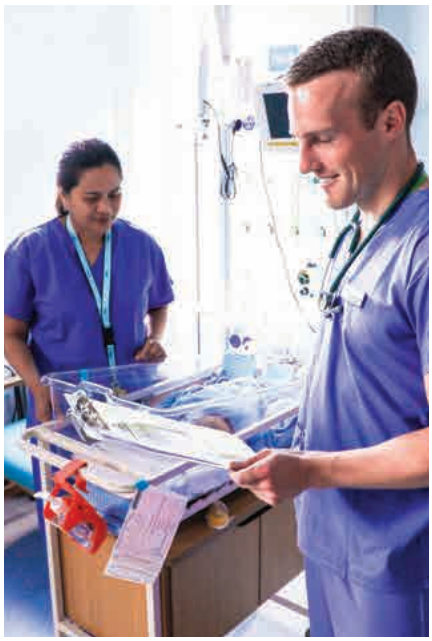
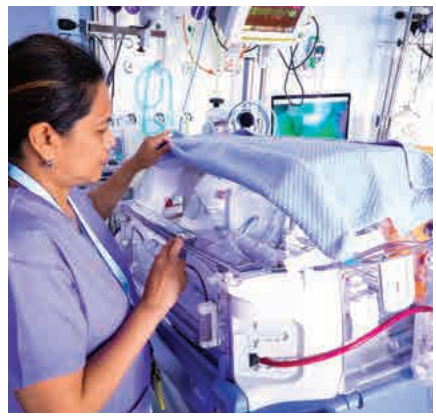
The Rotunda Hospital
Dublin

Annual Report 2018

THE ROTUNDA HOSPITAL DUBLIN

Caring for Generations
Since 1745





About the Rotunda Hospital

In 1745 Bartholomew Mosse, surgeon and man-midwife, founded the original Dublin Lying-In Hospital as a maternity training hospital, the first of its kind. The Rotunda Hospital is unique as an institution in that it has continued to provide an unbroken record of service to women and infants since its foundation. The Rotunda Hospital has been in operation at the Parnell Square campus for 260 years, with the main inpatient building remaining in continuous use since the doors first opened on December 8, 1757, making the Rotunda Hospital the longest serving maternity hospital in the world. The Rotunda remains an independent, voluntary organisation operating under Charter with a Board of Governors and the Mastership System responsible for clinical and operational management. Since the introduction of Hospital Groups in 2013, the Rotunda is the lead maternity centre for the RCSI Hospitals Group.

The ethos and core values of its founder are still at the heart of the Hospital and this is demonstrated through the care and dedication of the staff and the Board of Governors of the Hospital. Over time the Rotunda has evolved into a 198-bed teaching Hospital which provides specialist services in order to support women and their families at a local, regional and national level.

9,760
Mothers Cared for

8,514
Babies Delivered

960
Employees

326
Medical and Nursing Students

Contents

Introduction


Aspergillus Infection

Introduction by the Master

I am delighted to present the annual clinical and management report of the Rotunda Hospital Dublin for 2018, in this my third year as Master. The Rotunda is well on its way towards fulfilling its vision to be "the internationally recognised maternity hospital of choice – outstanding care delivered by exceptional people", becoming the busiest maternity hospital in Ireland, as well as one of the busiest in all of Europe. In 2018, we cared for 9,760 pregnant mothers and delivered 8,514 babies. Our team of 960 staff are our greatest asset and continue to work tirelessly in achieving our vision while providing the best possible care to our patients.

Governance and Management

As a voluntary hospital, now more than ever the value of the governance structure of the Rotunda Hospital remains clear. The Rotunda is managed by an Executive Management Team (EMT), consisting of the Master as Chief Executive Officer, aided by the Secretary/ General Manager and the Director of Midwifery and Nursing. The EMT answers to an independent Board of Governors, drawing on expertise from volunteers from all walks of life. While the Health Service Executive (HSE) provides 80% of our annual budget each year, the Rotunda remains financially and operationally independent in how it provides services as well as how it strategises for the future. In an era in which budgets in the public health service are increasingly difficult to control, the Rotunda again performed superbly in 2018, delivering an effective breakeven budget. From a HSE financial allocation of €59.48 million in 2018, we increased our clinical activity but had a deficit of only €48,000, or 0.08%, which is highly unusual in the public hospital sector.

