangements that facilitated effective collaborative working between the five maternity units within this hospital group. The hospital group was progressing with the implementation of an integrated governance structure through the establishment of the women's and children's managed clinical and academic network[§]. However, at the time of inspection, HIQA found that Mayo University Hospital was not part of a formalised maternity network under a single governance structure.**

In the interim, while the implementation of the managed clinical academic network is being progressed, the hospital group had established a management structure called the Women's and Children's Directorate. This structure provided an opportunity for all five maternity units to meet each month to share clinical performance metrics, review key performance indicators, National Perinatal Epidemiology Centre data^{††} and benchmarks these against each of the maternity units within the Group. Leadership in relation to maternity services at hospital group level was provided by the Clinical Director of the Women's and Children's Directorate who reported to the Chief Clinical Director of the hospital group. The Associate Clinical Director for Mayo University Hospital represented the hospital at Directorate level and provided clinical oversight at the hospital.

The Women's and Children's Directorate had implemented a Women's and Children's Directorate Serious Incident Management Team (SIMT). This team met every month to review all serious adverse incidents and serious reportable events and disseminated learning from reviews within the five maternity units in the hospital group. In addition, the Women's and Children's Directorate Serious Incident Management Team reviewed all preliminary review reports and decided which preliminary reviews should be escalated to the overarching Saolta University Healthcare Group Serious Incident Management Team. Membership was multidisciplinary and included representatives from the five maternity units including Mayo University Hospital.

A hospital group-level, multidisciplinary maternity, neonatal and gynaecology clinical policies, procedures, guidelines and pathways committee met every month and

[§] Following inspection, hospital managers told inspectors that the hospital group planned to implement a managed clinical academic network in quarter one in 2020.

** The National Maternity Strategy 2016 states that smaller maternity services require formal links to larger maternity units to enable sharing of expertise and clinical services to support safe quality maternity services across the country.

†† The Irish National Perinatal Epidemiology Centre (NPEC) established a national clinical audit on perinatal deaths to better identify causes of death and associated risk factors.

worked collaboratively to standardise policies and care pathways across the group. The implementation of national recommendations from reviews and reports in relation to maternity services were overseen by the Maternity Services Strategic Group at hospital group level and by the hospital management team at hospital level.

Following this inspection, Saolta University Health Care Group now needs to complete the implementation of a managed maternity network in order to facilitate a single governance framework in relation to maternity services.

Mayo University Hospital leadership, governance and management

HIQA found that Mayo University Hospital had effective leadership, governance and management arrangements in place to ensure the quality and safety of the maternity services provided at the hospital. The General Manager had overall executive accountability, responsibility and authority for the maternity service at the hospital and reported to the Chief Executive Officer of Saolta University Health Care Group.

Day-to-day governance, oversight and management of the hospital was provided by the Hospital Management Team. This team was chaired by the General Manager, met every week and membership included senior hospital managers in addition to the Associate Clinical Director of the Women's Health and Children's Directorate and the Director of Midwifery in line with the National Standards. This team monitored the hospital's performance that included clinical outcomes, service user feedback and patient safety incidents. Documentation provided to inspectors indicated that the hospital used information from multiple sources including serious reportable incidents, incident reviews, complaints, and patient experience surveys to be assured about the effectiveness of the maternity service. However, audit was not a regular item on the agenda of the Hospital Management Team meetings. The hospital needs to ensure that there are governance arrangements in place relating to clinical audit practice and that audit findings are reported to the Hospital Management Team to provide additional assurance at executive level on the safety of maternity services.

Clinical oversight for maternity services in the hospital was overseen by the hospital's Women's Health and Children's Directorate Team Committee who reported to the Hospital Management Team. The committee was chaired by the Associate Clinical Director of the Women's Health and Children's Directorate. The committee met monthly and membership included the general manager and the clinical lead for obstetrics, a consultant paediatrician and the director of midwifery. This committee reviewed a range of items to include patient experience, clinical incident numbers and trends, service user's compliments and complaints, recommendations from national reports and investigations, risk register items, Irish Maternity Indicator

System data,^{††} scheduled and unscheduled care, resources and key performance objectives. Inspectors were informed that the Women's Health and Children's Directorate Team Committee provided oversight of audit findings, but audit practice was limited. The hospital planned to set up an audit committee to provide central control and oversight of audit activity in the hospital.

Clinical leads had been appointed in the specialties of obstetrics, anaesthesiology and paediatrics at Mayo University Hospital. These clinical leads provided clinical oversight of their specialty, were responsible for the operation and management of the services within their speciality and for the training and supervision of non-consultant hospital doctors.

The General Manager and the Associate Clinical Director of the Women's Health and Children's Directorate reported to the Saolta University Hospital Group Clinical Director of Women's and Children's Directorate every month. The Director of Midwifery was responsible for the organisation and management of the midwifery service and was a member of the hospital group's Maternity Services Strategic Group. Saolta University Health Care Group had developed a five year strategic plan, published in March 2019. The hospital General Manager and the Associate Clinical Director of the Women's Health and Children's Directorate were working towards implementing key objectives for Mayo University Hospital as described in this strategic plan. This included the implementation of day assessment for maternity services.

Safety alerts in relation to medical devices and medicines were communicated to staff at the hospital. The Maternity Unit had a statement of purpose that detailed the specific services provided at the hospital. This should be made publicly available in line with the National Standards.

Overall, inspectors found that Mayo University Hospital had formalised leadership, governance and management arrangements in place with clearly defined reporting structures within the maternity service and through the Saolta University Health Care Group to ensure the quality and safety of the services provided at the hospital. However, hospital management needs to ensure that clinical governance arrangements are in place to provide oversight of clinical audit findings at hospital management executive level.

Table 3 on the next page lists the National Standards relating to leadership, governance and management focused on during this inspection and key findings in relation to the hospital's compliance with the National Standards monitored during this inspection.

^{††} The Irish Maternity Early Warning System (IMEWS) is a nationally agreed system developed for early detection of life threatening illness in pregnancy and the postnatal period.

Table 3: HIQA's judgments against the National Standards for Safer Better Maternity Services for leadership, governance and management that were monitored during this inspection

Standard 5.1 Maternity service providers have clear accountability arrangements to achieve the delivery of safe, high-quality maternity care.

Judgment: Complaint

Standard 5.2 Maternity service providers have formalized governance arrangements for assuring the delivery of safe, high-quality maternity care.

Key findings: Maternity network arrangements with a single governance structure were not formalised at time of inspection.

Judgment: Substantially compliant

Standard 5.3 Maternity service providers maintain a publicly available statement of purpose that accurately describes the services provided to women and their babies; including how and where they are provided.

Judgment: Complaint

Standard 5.4 Maternity service providers set clear objectives and have a clear plan for delivering safe, high-quality maternity services.

Judgment: Complaint

Standard 5.5 Maternity service providers have effective management arrangements to support and promote the delivery of safe, high-quality maternity services.

Judgment: Complaint

Standard 5.8 Maternity service providers systematically monitor, identify and act on opportunities to improve the safety and quality of their maternity services.

Key findings: Clinical governance arrangements in place should be reviewed to ensure that findings from clinical audits are reported to the hospital management team to provide additional assurance on the safety of maternity services.

Judgment: Substantially compliant

Standard 5.11 Maternity service provider's act on standards and alerts, and take into account recommendations and guidance issued by relevant regulatory bodies.

Judgment: Compliant

2.2 Workforce

Effective maternity services need to ensure that there are sufficient staff available at the right time, with the right skills to deliver safe, high-quality care. Training specific to maternity care is required to enable staff to acquire the skills and knowledge to detect and respond to obstetric emergencies. This inspection looked at the number of nursing and midwifery staff who provided care to women and infants using the maternity service. This inspection also looked at the number and grade of medical staff who worked in the specialities of obstetrics, paediatrics and obstetric anaesthesiology at the hospital. Inspectors also reviewed the uptake and provision of training and education of staff relevant to obstetric emergencies.

Inspection findings in relation to workforce are described next.

