



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Report of the unannounced inspection of maternity services at University Hospital Waterford

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

Dates of inspection: 23 July 2019 and 24 July 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 2018.³ 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 need to be able to quickly identify potential problems and respond effectively to evolving clinical situations.

The monitoring programme assessed if specified National Standards in relation to leadership, governance and management had been implemented.³ 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 specified National Standards in relation to effective care and support and safe care and support had been implemented.³ 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

University Hospital Waterford is a statutory acute hospital which is owned and managed by the Health Service Executive (HSE). The hospital is part of the South/South West Hospital Group.[†] The Maternity Unit is co-located with the general hospital. There were 1801 births at the hospital in 2018.

To prepare for this inspection, inspectors reviewed a completed self-assessment tool[‡] and preliminary documentation submitted by University Hospital Waterford 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 University Hospital Waterford is included in the Table 1.

Table 1- Inspection details

Dates	Times of inspection	Inspectors
23 July 2019	11.15hrs to 18.00hrs	Siobhan Bourke Aileen O Brien
24 July 2019	08:00hrs to 13.50hrs	Kay Sugrue

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

- members of the hospital's Executive Management Board including the Deputy General Manager, the Director of Midwifery, the Interim Director of Nursing, the Clinical Director of the Peri-Operative Directorate.
- the hospital's lead consultants in each of the clinical specialties of obstetrics, and paediatrics and anaesthesiology.

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

[†] The South/South West Hospital Group includes University Hospital Waterford, University Hospital Kerry, Cork University Hospital, Cork University Maternity Hospital, Mercy University Hospital, South Tipperary General Hospital, South Infirmary Victoria University Hospital, Bantry General Hospital, Mallow General Hospital and Kilcreene Orthopaedic Hospital.

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

- An assessment area in the Delivery Suite where pregnant and postnatal women who presented to the hospital with pregnancy-related concerns were reviewed.
- The Delivery Suite where women were cared for during labour and childbirth.
- The Intensive Care Unit where women who required additional monitoring and support were cared for.
- An obstetric operating theatre, adjacent to the Delivery Suite, for women undergoing surgery, for example in the case of caesarean section. An obstetric and gynaecology operating theatre in the hospital's Operating Theatre Department.
- The Neonatal Unit where babies requiring additional monitoring and support were cared for.
- The postnatal ward where women were cared for after childbirth.

Information was gathered through speaking with midwifery and nursing managers, 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.

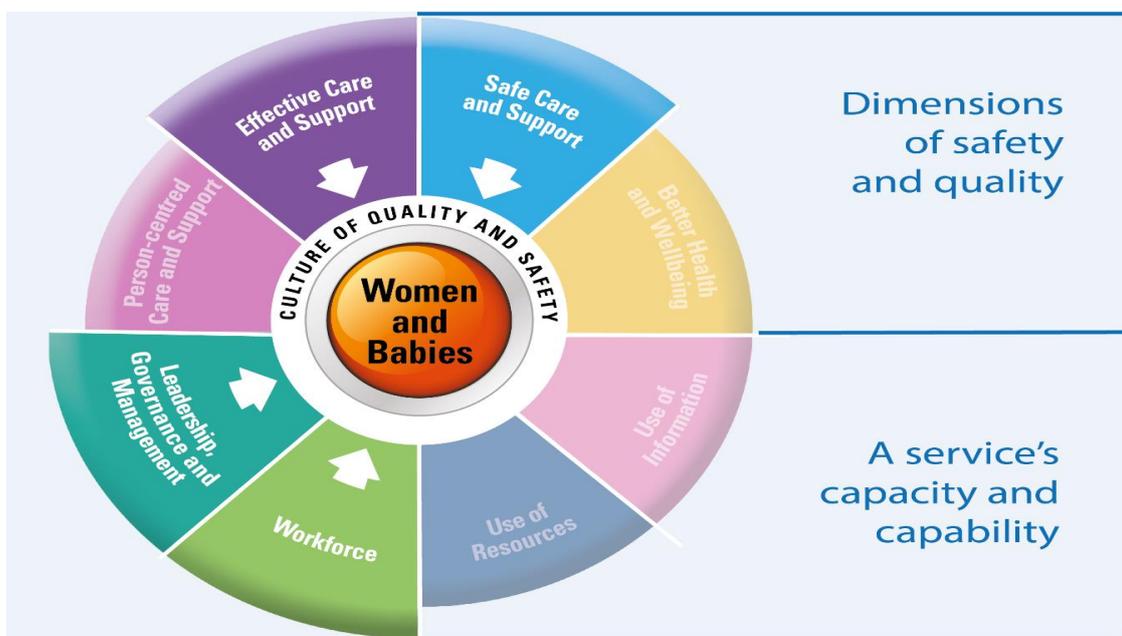
HIQA would like to acknowledge the cooperation of the hospital management team and all staff who facilitated and contributed to this unannounced inspection.

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 structure and corresponding National Standards and 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, University Hospital Waterford was compliant with seven National Standards, substantially compliant with two National Standards and partially 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 3 and Table 4, within this section.

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 obligations.

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

At the time of inspection HIQA found that the maternity service at University Hospital Waterford was not part of a formalised maternity network[§] under a single governance framework. Notwithstanding this observation, it was evident to inspectors that the South/South West Hospital Group was working to progress a maternity network to incorporate maternity services within the hospital group under one governance structure.

In anticipation of the transition to a formalised maternity network, the hospital group established a maternity services directorate in February 2017 under the leadership of a clinical director for maternity services for the maternity hospital and three maternity units^{**} within the South/South West Hospital Group.

HIQA found examples of good collaborative working arrangements and practices within the South/South West Hospital Group in the interim of the formation of a formal maternity network. These included the following:

- A short daily telephone meeting of representatives from each of the maternity units in the South/South West Hospital Group which was facilitated by the Clinical Director for Maternity Services. Activity levels and women and neonates with high risks or complex care needs in all four maternity units and hospital in the South/South West Hospital Group were discussed with the hospital group Clinical Director for Maternity Services at these meetings.
- A formally ratified mandatory inter-hospital transfer of woman and or infants policy was in place to facilitate the transfer of women and newborn infants who required specialised care from University Hospital Waterford to Cork University Maternity Hospital.
- The Director of Midwifery and the Clinical Lead for obstetrics from University Hospital Waterford attended the Executive Management Committee meeting of the South/South West Hospital Group Maternity Directorate every two weeks. The Irish Maternity Indicator System^{††} (IMIS) data for the four maternity units and hospital were reviewed at these meetings and Maternity

[§] 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 four hospitals providing maternity services in the South/South West Group were Cork University Maternity Hospital, University Hospital Waterford, University Hospital Kerry and South Tipperary General Hospital.