"In an era in which budgets in the public health service are increasingly difficult to control, the Rotunda again performed superbly in 2018, delivering an effective breakeven budget."

Such superb performance can only be achieved with the support of an extremely committed and talented group of managers. In this regard, I am indebted to Ms. Pauline Treanor, who retired as Secretary-General Manager in 2018, and was replaced by former Director of Finance at the Rotunda, Mr. Jim Hussey. Pauline dedicated 19 years of her life to the Rotunda, first as Director of Midwifery and Nursing, prior to taking the role of Secretary/General Manager in 2008. She was responsible for many achievements at the Rotunda, including optimising the governance processes throughout the hospital and keeping the hospital on a firm financial footing during the recent economic austerity years. I am also indebted to Ms. Margaret Philbin, who retired as Director of Midwifery and Nursing in 2018, and was replaced by a former Assistant Director, Ms. Fiona Hanrahan. Margaret gave 36 years of service to the Rotunda, and amongst her notable firsts was the implementation of advanced nurse practitioner and advanced midwife practitioner roles in Ireland. Pauline and Margaret will be sorely missed from the Executive Management Team and we wish them both well in their retirement. The Rotunda's exemplary operational performance in 2018 is largely due to the groundwork laid over many years by Pauline and Margaret, but has been further improved by their extremely talented successors, Jim Hussey and Fiona Hanrahan.

The Rotunda's Executive Management Team reports clinical and operational performance of the hospital on a monthly basis to its Board of Governors, ably led by Dr. Maria Wilson Browne who has been Chair of the Board of Governors since 2017. The Board acts in a supervisory role to the EMT, constantly challenging and demanding excellence, but also functions as a valuable advisory role in terms of dealing with strategic challenges in the Irish healthcare sector. The ability of the hospital to respond quickly to operational, ethical and clinical challenges is due in large part to the constant support of the Board. It should be noted that all Board members are volunteers representing many different walks of life, including financial, legal,

business, political and media, each of whom give significant amounts of their time for no financial reward of any type.

> "Yet again, the Rotunda has thankfully completed another year of service to our community without experiencing the tragedy of a maternal mortality."

The Rotunda Hospital functions as a partner hospital within the Royal College of Surgeons in Ireland (RCSI) Hospitals Group structure. As the delegated operational arm of the Health Service Executive tasked with administering public hospital services in the North Dublin and North East of Ireland catchment areas, the RCSI Hospitals Group works closely with the Rotunda's EMT in ensuring the highest possible service standards are achieved, in as efficient a manner as possible. We are grateful to the support of the Group CEO, Mr. Ian Carter, and his team in driving forward many of our strategic initiatives in 2018.

Clinical Activity

Over the last number of years, much has been written about the declining birth rate in Ireland, with the suggestion that perhaps maternity service budgets do not need to be expanded, as well as calling into question the continuing need for such large maternity hospitals. However, as can be seen from our clinical activity volume, the decline in birth rates in Ireland has not been uniformly applied throughout the country. Instead, the Rotunda Hospital catchment area continues to see strong population growth, in particular with young families, thereby explaining an actual increase in our delivery volume by 1%. The Rotunda expects to continue to buck the trend of falling delivery volumes at other maternity hospitals, due also to the growing public profile of the hospital's ethos of choice. In this regard, we continue to see increasing demand for our services from patients from outside of our natural catchment area, attracted by the desire to experience a patient-centred care pathway, delivered by outstanding professionals in the safest possible environment, according to the patient's own preferences.

I am proud to report in 2018 a further decline in perinatal mortality rate to 3.0 per 1,000 births, when corrected for serious congenital malformations. In 2018, a total of 9,760 mothers were cared for, and amongst this cohort 8,358 mothers delivered 8,514 babies weighing at least 500g. Yet again, the Rotunda has thankfully completed another year of service to our community without experiencing the tragedy of a maternal mortality. Put simply, mothers registering for obstetric care at the Rotunda can be assured of the highest possible, internationally-benchmarked standards of care in which they are extremely likely to deliver a healthy baby in a safe, patient-centred environment. These clinical results are a testament to the commitment and professionalism of each and every one of the 960 employees of the Rotunda, who we are proud to refer to as the Rotunda Family.