Inspection findings

2.2.1 Midwifery and nursing staffing

The hospital did not meet the HSE's national benchmark for midwifery staffing in line with the HSE's Midwifery Workforce Planning Project.⁴ Inspectors were informed that the maternity unit, including Special Care Baby Unit, had 58.5 midwife positions filled on a permanent basis. When the whole time equivalent (WTE)^{§§} number for the Special Care Baby Unit was excluded, the hospital had 41 WTE with a deficit of 3 WTE midwife positions not filled. Senior Hospital Managers told inspectors that the hospital had secured funding from the National Women and Infants Health Programme to fill these midwifery positions. Agency midwifery staff or nursing staff were not employed by the hospital. Any deficit in staffing was filled by staff employed at the hospital doing additional shifts.

The Special Care Baby Unit had approval for 17 WTE nursing and midwifery staff and had no vacancies. The unit met the recommended nursing ratios of 1:1 in intensive care, and 1:4 in special care.⁵

There were effective contingency arrangements in place at the hospital to manage concurrent emergency surgery cases outside of core working hours. In April 2019, the hospital added an extra nurse to the out of hours on-call nursing team. Four nursing staff were on call outside of core working hours to manage emergency surgeries including caesarean sections. In addition, the Assistant Director of Nursing redeployed staff from other areas of the hospital or called nursing staff in from home. The operating theatre department had a rota of staff that lived close by who could be called in to assist during an emergency.

^{§§} Whole-time equivalent: one whole-time equivalent employee is an employee who works the total number of hours possible for their grade. WTEs are not the same as staff numbers as many staff work reduced hours.

A clinical midwife manager was in place for each shift in the Labour Ward. Clinical midwifery managers in the Labour Ward were included in WTE numbers so therefore were not always supernumerary. Midwifery staff who spoke with inspectors reported that women did not always have one-to-one support during labour as it depended on staffing levels and clinical activity.

Internal rotation of midwifery staff enabled hospital management to redeploy midwives to areas of high activity when required.

Specialist support staff

The hospital had 4.5 WTE ultrasonographer positions to provide a fetal ultrasound scanning service in line with National Standards. This is discussed further in section 3.1.1. The hospital did not have a clinical skills facilitator as recommended in the National Standards.

2.2.2 Medical staff

Medical staff availability

On-call consultant obstetricians, anaesthesiologists and paediatricians were accessible to medical and midwifery staff and inspectors were informed that consultants were onsite promptly when called to attend. The hospital was staffed with non-consultant hospital doctors at specialist registrar, registrar and senior house officer grades in the specialties of obstetrics, anaesthesiology and paediatrics who were available onsite to provide care to women and newborns on a 24-hour basis.

Rapid response teams were available onsite 24-hours a day, seven days a week to attend to obstetric emergencies, neonatal emergencies and cardiac arrests.

Consultants in the specialties of obstetrics, anaesthesiology and paediatrics were employed on permanent contracts and were registered as specialists on the relevant specialist register with the Medical Council in Ireland. There were no joint medical appointments between University Hospital Galway and Mayo University Hospital.

Obstetric medical staff

The hospital had approval for five WTE permanent consultant obstetrician positions. At the time of inspection, four WTE positions were permanently filled and one position was filled by a locum consultant obstetrician. Consultant obstetricians were on call one in every four nights.

A consultant obstetrician was rostered to be on call for the Labour Ward and antenatal ward from Monday to Friday during core working hours and also covered the Emergency Department. A rota of two non-consultant hospital doctors in obstetrics, one at registrar grade and one at senior house officer grade was in place 24 hours a day in the Maternity Unit. The on-call non-consultant hospital doctors in

obstetrics covered the Emergency Department, the Labour Ward, Maternity Unit and the Gynaecological Ward and also reviewed patient consultations. In the event of two coinciding obstetric emergencies out of hours, the obstetric registrar and the senior house officer would attend to the first case in the operating theatre. The on-call consultant obstetrician would be called in from home to attend to the second emergency case and they could also access support from the surgical registrar on-call in hospital if required.

On-call consultant obstetricians conducted ward rounds on Saturdays, Sundays and public holidays in the Labour Ward and the Maternity Unit.

Anaesthesiology staff

Mayo University Hospital had seven WTE consultant anaesthesiologists employed in the hospital. At the time of inspection, five consultant anaesthesiologist positions were permanently filled and two positions were filled by locum consultants.

During core working hours, the consultant obstetric anaesthesiologist was rostered to the operating theatre and was also responsible for the anaesthetic needs for the maternity services. A consultant anaesthesiologist and two non-consultant hospital doctors in anaesthesiology, at registrar and senior house officer grade, were rostered to each of the four operating theatres. The on-call non-consultant hospital doctors in anaesthesiology were responsible for covering the Labour Ward, the Emergency Department, the Maternity Unit and the Gynaecology Ward 24-hours a day, seven days.

Outside core working hours, the hospital had a rota whereby one consultant anaesthesiologist and two non-consultant hospital doctors in anaesthesiology, one at registrar grade and one at senior house officer were on call with responsibility for intensive care, trauma, general and maternity service including the management of obstetric emergencies. The two non-consultant hospital doctors were on call onsite in the hospital. The on-call consultant anaesthesiologist was on call from home. Consultant anaesthesiologists were on-call one in every five nights.

Paediatrics

Neonatal care at the hospital was led by a consultant paediatrician who reported to the Associate Clinical Director of the Women's Health and Children's Directorate. The hospital had approval for four WTE consultant paediatrician positions. Three consultant paediatrician positions were permanently filled and one was filled by a locum consultant.

Outside core working hours, the hospital had a rota whereby one consultant paediatrician was on call from home one in every four nights. A rota of two non-consultant hospital doctors in paediatrics, one at registrar grade and one at senior

house officer grade was in place 24 hours a day. In addition, a second paediatric registrar was rostered from 12:00 hours to 21:00 hours.

2.2.3 Training and education of multidisciplinary staff

Mandatory training requirements

The hospital had a mandatory training requirement plan in place for clinical staff. Medical staff, midwives and nursing staff were expected to undertake training every two years aligned to their clinical responsibilities. This training included basic life support, neonatal resuscitation, multi-professional training in the management of obstetric emergencies and fetal monitoring. Training in Irish Maternity Early Warning Systems (IMEWS) was provided during staff induction training and an IMEWS refresher course was provided yearly. Sepsis training was provided as part of the multi-professional training in the management of obstetric emergencies. Anaesthesiology medical staff were also required to undertake training in advanced cardiorespiratory resuscitation (ACLS) for adults two yearly and advanced trauma life support.

All obstetric registrars were required to have completed the basic standard training certificate in basic ultrasound. Obstetric registrars on the specialist training programme were expected to have completed the module on scanning in early pregnancy before they performed ultrasound scans on pregnant and postnatal women. If the registrar on-call out of hours had not completed the required module on ultrasound scanning, the consultant on-call performed all urgent ultrasound scans. If not urgent, the women were admitted to the maternity unit and an ultrasound scan was performed in the early pregnancy assessment unit the following day.

Uptake of mandatory training

Staff training records were stored electronically and the records reflected each staff's member's specialist and mandatory training records. Training records provided to inspectors showed that all medical paediatric staff and 80% of midwives and nurses had undertaken a neonatal resuscitation training programme (NRP) at the hospital in the last two years. In the neonatal unit, 94% of all nursing staff had attended a neonatal resuscitation training programme in the previous two years.

All obstetric medical staff and 79.6% of midwives had completed a fetal monitoring training programme in the previous two years. Cardiotocography^{***} (CTG) workshop were held every six months. Cardiotocography findings were also reviewed at the daily multidisciplinary team handover meetings as required.

^{***} Cardiotocography (CTG) is used during pregnancy to monitor the fetal heart and contractions of the uterus. It is most commonly used in the third trimester.

Eighty-eight per cent of midwives and nurses, and 80% of obstetric medical staff had undertaken multi-professional training in the management of obstetric emergencies.