^{††} This data is gathered at the hospital each month and reported to the National Clinical Programme For Obstetrics and Gynaecology in line with national HSE reporting requirements.

Patient Safety Statements^{††} for all four sites were signed off by the South/South West Hospital Group Clinical Director for maternity services.

- Monthly consultant obstetrician meetings with Cork University Maternity Hospital's consultant obstetricians and the consultant obstetricians in the three maternity units.

Following this inspection, the South/South West Hospital Group now needs to actively progress the implementation of a managed maternity network in order to facilitate a single governance framework and rotation of staff between sites to meet training and service requirements as recommended in the National Maternity Strategy.⁴

In the interim of the transition to a formalised maternity network, operational responsibility and accountability for the maternity service at University Hospital Waterford rested with the General Manager of the hospital.

University Hospital Waterford leadership, governance and management

The General Manager had overall managerial responsibility and accountability for the maternity service at the hospital. A new General Manager was appointed to the hospital in January 2019. The General Manager at the hospital was supported in the management of the maternity service and general hospital services by the Executive Management Board. The General Manager reported to the Chief Executive of the South/South West Hospital Group and attended performance meetings each month with the hospital group management team.

Clinical leads were appointed in each of the specialities of obstetrics, anaesthesiology and paediatrics at the hospital. These clinicians were responsible for overseeing training for non-consultant hospital doctors and representing their respective specialties in relation to service provision at the hospital.

Executive Management Board

The Executive Management Board, chaired by the General Manager met every month and membership included:

- the Clinical Director for Perioperative Medicine
- the Clinical Director for Medicine
- the Clinical Director for the Diagnostics Directorate
- the Director of Nursing

^{††} The Maternity Patient Safety Statement contains information on 17 metrics covering a range of clinical activities, major obstetric events, modes of delivery and clinical incidents

- the Director of Midwifery
- the Clinical Lead in Obstetrics
- and the Clinical Lead in Paediatrics

A sample of minutes reviewed by inspectors indicated that the Director of Midwifery and the Clinical Lead in Obstetrics gave regular updates on issues relevant to the maternity services at these meetings.

Safety and Quality Executive Steering Committee

The General Manager of the hospital was the chair of the Safety and Quality Executive Steering Committee at the hospital. The purpose of this committee was to provide assurance to the Executive Management Board in relation to safety and risk governance arrangements, to monitor and respond to quality safety and risk issues arising at the hospital and to provide oversight of a number of committees operating at the hospital. This Committee met each month and the Director of Midwifery represented the maternity service on this Committee.

In addition, the Director of Midwifery also represented the maternity service at the South/South West Maternity Directorate daily meeting.

The hospital's Serious Incident Management Team was responsible for reviewing and overseeing the management of serious incidents and serious reportable events.^{§§} Membership included the General Manager, the Director of Midwifery, the Director of Nursing and the Clinical Directors for the Diagnostics and the Clinical Directors for the Perioperative Service.

Multidisciplinary Team Meeting

The Maternity Unit of the hospital held an operational team meeting each month. This meeting known as the Multidisciplinary Team Meeting was led by the Clinical Lead for Obstetrics and was responsible for making operational decisions and for reviewing aspects of maternal care in relation to medication, equipment and relevant guidelines and recommendations. This forum also generated topics for discussion at journal club meetings. The Director of Midwifery, consultant obstetricians, midwifery managers, the advanced midwife practitioner and a representative of midwives and non-consultant hospital doctors attended this meeting.

§§ Serious Reportable Events are a defined subset of incidents which are either serious or that should not occur if the available preventative measures have been effectively implemented by healthcare providers. The HSE requires that Serious Reportable Events are mandatorily reportable by services to the Senior Accountable Officer of the service.

Obstetric and Neonatal Clinical Governance Group

The Maternity Unit had an Obstetric and Neonatal Clinical Governance Group that met each month. This group was responsible for:

- reviewing maternity service activity and clinical outcomes
- tracking and trending of clinical incidents
- oversight of clinical audit at the Maternity Unit
- review of feedback from women and their families.

The hospital's clinical risk manager gave regular reports on quality and patient safety issues at these meetings.

The maternity service had developed a three year strategic plan with short and medium term goals aligned to the National Maternity Strategy and the themes of the National Standards.

Safety alerts in relation to medical devices and medicines were communicated to staff at the hospital.

In line with National Standards, the hospital had a statement of purpose for maternity and neonatal services which outlined a philosophy of care, service aims and objectives, services and facilities available at the hospital, organisational structure and staffing resources.

Inspectors found that there was a clearly defined and effective leadership, governance and management structure to ensure the quality and safety of maternity services provided at the hospital.

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 level of compliance with the National Standards monitored during this inspection.

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: Compliant

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, 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: Compliant

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

Judgment: Compliant

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

Judgment: Compliant

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

Judgment: Compliant

Standard 5.11 Maternity service providers 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 midwifery and nursing 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 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 staff

The hospital met the HSE's national benchmark for midwifery staffing in line with the HSE's Midwifery Workforce Planning Project.⁵ The Maternity Unit had 72 whole time equivalent (WTE) midwifery positions approved at the hospital and there were 4.7 permanent midwifery positions vacant at the time of the inspection. Inspectors were informed that the Neonatal Unit had 31 WTE positions approved and 29.5 permanent positions were filled at the time of inspection. The Maternity Unit had an integrated hospital and community midwifery service that was staffed by an Advanced Midwife Practitioner and three midwives. The Integrated Hospital and Community Midwifery Service was seeking approval to increase the number of midwives from three to four.

Staffing levels for the Maternity Unit were discussed at the daily safety huddle. Internal rotation of midwifery staff enabled midwifery management to redeploy midwives to areas of high activity when required. An experienced midwife shift leader was in place for each shift in the Delivery Suite. Inspectors were informed that a number of these shift leader positions had been recruited and filled in December 2018 but were filled in an acting capacity due to HSE employment controls. Shift leaders in the Delivery Suite were not always supernumerary at times of high activity. The hospital offered overtime to their midwifery staff to fill vacant shifts when required. Recruitment of midwives and nurses was ongoing at the hospital. All women in established labour had one to one support.

The Operating Theatre Department had its full complement of nursing staff at the time of the inspection.

Specialist support staff

A sufficient number of trained fetal ultrasonographers were employed to provide a fetal ultrasound service in line with National Standards during core working hours.***

The hospital was staffed and managed so that emergency caesarean sections could be performed urgently when required. There was a dedicated obstetric operating theatre that was alongside the Delivery Suite and this operating theatre was staffed with midwives who were trained to assist for obstetric surgical procedures.