I am also delighted to see our gynaecology clinical activity continue to increase. In particular, the novel "see-and-treat" outpatient hysteroscopy service provided by the Rotunda at its partner Connolly Hospital campus has seen a further marked increase in patient throughput, with patients experiencing the efficiency of a single visit to diagnose and treat common gynaecologic problems. We have also further increased our partnership gynaecology clinics with our General Practitioner colleagues, which have been particularly effective at providing benign gynaecology services for our patients.

The superb clinical outcome data summarised in this year's Annual Clinical Report would not have been possible without the support of our clinical Head's of Department, and in particular our Clinical Director, Dr. John Loughrey. I am indebted to John's work ethic and wise counsel, without whom it would have been impossible for me to lead the Rotunda in 2018. I am also particularly grateful to the entire consultant body at the Rotunda – our team of consultant obstetrician-gynaecologists, anaesthesiologists, neonatologists, pathologists and other medical subspecialists have worked tirelessly in ensuring the safety and satisfaction of all of our patients. Additionally, we have been fortunate to work with a superb team of non-consultant hospital doctors, ably led by our assistant masters.

Strategic Plan

As a critical element of our voluntary hospital ethos, the Rotunda continues to benchmark its operational performance each year against its own five-year strategic plan. Now having completed its second year, the Rotunda Strategic Plan 2017-2021 describes how the hospital will:

- Advance areas of special expertise in women's health, with particular focus on preconceptional care, specialist antenatal care, and gynaecologic care
- Provide best patient and staff experience by its customer service excellence programmes,

knowledge platforms, technology/innovation centres, and hospital infrastructure

- Provide a leadership role for the development of maternity and gynaecologic services for RCSI Hospitals Group

I am glad to report that the Rotunda has achieved significant, measurable progress in each of these strategic areas, including having commenced a new Medical Complications in Pregnancy service, a new Irish Medicines in Pregnancy programme, new hospital websites (www.rotunda.ie and www.rotundaprivate.ie) and social media platforms (@RotundaHospital and @RotundaHospitalDublin), improvements in many parts of the hospital's buildings infrastructure, and enhanced clinical programmes led by the Rotunda at its partner hospitals in Drogheda and Cavan.

"After 274 years of continuous service, our buildings infrastructure is in desperate need of improvement and expansion."

The Rotunda's Executive Management Team on a monthly basis challenges the leaders of the hospital's various Divisions and operational units to address performance in light of our strategic plan. Additionally, the EMT regularly reports back to the Rotunda Board of Governors on its progress in meeting our strategic goals. We are confident that we remain on target to achieve all relevant goals by the 2021 deadline as set by our original strategic plan.

Hospital Infrastructure

As pointed out previously, the Rotunda continues to suffer from underinvestment in its Parnell Square city-centre campus. After 274 years of continuous service, our buildings infrastructure is in desperate need of improvement and expansion. While the Rotunda Executive Management Team and the Board of Governors remain committed to working with the Department of Health in implementing current Government policy of relocation to the grounds of the Connolly Hospital campus in Blanchardstown, it has been acknowledged by all parties that such a relocation is now a medium-to-long term goal. This is because the existing Connolly Hospital campus is a level-3 hospital that currently does not have sufficient clinical care programmes to adequately provide for the complex needs of critically ill pregnant women or the increasing numbers of pregnant women with serious co-morbidities. The long-established clinical care programmes between the Rotunda Hospital and its close neighbour, the Mater Misericordiae University Hospital, remain vital to the safe care of our patients. A relocation of the Rotunda to the Connolly Hospital campus will therefore require extensive investment and upgrade in Connolly Hospital itself, in addition to the cost of a new Rotunda Hospital building. At a time of limited availability of capital funding due to competing demands from other large-scale building projects, it is now accepted that a relocation of the Rotunda to Connolly will not occur in the short-to-medium term.

Given the reality of this timeline for relocation, significant investment in the existing Parnell Square city-centre campus is required. It will not be possible to provide safe care for nearly 100,000 women and their babies over the next 10 years without major infrastructure investment on our current campus site. Standing still, while waiting for a Connolly relocation to materialise, is simply not an option when faced with an infrastructure crisis that affects the busiest maternity hospital in the state, and a large number of the state's youngest and most vulnerable citizens. This infrastructure crisis has already been associated with babies who have died and been injured. The Rotunda's Executive Management Team continues to engage with the RCSI Hospitals Group, the Health Service Executive (through its HSE Estates and HSE Acute Hospitals Division), the Department of Health, and both local and national political leadership in developing a clear solution for the short-to-medium term safety of the hospital and its physical infrastructure. This includes the building of a Critical Care Wing on the west-side of the existing campus, to solve the neonatal intensive care, operating theatre, emergency department and postnatal care needs of the hospital. It is hoped that revised plans that solve these clinical safety needs will be implemented in the very near future.