Seventy-six per cent of midwives and nurses and 82.51% of medical staff had attended training in adult basic life support (including resuscitation of the pregnant woman) in the two years prior to the onsite inspection.

Hospital management should continue to ensure that relevant clinical staff undertaken mandatory and essential training at the required frequency, appropriate to their scope of practice.

Orientation and training of new staff

Medical, midwifery and nursing staff were provided with induction training when commencing employment at the hospital. Anaesthesiology medical staff also completed a one week induction programme in the anaesthetic department. Discipline specific induction booklets and packs were provided to new staff. The Maternity Unit had an orientation and induction programme for newly employed midwives and they were under the supervision of a named mentor and completed a competency assessment tool as part of the induction programme.

Medical staff were also provided with teaching sessions on a Wednesday and a Friday each week.

Other training and education opportunities for staff

Doctors undertaking higher specialist training in obstetrics and gynaecology, anaesthesiology and paediatrics had competency-based assessments of procedural and technical skills. Clinical staff did not undertake invasive procedures⁺⁺⁺ independently until they had been deemed competent to do so.

Non-consultant hospital doctors in obstetrics who spoke with inspectors reported that they were supervised by a consultant obstetrician and had to complete a competency assessment before being deemed competent. Non-consultant hospital doctors in anaesthesiology were supernumerary for the first three months and had to be deemed competent by a consultant anaesthesiologist before being included in the on-call rota. Paediatric medical staff had to complete the neonatal resuscitation programme within the first two weeks of commencement of employment and had to be deemed competent by a consultant paediatrician before being included in the on-call rota.

⁺⁺⁺ All surgical and interventional procedures performed in operating theatres, outpatient treatment areas, Labour Ward delivery rooms, and other procedural areas. Interventional procedures include making a cut or a hole to gain access to the inside of a patient's body or gaining access to a body cavity without cutting into the body.

Midwifery staff who spoke with inspectors stated that a staff midwife facilitated a multi-professional training course in the management of obstetric emergencies to staff in the hospital which was delivered five times a year.

The hospital had a 1 WTE Resuscitation Officer who also worked as a Clinical Facilitator providing education and training on the Neonatal Resuscitation Programme for medical, midwifery and nursing staff at the hospital. Paediatric resuscitation training was provided to staff in the Emergency department every Tuesday morning. Impromptu multidisciplinary skills and drills were also conducted by the shift leader or clinical midwifery manager on the Labour Ward or the Maternity Ward depending on activity. Multidisciplinary skills and drills training sessions were also provided to clinical staff in the operating theatre every six months. Documentation provided to inspectors indicated that skills and drills sessions took place at least once a month from January to May in 2019 and consultant obstetrician and midwives attended these training sessions.

Twelve per cent of nursing staff in the operating theatre had completed a foundation course in anaesthesia and recovery nursing. Sixty-five per cent of nurses working in the special care baby unit had undertaken post-graduate training in neonatal intensive care nursing. In addition, three of the nursing staff had completed a module in the principles of special care and neonatal nursing in conjunction with a tertiary maternity hospital in Dublin. Four midwifery staff who worked in the high observation room in the Labour Ward had completed a module in high dependency nursing care and three other midwives were currently completing this course.

All neonatal staff involved in the transfer of newborn babies with the national neonatal transport programme (NNTP) had completed the STABLE⁺⁺⁺ training programme in the previous two years. In addition, nursing staff in the operating theatre had also completed paediatric emergency assessment recognition and stabilisation (PEARS^{§§§}) training.

Table 4 on the next page lists the National Standards relating to workforce focused on during this inspection and key findings in relation to the hospital's level of compliance with the National Standards monitored during this inspection.

⁺⁺⁺ STABLE: NNTP conducts the 'STABLE program in hospitals nationally. It is an education tool developed for maternal /child healthcare providers' to organise care during post resuscitation/pre-transport stabilisation period. The aim of the program is to enhance the knowledge and skills of all staff involved in the pre-transport of neonates.

^{§§§} Paediatric Emergency Assessment, Recognition, and Stabilisation (PEARS) course is designed to develop the knowledge and skills of all Healthcare Professionals, so that they may efficiently evaluate, and effectively manage the condition of seriously ill infants and children.

Table 4: HIQA's judgments against the National Standards for Safer Better Maternity Services for Workforce that were monitored during this inspection

Standard 6.1 Maternity service providers plan, organize and manage their workforce to achieve the service objectives for safe, high-quality maternity care

Judgment: Compliant

Standard 6.3 Maternity service providers ensure their workforce has the competencies and training required to deliver safe, high-quality maternity care.

Key findings: Not all staff were up to date with mandatory training in the management of obstetric emergencies, adult resuscitation and cardiotocography training.

Judgment: Substantially compliant

Standard 6.4 Maternity service providers support their workforce in delivering safe, high-quality maternity care.

Judgment: Compliant

3.0 Safety and Quality

Inspection findings in relation to safety and quality will be presented under the themes of the National Standards of Effective Care and Support and Safe Care and Support. The following section outlines the arrangements in place at the hospital for the identification and management of pregnant women at greater risk of developing complications. In addition, this section outlines the arrangements in place for detecting and responding to obstetric emergencies and for facilitating ongoing care to ill women and newborns.

During this inspection, inspectors looked at eleven National Standards in relation to safe and effective care. Of these, Mayo University Hospital was compliant with seven National Standards, substantially compliant with two National Standards, partially compliant with one National Standard and non-compliant with one National Standard.

Inspection findings leading to these judgments and key findings in relation to the hospital's level of compliance with the National Standards monitored during this inspection are included in Table 5 and Table 6 within this section.

3.1 Effective Care and Support

The fundamental principle of effective care and support is that it consistently delivers the best achievable outcomes for women and their babies using maternity services. This can be achieved by using evidence-based information. It can also be promoted by ongoing evaluation of the outcomes for women and their babies to determine the effectiveness of the design and delivery of maternity care. Women and their babies should have access to safe, high-quality care in a setting that is most appropriate to their needs. How this care is designed and delivered should meet women's identified needs in a timely manner, while working to meet the needs of all women and babies using maternity services.

In relation to obstetric emergencies, this inspection included aspects of assessment and admission of pregnant women; access to specialist care and services; communication; written policies, procedures and guidelines; infrastructure and facilities; and equipment and supplies.

Inspection findings in relation to effective care and support are described next.

Inspection findings

Mayo University Hospital provided a range of general and specialist maternity services for women with normal and high risk pregnancies. In line with the National Standards, each woman and infant had a named consultant with clinical responsibility for their care.

3.1.1 Assessment, admission and or referral of pregnant and postnatal women

The hospital had agreed pathways to identify, assess and ensure that women who were at risk of developing complications during pregnancy and around the time of birth were cared for in an appropriate setting. The hospital held a consultant led antenatal clinic based in the hospital and a weekly outreach antenatal clinic in Ballina.

Assessment services provided at the hospital included the following:

- an early pregnancy assessment unit
- a pregnancy assessment unit
- pre-assessment anaesthetic clinic
- obstetric and endocrine clinic.

All pregnant women who required admission were admitted either under a named consultant identified at their antenatal booking visit or under the on-call obstetric consultant if they were not booked at the hospital already. Midwifery and medical staff carried out risk assessments of women at the time of booking, during pregnancy and during and after birth. Pregnant women with diabetes could be referred by a midwife at their booking appointment to the combined obstetric and endocrine clinic where women with conditions such as diabetes mellitus and thyroid dysfunction were cared for by a multidisciplinary team which included consultant obstetricians, consultant endocrinologists, dietitians and specialist midwives.

The hospital had no designated high-risk maternal medicine clinic. However, each consultant obstetrician who identified pregnant women at higher risk of complications discussed these cases at the daily multidisciplinary team clinical handover meetings attended by up to five consultant obstetricians. A care pathway was determined at these meetings for pregnant women at higher risk of complications.

Fetal ultrasound scans were offered to all pregnant women at intervals recommended in the National Standards. All women were offered a formal dating fetal ultrasound in the first trimester and a detailed fetal-assessment ultrasound at 20-22 weeks' gestation. This was conducted by specialist midwife sonographers.