The hospital assigned a dedicated anaesthetic nurse for the obstetric operating theatre 24 hours a day from the Operating Theatre Department's cohort of nursing staff. During and outside of core working hours, should two coinciding obstetric emergencies occur, the emergency operating theatre in the Operating Theatre Department, which was located on the same level and in close proximity to the Delivery Suite, was accessed. This theatre was staffed with operating theatre nursing staff from the Operating Theatre Department.

The hospital did not have a midwifery clinical skills facilitator in line with National Standards. Inspectors were informed that hospital management had requested funding for this position from the HSE but approval had not yet been received. Training and clinical support for midwives in the Delivery Suite was provided by the Advance Midwife Practitioner, the clinical placement co-ordinator and senior midwifery managers in the absence of this position.

2.2.2 Medical staff

Medical staff availability

The hospital was staffed with medical staff at specialist registrar, registrar and senior house officer grade 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 on site 24 hours a day, seven days a week to attend to obstetric emergencies, neonatal emergencies and cardiac arrests.

On-call consultant obstetricians, anaesthesiologists and paediatricians were accessible to medical and midwifery staff and staff who spoke with inspectors stated they were onsite promptly when called to attend.

Consultants in the specialties of obstetrics, anaesthesiology and paediatrics were registered as specialists on the relevant specialist register with the Medical Council in Ireland.

*** *** The self-assessment tool submitted by the University Hospital Waterford reported that core working hours for medical staff at the hospital were from 08.00hrs to 18.00hrs Monday to Friday.

Obstetrics

The hospital had approval for five WTE consultant obstetricians. At the time of the inspection, four of these positions were filled by consultants with permanent contracts. Inspectors were informed that the fifth consultant obstetrician position was with the Consultants Applications Advisory Committee⁺⁺⁺ for approval. One of the permanent consultant obstetricians was on planned temporary leave and the hospital was unable to recruit a locum to fill this position. Therefore, the hospital had an on-call rota outside of core working hours for consultant obstetricians whereby consultants were on call from home usually one in every three nights. HIQA is of the view that this level of consultant obstetrician staffing does not enable a sustainable on-call rota.

A consultant obstetrician was rostered to be on call for the Delivery Suite from Monday to Friday during core working hours. A rota of two non-consultant hospital doctors in obstetrics, one at registrar grade and one at senior house officer grade were on call onsite in the Maternity Unit 24 hours a day.

Anaesthesiology

The hospital had approval for 11.5 WTE consultant anaesthesiologists and 10.5 of these were filled on a permanent basis and one position was filled by a locum consultant. The hospital had an on-call rota outside of core working hours for consultant anaesthesiologists whereby consultants were on call from home usually one in every nine nights. These consultant anaesthesiologists were responsible for providing anaesthetic services for the Emergency Department, the Intensive Care Unit, the Operating Theatre Department and the Maternity Unit.

Inspectors found that anaesthetic medical staff resources at the hospital at the time of inspection were not in line with national recommendations for hospitals with co-located maternity units.⁶ National recommendations issued in 2016 specify that there should be two consultant anaesthesiologists and two non-consultant hospital doctor in anaesthesiology on call outside of core working hours in hospitals that were co-located with maternity units. In response to this recommendation, the hospital had increased the number of non-consultant hospital doctor positions in anaesthesiology from 12 to 18 WTE in 2018. This enabled the hospital to have three registrars in anaesthesiology on site outside of core working hours. This ensured that one of the registrars in anaesthesiology was immediately available for emergency work in the Delivery Suite in line with National Guidelines.⁷

⁺⁺⁺ The purpose of the Consultants Applications Advisory Committee is to provide independent and objective advice to the HSE on applications for medical Consultants and qualifications for Consultant posts.

Paediatrics and neonatal care

The hospital had approval for six consultant paediatricians at the time of the inspection. Five of these positions were filled on a permanent basis, while one was filled by a locum consultant paediatrician. University Hospital Waterford had a level 2 regional neonatal unit which provided high dependency and intensive neonatal care for premature infants born at greater than 27 weeks gestation and for sick-term infants. As a level 2 regional neonatal unit, national guidelines recommend that these units should be staffed with a combination of neonatologists and paediatricians with a special interest in neonatology with a separate on-call rota for neonatology.⁸ There were no consultant neonatologists employed at the hospital to facilitate this. This should be reviewed. Inspectors were informed that there were plans to increase the number of consultant paediatricians to nine and the hospital was actively recruiting consultant paediatricians with a special interest in neonatology.

At the time of the onsite inspection, consultant paediatricians at the hospital were on call from home one in every six nights. A paediatric registrar and a paediatric senior house officer were available onsite to attend for any neonatal emergencies in the hospital on call onsite in the Maternity Unit 24 hours a day.

2.2.3 Training and education of multidisciplinary staff

Mandatory training requirements

The hospital had defined mandatory training requirements for clinical staff. Clinical staff were expected to undertake training aligned to their clinical responsibilities for example in relation to basic life support, neonatal resuscitation, sepsis, Irish Maternity Early Warning Systems (IMEWS), the management of obstetric emergencies and electronic fetal monitoring.

In 2018, the hospital changed their programme for multidisciplinary team training for the management of obstetric emergencies. To facilitate this change in programme, a multidisciplinary team of midwives, obstetricians and an anaesthesiologist completed a trainer's programme in the United Kingdom. This team provided one training programme at the hospital in February 2019 and it was planned to provide another programme in August 2019.

Mandatory training requirements for obstetric medical staff working in the maternity service included multidisciplinary team training for the management of obstetric emergencies every two years and electronic fetal monitoring every year. Paediatric medical staff were required to undertake training in neonatal resuscitation either prior to commencing employment at the hospital or within the first week of employment. Anaesthetic medical staff were required to undertake training in advanced critical life

support and multidisciplinary team training for the management of obstetric emergencies.

Midwifery staff were required to undertake training in electronic fetal monitoring every year and multidisciplinary training in the management of obstetric emergencies, basic life support and neonatal resuscitation every two years. Nursing staff working in the Neonatal Unit were required to undertake training in neonatal resuscitation every two years.

Uptake of mandatory training

Training records reviewed by inspectors showed that 72% of midwives and all consultant obstetricians were up to date with electronic fetal monitoring training. At the time of inspection, due to the recent change over of non-consultant hospital doctors in mid-July, registration of medical staff for mandatory training was ongoing therefore up to date training records for non-consultant hospital doctors, other than training provided at induction, was not available.

All medical, midwifery and nursing staff had attended training on IMEWS and clinical handover. All nursing and medical staff had completed sepsis training while 55% of midwives were trained. The hospital should ensure that all midwives had up to date training on the management of sepsis.

Seventy two percent of nursing staff working in the neonatal unit and 50% of midwives had completed a neonatal training programme in the two years prior to the inspection.