In the interim, the Rotunda continues to do what it can to improve the internal layout of its 274 year old buildings. In 2018, this included the completion of a new Obstetric Ultrasound and Fetal Medicine Unit, a complete renovation of our Neonatal Intensive Care Unit, renovation of the Outpatients Department, renovation of gynaecology inpatient rooms, and replacement of most electrical wiring boards throughout the hospital. The vast majority of this work was funded directly by the Board of Governors of the Rotunda.

Electronic Healthcare Record

After the implementation of the Maternal and Newborn Clinical Management System (MN-CMS) electronic healthcare record into the Rotunda in November 2017, we have now completed our first full year as a digital hospital. The first Rotunda "all digital babies" were

delivered in the Summer of 2018, a milestone that passed off without a hitch. Patients are now:

- referred to the Rotunda by their GPs through an electronic referral process via Healthlink
- registered into the hospital through the MN-CMS system
- have their entire antenatal care journey documented on the MN-CMS system, including the storage of obstetric ultrasound and laboratory results
- have their hospital admissions and delivery pathways managed electronically, including drug prescribing and administration
- have their babies admitted to the nursery and cared for through the same electronic platform
- electronically share outcome and discharge information with referral GPs

The MN-CMS system has many time-saving features that allow instant access to the complete healthcare record of all Rotunda patients at any suitable clinical location, simultaneously by many healthcare providers. We no longer are faced with care delays due to missing laboratory or imaging results, or difficulties in communicating complex care plans. Fetal heart rate monitoring can be accessed and monitored in real-time from any suitable location, thereby greatly improving our risk management processes. The system has undoubtedly freed up many hours of additional nursing, medical and administrative time that are now available for front-line care provision.

"We have now completed our first full year as a digital hospital. The first Rotunda "all digital babies" were delivered in the Summer of 2018, a milestone that passed off without a hitch."

Challenges for 2019 remain however. It is hoped that an electronic gynaecology module will be implemented shortly to ensure that all patients cared for on the Rotunda campus benefit from the electronic healthcare record and that the Rotunda will then be a truly all-digital campus. Other challenges include optimising the training and expertise of new healthcare staff in efficient use of the MN-CMS system, which is a particular challenge as the Irish healthcare system is associated with high turnover of staff. Additionally, efficient extraction of hospital outcomes data, and re-creation of the patient narrative for post-event review, are also challenging. It is hoped that further modifications to the national system will address these concerns for 2019.

Notable Events

The Rotunda continued to attract national and international recognition in 2018 for its expert care programmes and world-class personnel. In the 2018 Hospital Professional Awards, the Rotunda Hospital won the award of Consultant Team of the Year, led by Dr. Adrienne Foran and her colleagues from the Neonatal Intensive Care Unit. In collaboration with the Irish Meningitis and Sepsis Reference Laboratory at Children's University Hospital, Temple Street, Drs. Richard Drew and Maeve Eogan won the award of Research Team of the Year for their Collaborative Group B Streptococcus Research Programme. Additionally, one of our senior midwives, Julie Horgan's innovative project on Outpatient Midwifery Induction of Labour was shortlisted for Outpatient Initiative of the Year at the Irish Healthcare Awards in 2018. The Rotunda's research programme continues to go from strength-to-strength and, in collaboration with the RCSI Department of Obstetrics and Gynaecology, was responsible for 108 peer-reviewed publications that have had significant impact on obstetric, neonatal and gynaecologic care.

In September 2018, RTE Television launched a six-part "fly-on-the-wall" documentary entitled "The Rotunda" created by Scratch Films. This wonderful documentary series demonstrated the highs and lows of real-life maternity care experiences at the hospital, showcasing both the normality of pregnancy as well as the latest high-tech innovations in care that are regularly saving lives at the hospital. The television series had amongst the highest viewership figures for RTE2 and provided an exemplary public education service, including addressing topics as varied as teenage pregnancy, postnatal depression, stillbirth, bereavement and fetal therapy. The series was so popular that RTE commissioned a second eight-part series, to be filmed and broadcast in 2019.