Inspectors were informed that the majority of women with known risk factors for a complicated birth were managed in a tertiary unit, in or outside the Saolta University Health Care Group. Women less than 32 weeks' gestation who required complex or specialist maternity care, for example, women with pulmonary hypertension, those with a pre-existing cardiac conditions and those at risk of pre-term birth, were transferred to either University Hospital Galway or to a tertiary hospital in Dublin for antenatal care and or the management of labour and birth. Pregnant women with a cardiac history were referred to the combined obstetric clinic at the Rotunda Hospital and the Mater Misericordiae University Hospitals. Documents provided to inspectors indicated that a total of twenty-two women required in-utero transfer to a tertiary maternity hospital in 2018. The hospital had an up-to-date guideline that informed and guided the management of an in-utero transfer within or outside Saolta University Health Care Group.

Women with complications in early pregnancy could access the Early Pregnancy Assessment Unit by appointment through self-referral, general practitioner referral or referral by a member of the obstetric team.

Admission pathways

There were established pathways for the assessment, management and where necessary admission of women who attended the hospital with obstetric problems 24 hours a day, seven days a week. There was a single point of entry to the hospital for pregnant and postnatal women who presented with concerns.

Pregnant women up to 20 weeks' gestation were seen and reviewed in the Emergency Department during and outside core working hours and including public holidays by members of the obstetric team. Following triage, these pregnant women were reviewed by the senior house officer in obstetrics and any concerns were escalated to the obstetric registrar and consultant obstetrician if required. Pregnant women who required admission and were less than 20 weeks' gestation were transferred to the gynaecological ward. Immediate emergency care, if required, was provided to pregnant women in the resuscitation room where adult and paediatric resuscitation equipment was located. Inspectors were informed that in general babies were not delivered in the Emergency Department. However, should the case arise, a midwife would come from the Labour Ward to assist with the delivery.

During and outside of core working hours, women greater than 20 weeks' gestation were admitted to the assessment room in the Labour Ward, triaged by a midwife and reviewed by the obstetric medical team.

The hospital had arrangements in place for pregnant women who presented to the Emergency Department with surgical or medical conditions. Pregnant women with clinical conditions that were not pregnancy related were reviewed by the obstetric

senior house officer, registrar and or consultant and referred to either the medical or surgical team. These pregnant women were then admitted under the care of medical or the surgical team.

The hospital had implemented the Irish Maternity Early Warning System for pregnant and postnatal women.

3.1.2 Access to specialist care and services for women and newborns

Access to clinical specialists

As the Maternity Unit was co-located with a general hospital, there was direct access to specialist consultants as needed for women attending the maternity service. General surgeons' were also onsite at the hospital. The hospital had a consultant respiratory physician, consultant psychiatrist and a consultant physician with special interest in cardiology on site. The hospital had arrangements in place to access a vascular surgeon, consultant cardiologist, consultant nephrologist and consultant neurologist off site in Galway University Hospital if required.

There was 24-hour access to advice from consultants in the specialties of haematology and microbiology who were onsite at the hospital.

Obstetric anaesthesiology services

Obstetric anaesthesiologists are required to assist with the resuscitation and care of women who become critically ill due to pregnancy-related conditions for example haemorrhage and pre-eclampsia. They are also responsible for the provision of pain relief such as epidural analgesia for women in labour and for the provision of anaesthesia for women who require caesarean section and other surgery during birth.

The anaesthetic service in the Maternity Unit was led by a consultant anaesthesiologist who was the clinical lead for the obstetric anaesthetic service. The anaesthetic service was staffed by anaesthesiologists from the general anaesthetic rota at the hospital.

Guidelines⁶ and National Standards recommend that there is an agreed system in place for the antenatal assessment of high-risk women to ensure that the anaesthetic service is given sufficient notice of women at higher risk of potential complications. A consultant anaesthesiologist who was the clinical lead for the obstetric anaesthetic service held an anaesthetic pre-assessment clinic every week for women with risk factors for anaesthesia or a history of previous complications during anaesthesia. Inspectors were informed that an average of 40-60 women were referred and reviewed in the clinic every year.

Critical care

National Standards recommend that specialised birth centres have a high-dependency or observation unit to manage the clinically deteriorating woman. In the absence of this facility, as is the case in a number of smaller maternity units in Ireland, pregnant and post-natal women are cared for in the general Intensive Care Unit at the hospital if their condition necessitated level 2^{****} or level 3^{††††} critical care.⁷

Critical care facilities at the hospital included a Level 3 Intensive Care Unit and a Coronary Care Unit.⁷ Critically ill pregnant and postnatal women who required invasive monitoring, for example women with pre-eclampsia, sepsis or obstetric haemorrhage, were monitored in the Intensive Care Unit at the hospital. These women were reviewed jointly by the consultant obstetrician and consultant anaesthesiology every day and more frequently as required. Inspectors were informed that the care of these women was prioritised and there was no reported delay in the transfers of these women to the Intensive Care Unit.

Inspectors were informed that transfers of pregnant women requiring a higher level of critical care to another hospital was a rare occurrence. The national ambulance service or the Mobile Intensive Care Ambulance service was used to transfer women to another hospital, in or outside the Saolta University Health Care Group.

Inspectors were informed that nine women were admitted to the Intensive Care Unit in Mayo University Hospital 2018 for high dependency care. Saolta University Health Care Group required a preliminary review report be completed on all pregnant and postnatal women admitted to the intensive care unit.

Neonatal Care

The hospital had a Special Care Baby Unit (Level 1) which meant that the hospital provided high dependency care for premature infants born at greater than 30 weeks' gestation and for sick term infants.⁵ Premature babies born at less than 31 plus 6 days at the hospital and sick term infants were stabilised and transferred soon after birth to either the neonatal unit in Galway University Hospital or to a tertiary maternity hospital in Dublin with a level 3 tertiary neonatal unit.⁵

If there was a risk of premature birth at or under 32 weeks' gestation, the hospital arranged for in-utero transfer to Galway University Hospital which had a level 2 neonatal unit. This meant that Galway University Hospital provided high dependency and intensive neonatal care for premature infants born at greater than 27 weeks'

**** Level 2 is the level of care needed for patients requiring invasive monitoring and or intervention including support for a single failing organ system (excluding advanced respiratory support).

†††† Level 3 is the level of care required for patients who need advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.

gestation and for sick term infants. Where there was a risk of premature delivery at 27 weeks' gestation or less, the hospital arranged for in-utero transfer to a tertiary maternity hospital in Dublin in line with the HSE's model of care for neonatal services in Ireland.⁵

Newborns that required therapeutic cooling^{****} for neonatal encephalopathy had passive cooling commenced at the hospital and were then transferred using the National Neonatal Transport Programme^{§§§§} to a level three tertiary neonatal unit.

3.1.3 Communication

Emergency response teams

Mayo University Hospital had a rapid response team to respond to obstetric and neonatal emergencies 24-hours a day, seven days a week. The hospital had a communication and escalation procedure for clinical staff to call for additional help and expertise when a woman's and or baby's condition deteriorated and in the case of obstetric or neonatal emergencies. Clinical staff activated a rapid response system by dialling '2222'. This rapid response system also mobilised the cardiac arrest team. The hospital had criteria for four types of emergency calls, obstetric, paediatric, cardiac and trauma calls. The message was communicated verbally with the hospital switchboard stating the type of emergency response required and the location. This system was tested daily.

The hospital was staffed and managed so that, when required, emergency caesarean sections could be performed. The hospital had audited the timing of Category 1 and Category 2 caesarean sections^{*****} (January – April 2019) to provide assurance that emergency caesarean sections were conducted within recommended timeframes and also audited the emergency call response bleep system. The audit findings indicated that the hospital had met the auditable standard of 30 minutes for category one caesarean sections and the auditable standard of 45 minutes for category two caesarean section cases^{8,9}

The audit of the emergency response bleep system showed that the emergency number had been activated (2222) in the five of the seven category one caesarean section cases and in four of the eleven category two caesarean section cases. Where

**** Whole body neonatal cooling (WBNC) or therapeutic cooling is 'active' (not passive) cooling administered during the current birth episode as a treatment for Hypoxic Ischemic Encephalopathy (HIE). WBNC is only conducted in the four large tertiary maternity hospitals in Dublin and Cork.