As previously discussed, the hospital had introduced a new programme for multidisciplinary team training for the management of obstetric emergencies in February 2019. Data provided by hospital management showed that 50% of midwifery staff had completed this training programme. Data was not available in respect of the uptake of this training by doctors. Inspectors were informed that 25 medical and midwifery staff were booked for this training programme in August 2019.

All nurses (100%) and 57.5% of midwives had undertaken basic life support refresher training in the past two years. Data was not available in respect of the uptake of this training by doctors.

Multidisciplinary training sessions that included obstetric emergency scenario based skills and drills training were facilitated by the Advanced Midwife Practitioner, the Clinical Placement Co-ordinator, the Director of Midwifery and a senior midwifery manager every week in the Maternity Unit. Data provided to inspectors indicated that 61% of midwives had attended these skills and drills sessions in the previous two years.

It is essential that hospital management ensure that all relevant clinical staff have undertaken mandatory and essential training at the required frequency, appropriate to their scope of practice. This should be addressed so that hospital management are assured that relevant staff have undertaken training in line with National Standards.

Orientation and training of new staff

Medical, midwifery and nursing staff were provided with induction training when commencing employment at the hospital and orientated to the maternity service. Medical staff were supervised until mandatory training was completed. Newly registered midwives and newly employed midwives were supported in the Maternity Unit with their development of skills and competencies.

Other training and education opportunities for staff

The hospital was recognised as a site for undergraduate midwifery training and higher specialist training for doctors in the specialties of obstetrics and gynaecology, anaesthetics and paediatrics.

The hospital held regular meetings each week to provide teaching and learning opportunities for non-consultant hospital doctors in obstetrics, anaesthetics and paediatrics.

The hospital held weekly meetings where caesarean sections for the previous week and electronic fetal monitoring (cardiotocography) were reviewed to facilitate learning among the obstetric and midwifery team.

Anaesthetic medical staff in the Operating Theatre Department provided regular training in relation to unanticipated difficult airway management.

The obstetric team held a journal club every Thursday where evidence based clinical practice updates were presented for discussion. A journal club was also provided by neonatal nursing and paediatric medical staff for staff working in the neonatal unit.

A multidisciplinary education update for medical, nursing and midwifery staff working in the Maternity Unit was held every Tuesday morning. Areas of practice such as record keeping, update on national clinical guidelines, communication, fetal monitoring and medication management were examples of subjects discussed at these sessions.

The hospital had introduced a lunch and learn session each week that staff in the Maternity Unit could attend. These sessions provided updates on quality improvement projects for frontline clinical staff.

Video linkage between Cork University Maternity Hospital and University Hospital Waterford commenced in January 2019 so that clinical midwifery and medical staff at

the hospital could participate in educational sessions and research updates presented in Cork University Maternity Hospital every week. This initiative was led by the Clinical Director for Maternity Services for the South/South West Hospital Group and was welcomed at the hospital.

Paediatric medical staff had facilities to link with Children's Health Ireland at Crumlin Hospital for grand rounds where updates on aspects of paediatric practice were presented.

Inspectors were informed that midwifery, anaesthesiology and obstetric staff were working collaboratively to provide a training programme for the management of the critically ill pregnant and or postnatal women. This programme was scheduled for November 2019 and was to be offered to medical and midwifery staff working in the maternity units in the South East Region for example, Wexford General Hospital, South Tipperary General Hospital and St. Luke's General Hospital Kilkenny.

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.

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

Key findings: This inspection identified deficiencies in relation to consultant obstetrician, consultant neonatologist, and midwifery staffing levels.

Judgment: Substantially 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 sepsis management, neonatal resuscitation, basic life support, obstetric emergencies and electronic fetal monitoring.

Judgment: Partially 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 11 National Standards in relation to safe and effective care. Of these, University Hospital Waterford was compliant with five National Standards, substantially compliant with five National Standards and partially 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

University Hospital Waterford provided 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

Assessment and referral

The hospital had agreed pathways to identify, assess and ensure that women who were at risk of developing complications during pregnancy or around the time of birth were cared for in an appropriate setting. Assessment services for pregnant and post-natal women included:

- an early pregnancy assessment unit
- two assessment rooms in the Delivery Suite
- consultant-led antenatal clinics
- midwifery-led clinics
- a community based antenatal clinic in Dungarvan
- an anaesthetic pre-assessment clinic

The Early Pregnancy Assessment Unit was open Monday to Friday from 08.00 hours to 18.00 hours where women with complications in early pregnancy were reviewed. Women were referred to the Early Pregnancy Assessment Unit by their general practitioner or obstetric team. The Early Pregnancy Assessment Unit was staffed with two midwives with specialist training in fetal ultrasonography.

Women with medium-risk and high risk pregnancies who were referred for a booking appointment at the hospital by their general practitioners, were referred to one of three consultant-led antenatal clinics.

The hospital provided an integrated hospital and community midwifery service for women with normal risk pregnancies. This service was led by an advanced midwife practitioner and a team of three midwives. Women who accessed this service could avail of a homebirth or a DOMINO^{†††}(Domiciliary In and Out) birth. This service was

††† DOMINO (Domiciliary In and Out): This service is provided by a team of hospital based community midwives who care for women throughout pregnancy, birth and during the postnatal period. Antenatal appointments can take place either in the hospital or in a community setting. The woman generally transfers home within 12-24 hours after the birth.

provided to 176 women in 2018, with the majority of these women opting for DOMINO care.

An outreach antenatal clinic was held every second week in Dungarvan for women with normal risk pregnancies. Midwives and the Advanced Midwife Practitioner facilitated this clinic.

All women were offered a formal dating scan in the first trimester and detailed fetal-assessment ultrasound scan at 20-22 weeks which was in line with national Standards.

Admission pathways

The hospital had agreed pathways in place for the assessment, management and or admission of pregnant and postnatal women presenting with obstetric problems 24 hours a day.

Midwifery and medical staff carried out risk assessments of women at the time of booking, during pregnancy and during and after birth. The maternity service had implemented the Irish Maternity Early Warning System for pregnant and postnatal women.⁹

Pregnant women presenting to University Hospital Waterford were assessed in one of two assessment rooms located in the Delivery Suite. Pregnant women who presented outside of scheduled appointments or as an emergency during and outside core working hours attended these assessment rooms. Women self-referred, were referred by their general practitioner or presented by ambulance.

Women who had recently given birth, who developed complications after they were discharged from the hospital, were advised to attend the postnatal ward for review by a midwife and the medical team.

Pregnant or postnatal women who presented with a surgical or medical problem unrelated to pregnancy, were referred by an obstetric registrar to the medical or surgical team on call at the hospital for assessment.