The inaugural Rotunda Hospital Maternity Open Day in October 2018 was a fantastic showcase for members of the public on all aspects of the Rotunda. Throughout the day, visitors were given a "behind-the-scenes" look at the various services and departments that make the Rotunda such a dynamic and caring organisation. From physiotherapy, to ultrasound, social work, pharmacy, antenatal education, postnatal care, lactation support, research and assisted reproduction, members of the public had the opportunity to question and experience

many areas of the hospital that they may otherwise have missed.

> "We will continue to advocate for sufficient resources to deliver the highest standards of care for our patients."

World Prematurity Day in November 2018 was notable for the return of many of our 2016 graduates from the Neonatal Intensive Care Unit for a "birthday party" to celebrate those babies who weighed less than 1,500g at birth. The launch of the "Tentacles for Tinies" fund-raising programme from the NICU was also celebrated as yet further evidence of the culture of innovation that exists within our own cohort of healthcare professionals.

One of the most gratifying events of the year was Charter Day in November 2018, in which the Board of Governors and the Executive Management Team publicly lauded 65 members of our staff, each of whom had provided at least 25 years of service to the hospital. Each long-serving member of staff was individually acknowledged, and was presented with the official Rotunda Hospital medal, based on the Great Seal of the Hospital from the 1756 Royal Charter. It speaks volumes about the commitment, loyalty and professionalism of the hospital that at least 7% of the hospital's employees have given over a quarter of a century each of service for the betterment of our patients.

Retirements and Loss

During 2018, the Rotunda said goodbye to two senior consultant obstetrician-gynaecologists, Prof. Paul Byrne and Dr. Mary Holohan. Paul was responsible for the Rotunda Hospital Colposcopy Service, as well as being an associate professor of obstetrics and gynaecology at the RCSI Department of Obstetrics and Gynaecology. Mary was, for many years, single-handedly responsible for developing the Epilepsy in Pregnancy Service at the Rotunda. Both will be sorely missed and we wish them long and happy retirements.

Tragically, on February 12, 2018 we learnt of the sudden and untimely death of our esteemed consultant colleague and friend, Dr. Michael Darling. Michael was a consultant obstetrician-gynaecologist at the Rotunda from 1983 until his retirement in 2009, as well as a Governor from 1995 to 2018, and served as the 35th Master of the Rotunda from 1988 to 1994. Michael's warmth, professionalism, sense of caring and fair play epitomised the core values of the Rotunda. In particular, his sense of humour will be greatly missed. We extend our deepest sympathies to Fiona, Jonny, Chris, Katie and Mitch, to whom we are most appreciative for joining us for a special service of remembrance that was held for Michael at the Rotunda Chapel in April 2018.

While I cannot individually acknowledge every member of staff who has contributed to this our 274th successful year of unbroken service, I do wish to pay tribute to each and every member of the staff as the results in this year's annual clinical and management report represent the combined efforts of the entire Rotunda Family. I must however separately point out that this Annual Report would not have been possible without the professionalism and attention to detail of Ms. Mary O'Grady, Administrative Manager in the Master's Office, supported by Ms. Margaret Griffin, to whom I am extremely grateful.

The Rotunda Hospital looks forward to another year of service to the women and infants of Dublin and Ireland. We will continue to advocate for sufficient resources to deliver the highest standards of care for our patients, with our most urgent need being an immediate improvement to the physical infrastructure of our existing Parnell Square campus. We intend to remain true to our vision of being the Maternity Hospital of Choice and we look forward to a further year of innovation and excellence in patient care in 2019.

Professor Fergal Malone
Master of the Rotunda Hospital

"I felt totally safe at all times with the professionals."

Introduction by the Chairperson

Board of Governors and Governance

The Rotunda Hospital is governed by a Royal Charter which was granted on December 2, 1756 for incorporating the Governors and Guardians of the Hospital. The Royal Charter of 1756 outlines the constitution and the roles and responsibilities of the Board of Governors of the hospital. As Guardians for the Rotunda Hospital the Board has a responsibility for promoting a collective vision for the hospital purpose, its vision, culture, values and behaviours it wishes to promote in conducting business.