§§§§ The National Neonatal Transport Programme is a retrieval service for the stabilisation and transportation of premature and sick neonates up to the age of six weeks corrected gestational age, who require transfer for specialist care within Ireland and abroad. The service operates 24 hours a day seven days a week.

***** National Institute for Clinical Excellence (NICE) recommends four categories when determining the urgency of Caesarean Sections. Category 1 is the most urgent where there is an immediate threat to the life of the woman or foetus that necessitates prompt delivery of the baby by caesarean section.

the emergency response bleep system was not activated, direct contact was made to the operating theatre department, but this was not documented. The hospital had identified areas for improvement which were set out in the action plan.

Clinical staff used the Irish Maternity Early Warning System to assess and monitor pregnant and postnatal woman to detect any signs of clinical deterioration. Inspectors were informed that if a woman's condition clinically deteriorated or IMEWS parameters were triggered, the woman was reviewed by the obstetric senior house officer, who after review and assessment consulted with and referred to the obstetric registrar and consultant obstetrician if required. The hospital used a Neonatal Early Warning System (NeoEWS⁺⁺⁺⁺) for newborns if risk factors were identified or if enhanced monitoring was indicated.

Medical, midwifery and nursing staff used the Situation-Background-Assessment-Recommendation (ISBAR) communication tool to communicate information about women and babies.

Outside core hours the consultant obstetrician, anaesthetist and paediatrician were off site, staff reported that these consultants were accessible at all times and were on site within 30 minutes of being called.

The anaesthesiologist on duty was informed by midwifery staff when pregnant women with known anaesthetic risks were admitted who in turned informed the consultant anaesthesiologist as required. Clinical assessment information from the anaesthetic pre assessment clinic and the plan of care, was included in the woman's healthcare record and recorded in a folder in the anaesthetic office for anaesthetic team to access.

Multidisciplinary handover

There were formal arrangements in place for multidisciplinary team clinical handover. The hospital held a multidisciplinary team clinical handover meeting Monday to Friday at 8am in the Maternity Ward conference room. This meeting facilitated peer review⁺⁺⁺⁺ of women and babies deemed to be at risk of complications and each woman's care was reviewed and discussed at this meeting and a care plan determined as required.¹⁰ These meetings were attended by all consultant obstetricians with the exception of a consultant obstetrician having to attend to an emergency and all non-consultant hospital doctors including obstetric registrars and obstetric senior house officers going off call and coming on call. In addition,

⁺⁺⁺⁺ Neonatal Early Warning System (NeoNEWS) observation chart facilitates observation of babies deemed at risk and prompts earlier review in those demonstrating clinical deterioration.

⁺⁺⁺⁺ Peer review is the evaluation of work by one or more people with similar competences as the producers of the work (peers). It functions as a form of self-regulation by qualified members of a profession within the relevant field.

midwifery managers, senior midwives, nurses and students also attended these meetings. Cases discussed at this meeting included women:

- classified as high risk of potential complications
- women seen in out of hours in the Emergency Department or on the Labour Ward
- all critically ill women in the maternity unit and or the Labour Ward
- all women who had a caesarean section conducted in the previous 24-hours
- all gynaecology inpatients were discussed.

In addition, these meetings were also used to review cardiotocography findings. The paediatric team including consultant paediatricians, paediatric non-consultant hospital doctors and nursing staff from the Special Care Baby Unit attended the multidisciplinary team clinical handover meeting every Thursday and presented neonatal cases relating to the previous week's admissions. This meeting on a Thursday functioned as a weekly perinatal mortality and morbidity meeting.

The hospital used the Identify-Situation-Background-Assessment-Recommendation communication tool (ISBAR)^{§§§§§} communication tool populated by the medical team on call for the multidisciplinary team clinical handover. The multidisciplinary clinical handover peer review meeting is an example of good practice implemented by Mayo University Hospital.

The hospital had a guideline on clinical handover for obstetric and gynaecological staff including midwifery staff. However, compliance with this clinical handover guideline had yet to be audited.

The consultant anaesthesiologist and non-consultant hospital doctors in anaesthesiology who spoke with inspectors reported that anaesthesiologists did not attend the multidisciplinary team clinical handover meeting as they coincided with anaesthetic departmental meetings. The on-call anaesthetic team handed over to the intensive care consultant anaesthesiologist who was rostered to the intensive care unit Monday to Friday. In addition, the consultant anaesthesiologist going off call informally handed over to the consultant anaesthesiologist going on call each day.

A safety huddle^{*****} meeting was held each day in the Special Care Baby Unit at 10:45hours and attended by the clinical midwifery manager from the Special Care

^{§§§§§} ISBAR (Identify, Situation, Background, Assessment and Recommendation) is a mnemonic created to improve safety in the transfer of critical information. It originates from SBAR

^{*****} Safety huddles are brief and routine meetings for sharing information about potential or existing safety problems facing patients or workers. They aim to increase safety awareness among front-line staff, allow for teams to develop action plans to address identified safety issues, and foster a culture of safety.

Baby Unit, the clinical midwifery managers from the Labour Ward and from the Maternity Ward.

A safety pause⁺⁺⁺⁺⁺ meeting was held daily at 12:00hours in the Special Care Baby Unit and in the Maternity Ward for nursing and midwifery staff to attend to share information. While safety pause meetings were held in the operating theatre twice a day with nursing administration staff, it was reported that theatre nursing staff do not always attend due to current activity levels.

Other findings relevant to communication

Mayo University Hospital had clear guidelines on when to consider input from a consultant anaesthesiologist, consultant obstetrician and consultant paediatrician on-call. For example, consultant anaesthesiologist's were informed about pregnant women with potential difficult airway management, major obstetric haemorrhage and any time a second operating theatre was required to be opened in out of hours.

The on-call consultant obstetrician was informed and required to be in attendance for any cases of maternal collapse, caesarean section for major placenta previa, gestation less than 32 weeks, any trial of assisted vaginal delivery in theatre and all obstetric emergencies.

The hospital also had a clear guideline on when to consider input from a consultant paediatrician on-call. For example, a consultant paediatrician was informed and required to be in attendance for any multiple births, fetal distress, presence of meconium, instrumental delivery, births under 32 weeks' gestation and obstetric emergencies including emergency caesarean section, cord prolapse and breech delivery.

Medical staff who spoke with inspectors reported that they were provided with good support from consultants and had no hesitation about contacting the consultant on-call in the specialities of obstetrics, anaesthesiology and paediatrics if they needed to discuss a case or to ask for advice or support.

3.1.4 Written policies, procedures and guidelines

The hospital had a suite of policies, procedures and guidelines in relation to maternal care and obstetric emergencies. These were readily accessible electronically to staff in clinical areas visited by inspectors. The hospital had a Policy, Procedure and Guideline Committee to provide governance oversight of policies, procedures and guidelines in use in the hospital. The Women's Health and Children's Directorate Team Committee was also responsible for signing off on policies, procedures and guidelines for use in maternity clinical practice.

⁺⁺⁺⁺⁺ The aim of a Safety Pause meeting is to help the healthcare provider become mindful of potential safety issues, with a view to reducing risk and improving quality of care.

The hospital had adopted for local use policies, procedures and guidelines developed by the Saolta University Health Care Group Policies, Procedures, Guidelines and Pathway Committee. These included the following:

- management of maternal report of reduced fetal movement
- management of shoulder dystocia
- birth after previous caesarean section
- management of antepartum haemorrhage
- passive hypothermia (cooling) in infants with hypoxia ischaemia encephalopathy (HIE).