The Neonatal Unit at University Hospital Waterford accepted babies greater than 27 weeks gestation. Where preterm birth at 27 weeks gestation or less was anticipated, women were referred to the Level 3^{§§§} (tertiary) Neonatal Unit at Cork University Maternity Hospital in line with current national guidelines.⁸ This practice was

§§§ The primary function of tertiary neonatal units is to provide specialised care to infants who are critically unwell. Most of the workload is concentrated on very preterm infants, unwell term infants and infants with major congenital malformations.

supported by a mandatory acceptance policy for transfer of women and newborns developed by the South/South West Hospital Group Maternity Directorate Executive Management Committee for use within the hospital group.

Inspectors were informed that the Maternity Unit had informal links with the fetal medicine service in the National Maternity Hospital and when complications on fetal ultrasound were suspected, clinical staff could readily access clinical expertise and advice from the National Maternity Hospital. Where a fetal congenital abnormality was diagnosed antenatally at University Hospital Waterford, these women were referred to the National Maternity Hospital to access specialised fetal medicine clinics that had paediatric consultant involvement in specialties such as clinical genetics, paediatric cardiology, paediatric neurosurgery and paediatric radiology.

3.1.2 Access to specialist care and services for women and newborns

There was 24-hour access to emergency obstetric surgery, for example emergency caesarean section at the hospital. The hospital was staffed and managed so that emergency caesarean sections could be performed within recommended timeframes. The hospital had two teams of three operating theatre nurses and a porter on call for the hospital's operating theatres each night.

The hospital had a dedicated obstetric operating theatre located in the Delivery Suite. This operating theatre was staffed by midwives working in the Delivery Suite during core working hours. There was one anaesthetic nurse, from the hospital's operating theatre department assigned to this obstetric operating theatre 24 hours a day. In addition, one of the operating theatres in the hospital's Operating Theatre Department was also dedicated to obstetric and gynaecological surgeries.

The anaesthetic nurse support provided by the hospital's Operating Theatre Department had established strong communication links between the hospital's operating theatre department and the obstetric operating theatre located in the Delivery Suite, thereby ensuring that each department though separate was fully aware of planned or unplanned obstetric surgical activity.

Access to clinical specialists

As the Maternity Unit was co-located with a large acute hospital, there was direct access to a number of surgical specialties onsite such as general surgery, vascular surgery and urology. The hospital also had access to medical consultant specialists in cardiology, respiratory and neurology. Radiology services and interventional radiology was also available. Clinical staff could access these specialties as needed for women attending the maternity service.

There was 24-hour access to advice from consultants in the specialties of haematology and microbiology 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 anaesthesia for women in labour and for the provision of anaesthesia for women who require caesarean section and other surgery during birth.

The hospital had a dedicated obstetric anaesthetic service in line with National Standards. This service was led by a consultant anaesthesiologist with specialist training in obstetric anaesthesiology. There was a duty anaesthesiologist immediately available to attend women in the Delivery Suite 24 hours a day in line with relevant guidelines.⁷

Guidelines⁷ and National Standards recommend that there is an agreed system in place for the antenatal assessment of high-risk mothers to ensure that the anaesthetic service is given sufficient notice of women at higher risk of potential complications. The hospital held anaesthetic pre-assessment clinics every week where women with risk factors for anaesthesia or a history of previous complications during anaesthesia were assessed. This clinic was led by a consultant anaesthesiologist.

Critical care

Pregnant and post-natal women who required Level 2^{†††} and Level 3^{††††} critical care were managed in the hospital's four bedded High Dependency Unit and the hospital's five-bedded Intensive Care Unit respectively. National Standards recommend that specialised birth centres^{§§§§} have a high-dependency or observation unit to manage the clinically deteriorating woman. The Maternity Unit was not resourced or equipped to facilitate the provision of level 2 critical care similar to a number of smaller maternity units in Ireland.¹⁰ However, the general hospital's critical care facilities were located on the same floor in close proximity to the Maternity Unit and the Operating Theatre Department.

**** Pre-eclampsia is a medical condition where high blood pressure and protein in the urine develop during pregnancy. If left untreated, it may result in seizures at which point it is known as eclampsia.

††† 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.

§§§§ A specialized birth centre is a delivery suite in an Irish maternity unit or maternity hospital.

Pregnant and postnatal women admitted to the Intensive Care Unit were cared for by a consultant anaesthesiologist and were also reviewed daily by a consultant obstetrician. A midwife from the Maternity Unit also reviewed pregnant and postnatal women during each shift if they were admitted to the Intensive Care Unit. Information provided to inspectors indicated that five pregnant and postnatal women were admitted to the High Dependency Unit or Intensive Care Unit in 2018.

Neonatal care

As outlined previously, University Hospital Waterford had a level 2 regional neonatal unit which provided high dependency and intensive neonatal care for premature infants born at greater than 27 weeks gestation and for sick term infants. Urgent transfers of newborns requiring neonatal intensive care or referral to the tertiary hospital was usually facilitated by the National Neonatal Transport Programme.^{*****} The Neonatal Unit at the hospital again provided care for these babies when they were transferred back from the specialist hospitals for ongoing care.

Premature newborn infants born greater than 27 weeks and pregnant women where preterm birth greater than 27 weeks was anticipated were also transferred to University Hospital Waterford from Wexford General Hospital, St. Luke's General Hospital and South Tipperary General Hospital for neonatal care.

If newborns required therapeutic cooling⁺⁺⁺⁺ for neonatal encephalopathy, the hospital had specialised equipment to commence therapeutic cooling in advance of transfer to Cork University Maternity Hospital.

3.1.3 Communication

Emergency response teams

The hospital had emergency response teams in place 24 hours a day, to provide an immediate response to obstetric and neonatal emergencies. There was an established procedure for requesting support for obstetric and neonatal emergencies whereby a multidisciplinary response team could be summoned for an emergency.

The hospital had an emergency call bell system in each clinical area to alert staff to potential emergencies and facilitate a rapid response to emergency situations. Telephone contact numbers and speed dial numbers for obstetric and paediatric

^{*****} 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.

⁺⁺⁺⁺ 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.

medical staff were clearly displayed beside telephones. However, signage displaying cardiac arrest emergency numbers was not in place in one of the clinical areas visited by inspectors. Information about summoning an emergency response team needs to be clear for staff coming to work at the hospital for the first time. This was brought to the attention of hospital management during the inspection for review.

Multidisciplinary handover

Inspectors identified that nationally mandated guidelines¹¹ in relation to clinical handover in maternity services had not been fully implemented at the hospital. Multidisciplinary clinical handover took place at change of shift each morning between the consultant obstetrician rostered for the Delivery Suite for the day, the on-call obstetric registrars and the midwifery manager for the Delivery Suite. The consultant obstetricians attended the Delivery Suite at 5pm each day to handover to the consultant coming on call for the night. Inspectors found that multidisciplinary handover did not include the anaesthesiologist on duty for the maternity unit. Following this inspection, the hospital should review the systems of clinical handover at the Maternity Unit to ensure that all clinical disciplines involved in the care of pregnant and postnatal women share information to identify potential clinical concerns to improve the safety of care provided in the maternity unit.