The Board also has responsibility to provide leadership within a framework of prudent and effective controls which enable risk to be assessed and managed. In particular, it:

- Gives direction to the executive management
- Demonstrates ethical leadership
- Promotes behaviours consistent with the culture and values of the hospital
- Makes well informed and high quality decisions based on clear information from management
- Monitors the activity and effectiveness of management

The Board has overall responsibility for corporate and clinical governance and for strategic developments. It met on 10 occasions during 2018. The Board is supported by a number of sub-committees, which report to and advise the Board. The Board primarily uses one committee, the General Purposes Committee, for its decision-making function.

Board Committees

1. General Purposes Committee
2. Risk Committee
3. Property Committee
4. Governance and Audit Committee
5. Capital Funds Committee

The committees meet regularly and consider reports on various aspects of the hospital and its services including compliance, governance, quality, risk management, financial management, and asset management. These committees make and provide recommendations to the Board.

The Board continues to pursue a policy of ensuring that we replenish our Board and committees with a diversity of skill sets in order to meet increasing demands and Board requirements. As a Board we continue to upskill with Board away-days and induction training for new Governors. We have sourced additional skills to our Board through recruitment of external members which adds valuable experience and skill to these committees in their advisory capacity.

The Board oversees Governors' compliance with requirements under the Ethics in Public Office Act 1995 and the Standards in Public Office Act 2001. A bi-annual self-assessment and participation at the Annual Education Day are also undertaken.

I wish to acknowledge the immense contribution of all of the Governors of the Board of the Rotunda Hospital. Their contribution and time truly represents the best of volunteerism and in upholding the ethos of our founder Bartholomew Mosse.

Challenges

Rotunda Co-Location and Interim Development

The Board remains fully supportive and committed to the principle of co-location to an appropriately resourced level 4 acute hospital. The Rotunda Board has shown its commitment to co-location by funding a Design Brief report and an Activity and Capacity Model Report, as well as additionally commissioning a report to identify deficits and requirements in the proposed co-location site to facilitate the transfer of the Rotunda Hospital. There is now accepted recognition by all stakeholders that co-location will have a timeframe of a minimum of 10 years. This is an unacceptable risk which the Board cannot ignore.

The most substantial risk therefore for the Board currently is addressing infrastructure and spatial deficits in providing 21st century healthcare in a 1757 building. The spatial deficits pose an unacceptable level of infection outbreak risk which requires immediate action. The Board is fully supportive of the twin track strategy of the Executive in pursuing plans to co-locate while at the same time optimising the infrastructure on the existing Parnell Square campus. All options have been comprehensively evaluated and costed and have been communicated to all stakeholders including the Department of Health.

Maternal and Newborn Clinical Management System (MN-CMS)

The implementation of an electronic health record in November 2017 was one of the most significant changes in the history of the Rotunda. The successful and seamless introduction of MN-CMS was due to the skilled and dedicated workforce who embraced this major change and worked in a multi-disciplinary team to ensure the transition had no negative impact on patient care. The system allows real-time clinical information to be shared and will enable safer and better quality service provision. We continue to evolve with the system and in optimising intelligence from the system. Planning has commenced for the introduction of an electronic healthcare record in gynaecology which will mean that the Hospital will have a full suite of electronic records by 2019.

Strategic Plan 2017 – 2021

The 5-Year Strategic Plan and its implementation is the responsibility of the Board.

The Board provides direction and leadership in guiding its three overarching key strategic principles:

1. To advance areas of clinical expertise by developing women's health specialties
2. To provide the best patient and staff experience as the maternity hospital of choice
3. The Rotunda - Leader in women's and infant's health within the RCSI Hospitals Group.

There has been considerable progress in work streams within all three key principles with leadership and progress being actioned in:

- Gynaecological services and preconceptional/antenatal care
- Patient and customer service excellence programme
- Knowledge Platform and Innovation Hub
- Development of hospital infrastructure
- Leadership role within RCSI Hospitals Group in development of maternity and gynaecologic services

Communications and Staff Engagement

In promoting good communications, Governors attend "Elevenses" on Charter Day, where they meet with staff from all areas of the hospital. In 2018 on Charter Day we inaugurated the awarding of long service medals to staff with over 25 years' service to the Rotunda. This was a huge success and was highly valued and appreciated by the staff involved with over 60 members of staff being awarded long service medals on the day.