The hospital had developed guidelines on clinical handover for obstetrics and gynaecology staff and on the management of acute major haemorrhage. The hospital also used the National Clinical Effectiveness Committee^{*****} guidelines in the clinical areas in relation to sepsis and the Irish Maternity Early Warning System. Despite the fact that the hospital had adopted Saolta University Health Care Group Policies, Procedures and Guidelines and had developed some local guidelines, inspectors found that staff were using a number of national Health Service Executive (HSE) policies, procedures and guidelines that were not ratified for local use. The hospital needs to ensure following this inspection that all policies, procedures and guidelines in use are ratified by their Policies, Procedures and Guidelines Committee.

A safe surgery checklist^{§§§§§} was completed for emergency and elective surgical procedures in obstetric operating theatres in line with best practice recommendations. However, this practice had yet to be audited.

The maternity unit had a standardised procedure for the estimation and measurement of maternal blood loss.

3.1.5 Maternity service infrastructure, facilities and resources

Assessment areas

There was a designated assessment room for pregnant and post natal women in the Emergency Department. However, inspectors found that this room had limited space and was not located near a toilet. Overall, toilet facilities were limited within the Emergency Department. The necessary emergency equipment and supplies were

^{*****} Guidelines produced by the national clinical effectiveness committee have been formally mandated by the Minister of Health.

^{§§§§§} A surgical safety checklist is a patient safety communication tool that is used by operating theatre nurses, surgeons, anaesthesiologists and others to discuss together important details about a surgical case so that everyone is familiar with the case and that important steps are not forgotten. Surgical checklists work to improve patient safety during surgery.

available to manage an obstetric emergency including adult and paediatric resuscitation equipment and a neonatal mobile resuscitaire.

Maternity Ward

The Maternity Ward comprised 26 beds and 20 cots and provided combined care to both antenatal and postnatal women and newborns. The ward comprised three six-bedded wards, a four-bedded ward and four single rooms with en suites facilities.

The Labour Ward and the operating theatre were located close to the Maternity Ward on the same floor. Inspectors observed that there was also enough space between beds to attend to women and neonates who required emergency team care. There was oxygen and suction equipment at each bed space.

Labour Ward

The Labour Ward had five single rooms comprising three birth rooms, one observation room and one admission room. There were ensuite facilities in three of the birth rooms. There was no en-suite facility in the assessment room. The observation room had toilet facilities and no shower facilities.

Observational Room in the Labour Ward

The National Standards recommend that specialised birth centres have a high-dependency or observation unit to manage the clinically deteriorating woman.

The hospital had an observational room in the Labour Ward with one bed. This observational unit was used for higher risk pregnant women requiring close observation for example for pre-eclampsia, cardiotocography monitoring or for an insulin infusion. Postnatal women were admitted with for example, sepsis, or following a post-partum haemorrhage. Pregnant or post natal women who required invasive monitoring were transferred to the intensive care unit in the general hospital.

Critical Care

The Intensive Care Unit was an eight-bedded unit with four single rooms and four beds in open plan area. The unit had two intensive care beds, four coronary care beds and two high dependency beds. Pregnant women were cared for in a single room when admitted. Inspectors were informed that the unit tries to keep an emergency bed free at all times. The level of care provided included level 2^{*****} and level 3⁺⁺⁺⁺⁺ critical care and also coronary care.

***** Level 2 is the level of care needed for patients requiring invasive monitoring and or intervention including support for a single failing organ system (excluding advanced respiratory support).

+++++ Level 3 is the level of care required for patients who need advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.

Operating theatres for obstetrics and gynaecology

National Standards recommends that a maternity hospital or unit should have a staffed dedicated obstetric operating theatre in or adjacent to the Labour Ward.¹ The Operating Theatre Department was located on the same floor as to the Labour Ward.

Mayo University Hospital had four operating theatres including an obstetric gynaecology operating theatre. Inspectors were informed that there was 24-hour access to an emergency operating theatre at the hospital. However, this emergency operating theatre was not exclusive to obstetrics and was shared with other emergency surgery in the hospital.

During core working hours there were occasions where all four operating theatres were in use concurrently with elective and emergency surgery cases. This meant that there was a potential risk if there was no immediate access to an operating theatre for a category one caesarean section. Members of the Hospital Management Team and clinical staff who spoke with inspectors acknowledged that they were aware of this risk and had control measures in place to manage this risk. These controls included the Clinical Nurse Manager in the operating theatre ringing the clinical midwifery manager in the Labour Ward to ascertain the status of women before an elective case commenced in the operating theatre. If there was a potential that an emergency case could arise, the elective case was postponed so that the operating theatre would be available. Hospital management, medical and nursing staff who spoke with inspectors reported that there had been no adverse outcome to date because of this risk. In addition, the hospital had a plan in place to upgrade an anaesthetic room which could be used in the event of coinciding emergencies that included a category one caesarean section, in the interim of securing funding for a new designated obstetric theatre. However, the hospital acknowledged that this would not meet recommended infrastructural specifications for a modern surgical facility for maternity services, and intended that this would only be a temporary measure while awaiting funding for a new theatre.¹¹

Risk escalation by HIQA, and reciprocal response from Mayo University Hospital

Following inspection, HIQA corresponded with the hospital to seek additional assurance from the hospital in relation to operating theatre capacity during core working hours. HIQA also sought assurance with regard to the lack of immediate access to the emergency operating theatre for a category one caesarean section when the emergency operating theatre was occupied during core working hours.

Hospital management, with ultimate accountability, subsequently informed HIQA that the hospital had control measures in place to mitigate the risk which were outlined as follows:

- The hospital had a dedicated emergency operating theatre.
- Operating theatre lists were reviewed regularly prior to an emergency case going into the emergency operating theatre to ensure that there was a fast turnaround time with specific cases in the event that a second emergency case occurred.
- The hospital planned to modify their anaesthetic room to increase the operating theatre capacity. However, this would take a number of months to complete.
- The hospital had recently employed a fourth nurse on-call, to cover the operating theatre during out of hours since April 2019.
- The hospital had audited the timing of Category 1 and Category 2 caesarean sections^{*****} (January – April 2019) and the audit findings provided assurance that emergency caesarean sections were conducted within recommended timeframes.
- The hospital was monitoring the utilisation of their four operating theatres and capacity varied from 65% to 92% and 65% for the gynaecological obstetric operating theatre. The hospital confirmed that there was capacity in the operating theatre department during normal working hours to manage double emergencies.

Special Care Baby Unit

The Special Care Baby Unit had capacity for nine cots and could increase its capacity to eleven cots during times of increased activity. The unit comprised two neonatal intensive care cots and seven special care baby cots.

The design and layout of the unit did not meet recommended guidelines for neonatal units.¹² There was limited space between incubators and therefore limited space to attend to neonates who require emergency team care.

Laboratory services

Blood and blood replacement products were accessible when required in an emergency for women and infants. Staff informed inspectors that four units of O

***** National Institute for Clinical Excellence (NICE) recommends four categories when determining the urgency of Caesarean Sections. Category 1 is the most urgent where there is an immediate threat to the life of the woman or foetus that necessitates prompt delivery of the baby by caesarean section. Category 2 maternal or fetal compromise which is not immediately life-threatening

Rhesus negative blood were available onsite and one unit of platelets. Urgent haematology, biochemistry and microbiology laboratory results were available to medical staff when required.

3.1.6 Maternity service equipment and supplies

The clinical areas visited by inspectors had emergency resuscitation equipment for women and newborns. Checklists showed that emergency equipment was required to be checked daily and weekly and inspectors found that most of the clinical areas visited had their checklists completed as scheduled. Fetal monitoring equipment and cardiotocography machines viewed by inspectors in the Labour Ward were labelled to indicate that they had been serviced.

Emergency supplies and medications were readily available in the clinical areas inspected to manage obstetric emergencies such as maternal haemorrhage, eclampsia and neonatal resuscitation. Inspectors observed an obstetric emergency trolley in the Maternity Ward and the Labour Ward that had all the necessary supplies, equipment and documentation readily available to help staff effectively manage a major obstetric emergency that included postpartum haemorrhage, pre-eclampsia and sepsis.