Safety Huddles can improve patient safety and provide a collaborative forum to reduce patient harm.¹² Senior midwifery managers, clinical midwifery managers and clinical nursing managers from each clinical area of the Maternity Unit attended a safety huddle each morning in the Delivery Suite. Clinical activity, staffing levels any high risk pregnancies and potential patient safety concerns were discussed and planned at this huddle.

On-call consultant obstetricians conducted ward rounds in the Delivery Suite on weekdays, Saturdays, Sundays and public holidays.

Clinical staff used the Identity-Situation-Background-Assessment-Recommendation (ISBAR) communication format to verbally communicate information about patients in line with national guidelines.¹¹

Other findings relevant to communication

Medical and midwifery staff who spoke with inspectors said that they would have no hesitation about contacting a consultant on duty if they had concerns about the wellbeing of a woman or when advice or additional support was needed.

There was an agreed process in place for accessing an operating theatre for emergency surgery during and outside of core working hours. Staff who spoke with

inspectors were clear about who was the most senior doctor to be called in line with the Irish Early Maternity Warning System escalation process.

3.1.4 Written policies, procedures and guidelines

The hospital had approved and adopted national policies, procedures and guidelines in relation to maternal care and obstetric emergencies for use in the maternity services. These were readily accessible to staff electronically in all clinical areas visited by inspectors.

While there was approved guidelines for the majority of obstetric emergencies, inspectors found that guidelines on the management of shoulder dystocia was not available at the time of the inspection. This finding should be addressed without delay to ensure that staff have access to evidenced-based up-to-date guidance for the management of this obstetric emergency. Tools to aid documentation during an obstetric emergency were available in the Delivery Suite.

The purpose of safe surgery checklists^{****} is to remind staff of the minimum safety checks and to facilitate focused communication between all members of the operating team.¹³ National Guidelines recommend the use of safe surgery checklists in all operating theatres. A safe surgery checklist was completed for surgical procedures in the general Operating Theatre Department. However, this practice was not in place in the obstetric operating theatre in the Delivery Suite. This was brought to the attention of senior management on the day of inspection for review. It is recommended that the use of safe surgery checklists should be standardised across all operating theatres and audited to provide assurance of compliance with its use at the hospital.

3.1.5 Maternity service infrastructure, facilities and resources

Delivery Suite

Overall, inspectors found that the infrastructure of the Delivery Suite required renovation and improvement to meet recommended guidelines.¹⁴

The Delivery Suite was located on Level 2 of the main hospital. There was four single delivery rooms, two of which had ensuite toilet facilities. The Delivery Suite had two single rooms for assessment of women who presented with concerns or complications during pregnancy. The two assessment rooms had ensuite toilet facilities. One of these rooms had a wooden assessment bed that could not be moved should a woman require

**** 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.

transfer to the operating theatre urgently. This needs to be reviewed. The Delivery Suite had one three-bedded room where women were assessed for induction of labour or were cared for if they were in early labour.

On the same floor as the Delivery Suite, inspectors visited a clinical area that was built as a low risk birthing suite in 2015 but was never commissioned. At the time of inspection, this clinical area was being used as the fetal assessment unit, maternity and gynaecology outpatients department and to provide clinical rooms for the advanced midwife practitioner and the midwifery team providing integrated hospital community maternity service. Senior managers told inspectors that they had plans to move the assessment area from its current location in the Delivery Suite to be relocated near the Fetal Assessment Unit. However there was no timeline for these works. Long-term plans for the Maternity Unit included development of an alongside birthing centre^{§§§§§} in line with the National Maternity Strategy in this area.

Operating theatres for obstetrics and gynaecology

National Standards recommend that an obstetric operating theatre is in or adjacent to the labour ward. University Hospital Waterford had a dedicated obstetric operating theatre adjacent to the Delivery Suite. This operating theatre was used for the majority of elective and emergency caesarean sections provided at the hospital. If this operating theatre was in use, clinical staff could access an operating theatre in the hospital's main operating theatre department for emergency surgery. The main operating theatre department was located on the same floor and in close proximity to the Delivery Suite. Inspectors were informed that some obstetric surgery was scheduled to be undertaken in the hospital's main Operating Theatre Department. For example, scheduled caesarean sections for women who were known to have major placenta praevia or placenta accreta.*****

The obstetric operating theatre in the Delivery Suite did not meet recommended infrastructural specifications of a modern surgical facility.¹⁵ There was limited space for the storage of sterile supplies and equipment, as a consequence the procedure room was overstocked and cluttered offering limited area for staff to move around should an emergency occur. The scrub facilities were not segregated from the operating room which was far from ideal. The hospital had recently devised an improvement plan for this theatre, however it is recommended that the hospital's

§§§§§ An alongside birth centre is a birth centre situated in the immediate vicinity of a specialized birth centre (a delivery suite in an Irish maternity unit or maternity hospital)

***** Placenta accreta (and the more severe forms increta or percreta) is a serious pregnancy condition that occurs when the placenta grows too deeply into the uterus; also known as abnormally adherent placenta. The management of abnormally adherent placenta requires specialist multidisciplinary care.

infection prevention and control team should first assess any risks relating to the current infrastructure and facility prior to implementing any improvement measures.

The infrastructure and configuration of the operating theatre designated for obstetric and gynaecological surgery in the main Operating Theatre Department was a higher specification offering more generous size proportions. However, the sterile supplies storage opened directly into the main operating theatre which was not in line with specifications.

Intensive Care Unit

The Intensive Care Unit at the hospital comprised six beds. However, inspectors were informed that only five beds were used to accommodate patients at any one time. Four beds were located in a central open area and there was a further two single rooms, one of which was equipped with mechanical ventilation system for the accommodation of patients requiring specific isolation precautions.

Similar to the findings of a previous HIQA inspection of this unit in 2015, the configuration and design of the Intensive Care Unit remained unchanged and did not meet the desirable standards of a modern day critical care facility.^{16 17}

The infrastructure of the critical care facilities was recorded as a risk on the hospital's corporate risk register. A business plan was submitted to the South /South West Hospital Group to seek funding to upgrade the critical care facilities.¹⁸ This funding had yet to be approved at the time of the inspection.

Post Natal Ward

Post-natal care was provided in a ward with 24 beds. This ward had six single rooms, three two-bedded rooms and three four-bedded rooms.