A programme of 'Quality Walk Rounds' are undertaken throughout the year by 'visiting governors.' The purpose is to review a range of hospital services and to engage with staff directly and to listen to their concerns on services, quality and safety issues. These 'Quality Walk Rounds' are reported back to the Board and a Steering Group has been commissioned to progress any resulting actions as well as providing feedback to the staff involved.

Voluntary Status

The Rotunda is a voluntary hospital and this status has allowed the Rotunda to be independent, creating a culture of innovation which has enabled us to be a leader in women's and maternity healthcare services. A voluntary hospital with an independent Board provides greater accountability, diversity, innovation and expedient decision making. The Rotunda Hospital participated in, and was represented by the Board, in the Independent Review on the Future Role of Voluntary Hospitals/Organisations commissioned by the Minister for Health. This IRG report was published in September 2018 and the Rotunda Board is supportive of its findings. The Board endorsed the report and approved a mandate for the Voluntary Healthcare Forum to represent the hospital in next steps and in negotiations with the Department of Health on the future of voluntary healthcare providers.

Finance/HSE Service Level Arrangement

The hospital achieved financial break-even in 2018 due to prudent financial management and application of good financial controls and efficiencies. There are cumulative shortfalls in funding carried forward from prior years which have not been addressed. Additionally, significant underfunding of minor capital works and medical equipping is a major concern for the Board and has been included in the corporate risk register. Cumulative underfunding of operational services and lack of funding to address infrastructure and equipping risks has put a significant strain on the hospital's operational cash flow. Cash flow remains the highest financial risk for the hospital.

Board/Ancillary Funding

The Board has utilised its own generated funds (Ancillary Funds) to address major infrastructural deficits and risks which are not being addressed by the HSE. These include:

- NICU refurbishment to address fire safety and electrical risk
- Theatre build to address theatre capacity constraints to meet HIQA requirements
- Delivery suite refurbishment - Delivery suites have not been refurbished in over 20 years and these works will provide more dignified and appropriate accommodation for mothers delivering babies
- Continued support for services not funded through the service arrangement with the HSE
- Continued funding for Pro bono IVF treatment for public patients
- Support and seed capital for initiatives from the Rotunda Strategic Plan 2017-2021 such as the Rotunda App, the Irish Medicines in Pregnancy Service, the Innovation Hub and Knowledge platform
- Medical equipping costs for the Rotunda Ambulatory Gynaecology Service at Connolly Hospital
- Support for Research
- Service Planning funding
- Service Planning Report for co-location to Connolly
- Parnell Square capital optimisation report

Collaboration with the RCSI Hospitals Group/HSE/NWIHP

A Key Strategic Principle in the Rotunda's Strategic Plan is to be a leader in women's and infant's health within the RCSI Hospitals Group. The Rotunda has worked collaboratively with the RCSI Hospitals Group in developing quality initiatives across maternity services in the region and in progressing Maternal Fetal Services in Drogheda and Cavan.

The Rotunda also works extensively with the National Women and Infants Health Programme (NWIHP) and other programmes within the HSE in developing services and to improve maternity standards.

Royal College of Surgeons in Ireland (RCSI)

The hospital continues to build on its existing relationships with its academic partner the Royal College of Surgeons in Ireland (RCSI). The hospital works extensively with the RCSI in developing its research capabilities and has a very pro-active Research Department which is supported by the RCSI.

The hospital continues to utilise the RCSI for its Leadership and Quality training modules and the Board continues to sponsor staff availing of these programmes.

Board of Governors

Chairman

I was elected to the role of Chair in November 2017 and have been supported in that role through the advice and counsel of our Vice Presidents Hilary Prentice, Dr. Melissa Webb and the Venerable Gordon Linney.

Governor Retirements

The Venerable Gordon Linney retired from the Board of Governors after serving over 30 years on the Rotunda Board. For 16 years he operated in an ex-officio capacity as Archdeacon of Dublin and for 14 years as a Governor. Gordon chaired the Corporate Governance Committee and has been a member of the Governance and Audit Committee since its initiation. He was the designated Governor or 'go to' person on the Board for staff under the Good Faith policy. His invaluable advice and commitment to the Rotunda has been greatly valued by this Chair and former Chairs and by his fellow Governors.