Table 5 lists the National Standards relating to effective care and support focused on during this inspection and key findings in relation to the hospital's level of compliance with the National Standards monitored during this inspection.

Table 5: HIQA's judgments against the National Standards for Safer Better Maternity Services for Effective Care and Support that were monitored during this inspection

Standard 2.1 Maternity care reflects best available evidence of what is known to achieve safe, high-quality outcomes for women and their babies.

Judgment: Compliant

Standard 2.2 Maternity care is planned and delivered to meet the initial and ongoing assessed needs of women and their babies, while working to meet the needs of all women and babies using the service.

Key findings: Limited capacity in theatre to deal with two coinciding emergencies including an obstetric emergency during core working hours.

Judgment: Partially compliant

Table 5: HIQA's judgments against the National Standards for Safer Better Maternity Services for Effective Care and Support that were monitored during this inspection

Standard 2.3 Women and their babies receive integrated care which is coordinated effectively within and between maternity and other services.

Judgment: Compliant

Standard 2.4 An identified lead healthcare professional has overall clinical responsibility for the care of each woman and that of her baby.

Judgment: Compliant

Standard 2.5 All information necessary to support the provision of effective care, including information provided by the woman, is available at the point of clinical decision-making.

Judgment: Compliant

Standard 2.7 Maternity care is provided in a physical environment which supports the delivery of safe, high-quality care and protects the health and wellbeing of women and their babies.

Key findings: Limited space in the special care baby unit between cots, assessment room for pregnant women in the Emergency Department had limited space and was not located near toilet. Not all rooms in the Labour Ward had ensuite facilities. The hospital planned to upgrade an anaesthetic room which could be used in the event of coinciding emergencies in the interim of securing funding for a new designated obstetric theatre. However, the hospital acknowledged that this would not meet recommended infrastructural specifications for a modern surgical facility for maternity services, and intended that this would only be a temporary measure while awaiting funding for a new theatre.

Judgment: Non-compliant

Standard 2.8 The safety and quality of maternity care is systematically monitored, evaluated and continuously improved.

Key findings: The hospital monitored performance using key performance indicators. However, while the hospital had an audit plan, auditing practice was sporadic and audits conducted in the hospital did not follow a prescribed structure.

Judgment: Substantially compliant

3.2 Safe Care and Support

A maternity service focused on safe care and support is continually looking for ways to be more reliable and to improve the safety and quality of its service. In relation to obstetric emergencies, this inspection sought to determine how risks to the maternity service were identified and managed, how patient safety incidents were reported and if learning was shared across the service. Inspectors also looked at how the hospital monitored, evaluated and responded to information and data relating to outcomes for women and infants, and feedback from service users and staff.

Inspection findings in relation to safe care and support are described next.

Inspection findings

3.2.1 Maternity service risk management

The hospital had systems in place to identify and manage risks. Risks in relation to the maternity service were recorded in a corporate risk register along with agreed risk control measures. The risk register was reviewed and updated quarterly at the Hospital Management Team meeting and it was also reviewed at the Women's Health and Children's Directorate Team Committee meetings. Risks that could not be managed at hospital level were escalated to the Saolta University Health Care Group.

Risks recorded in the hospital's corporate risk register at the time of the inspection relevant to this monitoring programme included:

- non-availability of a dedicated emergency obstetric operating theatre
- midwifery staff shortages.

Clinical incident reporting

The hospital had an established system for reporting clinical incidents. Clinical incidents were reported by staff on the hospital's electronic management system. Staff who spoke with inspectors described the process of reporting clinical incidents and all were aware of their responsibility to report incidents.

Clinical incident reports pertaining to the maternity and paediatric services were prepared by the Quality and Patient Safety Department and reviewed by the Women's Health and Children's Directorate Team Committee each month. Inspectors viewed these reports and noted incidents were tracked and trended to identify the most commonly reported clinical incidents. Clinical incidents were classified under a number of headings for example, perinatal incidents, documentation and communication.

Clinical incidents in relation to maternity services were also reviewed by the Hospital Management Team every month. Patient safety incidents were reported onto the National Incident Management System^{§§§§§§} in line with national guidelines.¹³

Medical, midwifery and nursing staff received feedback about clinical incidents from the clinical risk manager and feedback on clinical incidents was also recorded on the hospital information management system for staff to access.

Feedback from women

There was a formalised process to monitor compliments and respond to complaints from women using the maternity service. Complaints were an agenda item at the Hospital Management Team weekly meetings. These were also discussed and reviewed at the Women's Health and Children's Directorate Team Committee meetings each month. Patient feedback was sought through the service user's feedback forum which service users sat on. In addition, patient feedback was sought through the Health Service Executive 'Your Service, Your Say' line with national policy.¹⁴ The patient experience maternity metrics collected monthly showed that the hospital achieved a satisfaction rate of greater than 90% with the maternity services.

3.2.2 Maternity service monitoring and evaluation

A range of different clinical measurements in relation to the quality and safety of maternity care were gathered at the hospital each month in line with national HSE Irish Maternity Indicator System reporting requirements.¹⁵

Irish Maternity Indicator System (IMIS) data was reviewed at the Women's Health and Children's Directorate Team Committee meetings and also at the Saolta University Health Care Group Women's and Children's Directorate meetings each month. Inspectors found that the hospital used patient outcome data to identify potential risks to patient safety and opportunities for improvement. For example, the IMIS report 2018 identified outliers^{*****} that related to caesarean section rates which were higher than the national average rate. Medical staff who spoke with inspectors reported that the hospital was monitoring the caesarean section rates and reviewed caesarean section cases and cardiotocography interpretation to ascertain if the caesarean section could have been avoided and share learning. The hospital used the Robson 10-Group Classification⁺⁺⁺⁺⁺ for assessing, monitoring and comparing caesarean sections rates for women at the hospital.¹⁶

^{§§§§§§} The State Claims Agency (SCA) National Incident Management System (NIMS) is a risk management system that enables public hospitals to report incidents in accordance with their statutory reporting obligations.

^{*****} An outlier is an observation that lies an abnormal distance from other values in a random sample from a population.

⁺⁺⁺⁺⁺ Robson classification is a system that classifies women into 10 groups based on their obstetric characteristics (parity, previous CS, gestational age, onset of labour, fetal presentation and the number of fetuses).

While the hospital had no Vaginal Birth after Caesarean Section (VBAC) clinic, inspectors were informed by medical staff that consultants obstetricians where appropriate would discuss with pregnant women who had a previous caesarean section the option of trial of labour.

Key performance indicator findings were presented to the Women's Health and Children's Directorate Team Committee and also to the hospital group each month. Key performance indicators monitored each month included the following:

- ultrasound availability
- vaginal birth after caesarean section (VBAC) rate
- to reduce the number of babies arriving in Special Care Baby Unit with a temperature less than 36.5 degrees
- paediatric Emergency Department admissions
- waiting list times.

The Women's Health and Children's Directorate Team Committee also produced a monthly performance report on clinical incidents, complaints, unscheduled care and scheduled care and staffing levels for the Hospital Management Team.

The hospital held a perinatal mortality and morbidity and maternal morbidity review meetings every three months. Documentation provided to inspectors indicated that attendance at the three monthly perinatal mortality and morbidity and maternal morbidity meetings included consultant obstetricians, paediatricians and anaesthesiologists and midwives and intensive care staff. In addition, as discussed in section 3.1.3 above, inspectors were informed that perinatal mortality and morbidity cases were reviewed every Thursday at the multidisciplinary team clinical handover morning meetings. The anaesthetic department held a maternal morbidity meeting that was incorporated into an education session every week.

The hospital published monthly maternity patient safety statements in line with national HSE reporting requirements.

Clinical audit

Mayo University Hospital had an audit plan for 2018-2019. The hospital provided documentary evidence to inspectors that indicated that audit activity was sporadic and audits conducted in the hospital did not follow a prescribed structure. The audit plan did not clearly outline who was responsible for each audit and the frequency of the audit. In addition, there was no audit report template with the exception of the sepsis audit to include action plans to address any opportunities for improvement and learning in practice.