Neonatal Unit

The Maternity Unit had a modern spacious purpose built neonatal unit that could accommodate 10 cots in the Neonatal Intensive Care Unit and eight cots in the Special Care Baby Unit. The neonatal unit had isolation facilities for neonates requiring specific isolation precautions. There was a dedicated room where women could express breastmilk for their babies in the neonatal unit and a conference room for family meetings.

Laboratory services

Blood and blood replacement products were accessible when required in an emergency for women and infants. 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. The Delivery Suite had neonatal resuscitaires that required updating in line with recommended guidelines for neonatal resuscitation.¹⁹ At the time of inspection one of four of the neonatal resuscitaires in the Delivery Suite had been replaced. There was no timeline for the replacement of the remaining three neonatal resuscitaires. This should be progressed.

The Operating Theatre Department was equipped with a designated obstetric emergency trolley and trollies equipped to assist with the management of unanticipated difficult airway.

Responsibility for ensuring the designated obstetric operating theatres were prepared in advance for emergency surgery and completing daily equipment checks rested with the anaesthetic nurse assigned to the obstetric service.

Emergency supplies and medications were readily available in the clinical areas inspected to manage obstetric emergencies such as maternal haemorrhage and pre-eclampsia.

Cardiotocography⁺⁺⁺⁺⁺ machines for fetal monitoring viewed by inspectors were labelled to indicate when they had been serviced.

Table 5 on the following pages 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.

+++++ Cardiotocography is an electronic means of recording the fetal heart beat and the uterine contractions during pregnancy. The machine produces a trace known as a cardiotocograph which illustrates the fetal heart rate and uterine activity.

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.

Key findings: Safe Surgery checklist was not used in the obstetric operating theatre as recommended in national guidelines. Not all policies, procedures and guidelines for the management of obstetric emergencies were available.

Judgment: Substantially 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.

Judgment: Compliant

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: The overall infrastructure of the Maternity Unit, operating theatres and Intensive Care Unit requires improvement.

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

Key findings: Some clinical audits conducted in the maternity service were not consistently followed up with clear action plans to address any opportunities for improvement that had been identified.

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. The 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.

3.2.1 Maternity service risk management

The hospital had systems in place to identify and manage risks. However, inspectors were informed that current risk register processes were under review at the hospital and the HSE Quality Assurance Division was providing support with this project. Risks in relation to the Maternity Unit were recorded in the Maternity Unit's risk register and the hospital's corporate risk register. The corporate risk register was reviewed by the Safety and Quality Executive Steering Committee every two months. Risks recorded in the Maternity Unit's risk register and hospital's corporate risk register relevant to this monitoring programme included:

- Manpower shortages including medical and midwifery and nursing staff.
- Infrastructure deficiencies and inadequate facilities in relation to the Maternity Unit, the operating theatres and the Intensive Care Unit.

Findings in relation to these issues have already been outlined in this report.

Clinical incident reporting

Inspectors found that there was room for improvement in the Maternity Unit in relation to increasing the level of clinical incident reporting. Hospital management was aware that levels of reporting of clinical incidents had reduced in the Maternity Unit and were looking at ways to address this.

Reported clinical incidents were monitored and reviewed at the Obstetric and Neonatal Clinical Governance Group each month. Learning from review of clinical incidents was shared with staff through the morning safety huddle, multidisciplinary education updates and journal club meetings. Inspectors found that practice changes were implemented in relation to the management of sepsis following a patient safety investigation.

Patient safety incidents were reported onto the National Incident Management System^{*****} in line with national guidelines.²⁰ The management of serious incidents and serious reportable events was overseen by the hospital's Serious Incident Management Team. The Director of Midwifery represented the maternity service at this forum.

Feedback from women

There was a formalised process to monitor compliments and respond to complaints from women using the maternity service. Complaints in relation to maternity services were a standing agenda item at the Obstetric and Neonatal Clinical Governance Group. Inspectors were informed that when women contacted the hospital about a poor experience of maternity care, where possible the Director of Midwifery offered to meet with women to offer an opportunity to discuss their concerns.

The hospital participated in a survey of women's experiences of maternity care in the South/South West Hospital Group in 2017. The findings of this survey were sent to the hospital in 2018 and indicated that the majority of women (over 90%) reported being satisfied with their pregnancy care, their labour and birth and their hospital care after birth. The hospital should develop an action plan to implement the recommendations of this survey relevant to the maternity services provided at University Hospital Waterford.

3.2.2 Maternity service monitoring and evaluation

Clinical outcome and activity measurements in relation to the maternity service were gathered at the hospital each month in line with national HSE Irish Maternity Indicator System reporting requirements.²¹ This data is gathered nationally by the Office of the National Women and Infants Health Programme and the National Clinical Programme for Obstetrics and Gynaecology. This information also allows individual maternity units and maternity hospitals to benchmark their performance against national rates over time. The hospital published monthly maternity patient safety statements in line with national HSE reporting requirements.

HSE Nursing and Midwifery Quality Care-Metrics in relation to care planning, medication and guideline implementation were collected and monitored monthly at the hospital. Irish Maternity Indicator System data and HSE Nursing and Midwifery Quality Care-Metrics data was reviewed at the Obstetric and Neonatal Clinical Governance Group each month.

Inspectors found that the hospital used patient outcome data to identify potential risks to patient safety and opportunities for improvement. Inspectors were informed

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

that this led the maternity multidisciplinary team to review aspects of practice such as administration of blood products, incidence and causes of postpartum haemorrhage and reasons for postnatal readmissions.

The hospital used the Robson 10-Group Classification Scheme for assessing, monitoring and comparing caesarean section data for women at the hospital.¹⁰ Each week, indications and outcomes for caesarean sections performed in the previous week were presented and discussed among the multidisciplinary team. These meetings provided opportunities to closely monitor the hospital's caesarean section rate and identify any areas for improvement. The hospital's reported caesarean section rate was one of the lowest in the country.

Clinical audit

Service providers should regularly audit the care provided to women and their babies to ensure that it is being provided in line with the National Clinical Effectiveness Committee's National Clinical Guidelines and HSE national programme guidelines.¹ The Maternity Unit developed a clinical audit plan for 2018 and 2019. Clinical audits undertaken in the maternity service in the previous 12 months included audits in relation to:

- Compliance with the use of (Identity-Situation-Background-Assessment-Recommendation) ISBAR^{§§§§§§}
- Sepsis management
- Postpartum haemorrhage
- Documentation of swab, needle and instrument count after normal births, operative vaginal births and perineal suturing in the Delivery Suite.

An audit of compliance with the management of maternal sepsis was undertaken in the Maternity Unit in 2018 as part of the HSE National Sepsis Programme. Overall the audit found that compliance with timing of taking blood cultures and timely administration of first dose antimicrobials was good, opportunities for improvement were found in relation to blood sampling for lactate^{*****} measurement and use of the sepsis form. The Maternity Unit had implemented an action plan with agreed timeframes and identified persons responsible for implementing the recommendations of this audit report. The hospital needs to repeat this audit to provide assurance that compliance with these guidelines has been achieved.

§§§§§§ National Clinical Effectiveness Clinical Guidelines recommend that shift clinical handover should be conducted using the ISBAR3 (Identity-Situation-Background-Assessment-Recommendation Readback Risk) as a structured framework which outlines the information to be transferred.

***** Blood lactate levels should be screened in all patients who are suspected of severe infection and sepsis.

The hospital had developed a sticker to improve documentation when perineal suturing was required after a vaginal birth. An audit to ascertain compliance with documentation of swab, needle and instrument counts in the labour ward was conducted every month at the hospital. Results of these audits showed good compliance with this aspect of practice.

A clinical audit to ascertain compliance with the use of Identity-Situation-Background-Assessment-Recommendation (ISBAR) communication tool in the Antenatal Ward, the Delivery Suite and the postnatal ward was conducted from January to April 2019. While compliance rates of 95% were found in the Delivery Suite, 85% compliance was found in the Antenatal Ward. Audit results were fed back to staff in clinical areas and discussed at clinical governance meetings.

It was not clear to inspectors that there was a system in place to ensure that all of the clinical audits conducted in the maternity service were consistently followed up with clear action plans to address any opportunities for improvement that had been identified. Hospital management informed inspectors that there was a plan for closer oversight of clinical audit to be managed through the Maternity Unit's Information Governance Steering Group, that was recently formed. This needs to be progressed.

Annual clinical report

University Hospital Waterford's Maternity Unit published an annual clinical report that included maternal and neonatal outcomes, service activity and initiatives in the maternity service.

The South/South West Hospital Group Maternity Directorate also published a comprehensive annual clinical report that detailed maternal and neonatal outcomes, service activity and initiatives at the Maternity Unit in University Hospital Waterford and the other maternity units and maternity hospital within the Directorate. The South/South West Hospital Group Clinical Director for maternity services attended the Irish Annual Clinical Reports Meeting, organised by the Institute of Obstetricians and Gynaecologists to present this report. At this meeting, maternity units and hospitals' annual clinical reports are assessed by an external assessor and peer-reviewed to enable benchmarking of performance against similar sized units.

Maternal and perinatal morbidity and mortality multidisciplinary meetings

Multidisciplinary maternal morbidity and perinatal mortality and morbidity meetings were held every month in the hospital. Attendance records reviewed by inspectors indicated that these meetings were well attended by midwifery, paediatric and obstetric medical staff. Learning from perinatal mortality and morbidity meetings was shared with staff at team meetings and the safety huddle.

3.2.3 Quality improvement initiatives

The hospital had initiated and developed a number of quality improvement projects aimed at improving the quality and safety of maternity care including the following:

- In March 2019, a plan to improve staff awareness and improve practice in relation to high risk medications in maternity was rolled out. Policy development, clinical audit and education sessions were used to drive this plan.
- Amendment to the medical management of the third stage of labour.
- Implementation of a neonatal alert sheet and standard operating procedure to improve communication and inform neonatal staff of potential complex births.
- Provision of an adult hypoglycaemia pack for the Delivery Suite to improve management of hypoglycaemia episodes for women with diabetes mellitus in the Delivery Suite.
- In August 2018, a multidisciplinary team commenced a 12 month project to develop a care pathway for pregnant and postnatal women with raised body mass index.
- Standardisation of care pathways and care guidelines for pregnant and postnatal women with diabetes mellitus.

Inspectors found that there was some evidence of quality improvement initiatives to drive improvement in the provision of maternity services at the hospital. However, the hospital needs to implement, review and report publically on a structured quality improvement programme in line with National Standards.

Table 6 on the next page 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.

Key findings: The hospital's processes for identifying and managing risk were under review.

Judgment: Substantially 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.

Key findings: Clinical incident reporting level in the Maternity Unit was lower than expected in the months preceding the inspection.

Judgment: Substantially compliant

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

Key findings: No structured quality improvement programme in place but some quality improvement initiatives in place.

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 University Hospital Waterford was compliant or substantially compliant with the majority of the National Standards that were focused on during this inspection.

Maternity services should have effective leadership, governance and management arrangements in place to ensure best practice and safe service provision. These arrangements should be underpinned by risk management and audit, multidisciplinary guidelines, adequate staffing resources, adequate equipment, and sufficient training and education for clinical staff, to facilitate the delivery of safe care and the effective management of obstetric emergencies.

University Hospital Waterford had a clearly defined and effective leadership, governance and management structure at the hospital. There was good oversight of the quality and safety of services by senior managers at the hospital who used multiple sources of information to identify opportunities for improvement. Hospital management was actively working to optimise maternity care and to progress implementation of the National Standards.

HIQA found that University Hospital Waterford was not part of a formalised maternity network under a single governance structure as defined in the National Maternity Strategy. The implementation of a formalised maternity network under a single governance structure needs to be progressed by the South/South West Hospital Group in line with National Standards and the National Maternity Strategy.

The hospital employed medical staff in the specialties of obstetrics, paediatrics, and anaesthesiology who were available onsite to provide care to women and newborns on a 24hour basis. At the time of the inspection, the hospital had vacancies for permanent consultant obstetricians, consultant paediatricians and midwives. The Neonatal Unit was not staffed with consultant neonatologists as recommended for neonatal units providing level 2 neonatal care. Rather, consultant paediatricians with a special interest in neonatology provided this level of care. The neonatology service at the hospital needs to be additionally resourced in line with national guidelines for level 2(regional) neonatal care.

It was evident to inspectors that the hospital provided a number of methods to enhance training and education in relation to obstetric emergencies at the hospital. Skills and drills were held every week at the hospital as were weekly multidisciplinary education sessions and CTG review meetings.

The hospital had clearly defined training requirements for clinical staff in relation to fetal monitoring, adult and neonatal resuscitation and multi-professional training for the management of obstetric emergencies. However, hospital management needs to ensure that mandatory training is always completed by medical, midwifery and nursing staff within recommended timeframes and records of training are maintained for all staff disciplines.

The hospital had arrangements in place to identify women at higher risk of complications and to ensure that their care was provided in the most appropriate setting. Inspectors found that 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 newborn babies. All women were offered fetal ultrasounds in line with National Standards. As the maternity unit was co-located with an acute regional hospital, there was access to a range of clinical specialists at the hospital. The hospital needs to ensure that the safe surgery checklist is used consistently across the hospital's operating theatres and is audited to provide assurance of compliance with its use. Infrastructure in the Delivery Suite, the operating theatre in the Delivery Suite and the Intensive Care Unit required improvement.

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 managed clinical network.

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