The hospital had completed the following audits in 2018 -2019:

- maternal sepsis audit
- Venous Thromboembolism^{*****} risk assessment audit
- Irish Maternity Early Warning System midwifery metrics
- cardiotocography audit
- audit of time to delivery interval for category one and two caesarean sections January to March 2019.

The hospital had implemented a venous thromboembolism risk assessment form. This assessment form was used to risk assess women and determined the need for thromboembolism prophylaxis. Compliance with completion of the venous thromboembolism risk assessment form was audited each month and the findings presented to the multidisciplinary team at their clinical handover morning meeting. Inspectors viewed audit findings from January to May 2019 and noted that there was poor compliance with the documentation of risk assessments. While an action plan was devised to address areas for improvement, the action plan was not time bound and no one person was assigned responsibility to ensure that the action plan was implemented.

Inspectors also viewed audit findings related to monthly cardiotocography audits and audits on the use of the 'Fresh Eyes' sticker^{§§§§§§§§}. Similarly, there was an absence of a time bound action plans to address areas for improvement with these audits findings.

The hospital had completed a compliance audit for maternal sepsis as part of a HSE national sepsis audit programme from May to June 2018. This audit identified areas of good practice relating to the timing of antimicrobial therapy received by woman, blood tests and use of maternal sepsis form. There was good evidence of adherence to the escalation protocol and consultation with the microbiologist. Areas for improvement were identified and recommendations made.

Members of the Hospital Management Team who spoke with inspectors confirmed that the hospital was planning to set up an Audit and Quality Assurance Committee and had devised terms of reference (2018-2019) for this committee. In the interim, the General Manager and the Associated Clinical Director had oversight of audit practice. The hospital had a number of senior midwifery managers who could

***** Venous thromboembolism (VTE) refers to a blood clot or thrombus occurring in the deep veins, usually of a leg (deep vein thrombosis, DVT) and/or which has fragmented and travelled to the lungs (pulmonary embolism, PE).

§§§§§§§§ A buddy system and a 'fresh eyes' approach to CTG interpretation should be used in all units interpreting continuous CTG as there is evidence this may reduce errors in CTG interpretation(RCOG 2015).

provide the leadership to effectively drive improvement in practice of auditing and the implementation of quality improvement initiatives and shared learning.

Following this inspection, the hospital needs to continue with their plans to establish an Audit and Quality Assurance Committee to provide governance oversight of audit and assurance to the Hospital Management Team on the safety of maternity services. Senior hospital manager's also needs to review the audit process to ensure that audits conducted in the maternity services followed a prescribed structure.

Annual clinical report

The Women's and Children's Directorate published an annual clinical report that detailed maternal and neonatal outcomes, service activity and initiatives at each hospital providing maternity services within the hospital group including Mayo University Hospital.¹⁰

3.2.3 Quality improvement initiatives developed by staff at the hospital

The hospital had a quality improvement plan (2019) aimed at improving the quality and safety of maternity care although it did not have a structured and resourced quality improvement programme. This quality improvement plan identified the following areas for improvement:

- provide a bereavement room for parents
- introduce a post-partum haemorrhage trolley for the Labour Ward and the Maternity Unit
- plan to implement the national maternity strategy supported care model
- plan to upgrade the computer system on the combined antenatal and postnatal ward.

The hospital had introduced a post-partum haemorrhage trolley for the Labour Ward and Maternity Unit as a quality improvement initiative following review of clinical outcome data which indicated that the hospital was an outlier for post-partum haemorrhage. A retrospective review of patient's healthcare records looked at how blood loss was estimated. Midwifery staff who spoke with inspectors reported that although they had not audited the impact of introducing this obstetric emergency trolley in the Labour Ward, they reported that it had improved practice. Following this inspection the hospital should audit the effectiveness of this quality improvement initiative to provide assurance that the initiative helped to reduce the incidents of post-partum haemorrhage.

Additional quality improvement initiatives included the following:

- multidisciplinary team clinical handover meetings that also functioned as peer review safety meeting
- paediatric huddle meetings
- safety pause meetings
- implementation of risk reduction strategies to reduce the number of babies admitted to the Special Care Baby Unit with hypothermia.

The hospital introduced risk reduction strategies to reduce the incidence of babies being admitted to the Special Care Baby Unit with hypothermia. Risk reduction strategies included promoting skin to skin contact and adequate covering of the baby to ensure that the baby was kept warm.

Table 6 lists the National Standards relating to safe care and support focused on during this inspection and key findings in relation to the hospital's level of compliance with the National Standards monitored during this inspection.

Table 6: HIQA's judgments against the National Standards for Safer Better Maternity Services for Safe Care and Support that were monitored during this inspection

Standard 3.2 Maternity service providers protect women and their babies from the risk of avoidable harm through the appropriate design and delivery of maternity services.

Judgment: Compliant

Standard 3.3 Maternity service providers monitor and learn from information relevant to providing safe services and actively promote learning, both locally and nationally.

Judgment: Compliant

Standard 3.4 Maternity service providers implement, review and publicly report on a structured quality improvement programme.

Key findings: The hospital had a quality improvement plan, but did not have a structured and resourced quality improvement programme.

Judgment: Substantially compliant

Standard 3.5 Maternity service providers effectively identify, manage, respond to and report on patient safety incidents.

Judgment: Compliant

4.0 Conclusion

Women and their babies should have access to safe, high-quality care in a setting that is most appropriate to their needs. Inspectors found that Mayo University Hospital was compliant with the majority of the National Standards in relation to quality and safety and capacity and capability that were focused on during this inspection.

There was a clearly defined and effective leadership, governance and management structure at the hospital and within the Saolta University Health Care Group to ensure the safety and quality of maternity services. The hospital's senior management team monitored performance data including patient outcomes, service user feedback and patient safety incidents to provide assurance on the safety of the maternity service. However, inspectors found that clinical governance arrangements required review to ensure that findings from clinical audits are reported and their implementation is monitored effectively at senior management level.

Hospital management was actively working to optimise maternal care and to progress implementation of the National Standards.

The hospital had developed collaborative working arrangements with the other four hospitals providing maternity services within the Saolta University Health Care Group. Saolta University Health Care Group were actively progressing the implementation of a managed clinical academic network. This was not formalised at the time of inspection.

Hospital management was satisfied that they had control measures in place to address a potential risk identified by the hospital and also identified by HIQA during this inspection in relation to the safety of the mother and baby if there was no immediate access to an operating theatre for a category one caesarean section during core working hours. The hospital, with ultimate accountability, were assured that they had operating theatre capacity and control measures in place during core working hours to manage this risk.

The hospital had systems in place to identify women at high risk of complications and to ensure that their care was provided in the most appropriate setting. Effective arrangements were in place to detect and respond to obstetric emergencies and to provide or facilitate on-going care to ill women and or their babies. The hospital had successfully implemented a daily multidisciplinary team clinical handover meeting which also functioned as a peer review safety meeting.

The hospital had achieved a high level of compliance with some mandatory training programmes. However, hospital management should continue to ensure that

relevant clinical staff undertaken mandatory and essential training at the required frequency, appropriate to their scope of practice in line with National Standards.

The hospital had a suite of policies, procedures and guidelines in relation to maternal care and obstetric emergencies, but some of these needed to be ratified for local use. The hospital needs to ensure following this inspection that all policies, procedures and guidelines in use are ratified for use in the hospital by their Policies, Procedures and Guidelines Committee.

Mayo University Hospital had an audit plan in place, but inspectors found that clinical audit activity in the maternity services was sporadic and audits conducted in the hospital did not follow a prescribed structure. Following this inspection, senior hospital manager's needs to review the audit process to ensure that audits conducted in the maternity services followed a prescribed structure to provide the necessary assurances about the quality and safety of services.

The hospital had implemented a number of quality improvement initiatives to support the delivery of a safe maternity service.

Following this inspection the hospital needs to address the opportunities for improvement identified in this report and requires the support of the hospital group and the HSE to progress the development of maternity services at the hospital and the transition to a maternity network.

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