New Governors

Mr. Stuart Switzer was appointed as a Governor to the Rotunda Board in May 2018.

We have also supplemented our Committees with the appointment of external members bringing increased skillsets and diversity to these committees:

- Governance and Audit: Ms. Jennifer Cullinane, Mr. Barry Holmes and Mr. Bill Collins
- Property: Mr. David Brown
- Risk: Ms. Margaret Philbin

A Note of Appreciation

I wish to extend grateful appreciation to the Governors of the Rotunda for their time, dedication, diligence and commitment to the Board including its sub–committees.

The Governors of the Rotunda represent the best of volunteerism, in that they give valuable time, experience and skills to ensure that the Rotunda Hospital continues to uphold the vision and ethos of its original founder. Additionally, I would also like to acknowledge the contribution and commitment of the Extern members of our Board sub-committees. Their expertise, skills and experience has significantly added value to the workings of the committees.

On behalf of the Board of Governors I want to also acknowledge and thank the Executive Management Team for their commitment and dedication to the Rotunda Hospital and its patients. Under their leadership the Rotunda continues to develop and innovate the Rotunda as a leader in Irish healthcare services but also ensures that the primary focus is on providing a safe and quality service to all of our patients.

The Rotunda would not be the leading maternity hospital in Ireland if it was not for the dedication and commitment of its staff. The staff of the Rotunda represent all that is good in the hospital, where the prevailing culture is 'patient centred' and striving to ensure that every patient journey is the best possible experience.

On behalf of the Board I wish to thank all staff for their work for our patients in ensuring that we provide the most optimal, safe and high quality service. As Chair of the Board I am very conscious that this is not without challenge with sub-optimal infrastructure and spatial restrictions but as a Board we will work together with the Executive Management Team to ensure that these challenges are overcome.

Dr. Maria Wilson Browne
Chairperson

"Thank you to everyone who helped me and baby."

Strategic Plan – 2018 Highlights

The second year of the Rotunda Strategic Plan 2017-2021 has seen several key developments and progression of our vision to be "the internationally recognised Maternity Hospital of Choice".

The three Key Strategic Principles that we committed to focusing on over the course of our five year strategic plan are:

1. To advance areas of specific clinical expertise by developing Women's Health Specialities, in particular in Gynaecologic Services, and in Preconceptional and Specialist Antenatal Care

2. To provide the best patient and staff experience to ensure we are the Maternity Hospital of Choice for women, mothers, families and healthcare professionals by developing:

    - A Patient and Customer Service Excellence Programme
    - A Knowledge Platform
    - A Technology/Innovation Centre
    - Optimising and developing our current campus Infrastructure

3. To be a leader in women and infants' health within the RCSI Hospitals Group

Strategic Plan Highlights in 2018:

Enhance gynaecologic services and develop preconceptional and antenatal care:

- Expansion of same day gynaecology services, doubling our capacity to provide outpatient see-and-treat surgical procedures
- Improvements to our in-house scanning capacities
- Urodynamic pathway developed at Connolly for Rotunda patients
- Expansion to our ambulatory gynaecology services
- Medical Complications in Pregnancy clinic doubled in size
- Progressed the development of the Irish Medicines in Pregnancy Service with the aim of providing trusted preconceptional and prenatal information on medication-use for women and health care professionals

Establish a patient and customer service excellence programme:

- First of its kind Maternity Open Day held in the Rotunda
- Patient Experience Survey 2018 published and action plan developed
- Appointment Scheduling Call Centre implemented to improve patient access and interaction, facilitate automated messages, call recording and direct messaging for patients and staff on their mobile phones
- E-referrals implemented for the Rotunda Private Clinics

Develop a knowledge platform:

- Significant improvements to Rotunda website
- Rotunda's social media presence continued to grow in 2018 – over 6,000 Facebook followers
- Rotunda communications officer appointed
- Dedicated research component for Rotunda website in development

Develop a technology/innovation centre:

- Improvements to point-of-care laboratory testing, driving laboratory efficiencies and reductions in turnaround times for our patients' test results
- Rotunda Innovation Hub shortlisted for HSE Health Service Excellence Awards 2018

Develop our current hospital infrastructure:

- Substantial refurbishment of Neonatal Intensive Care Unit (NICU)
- Refurbishment of the Fetal Assessment Unit (FAU)
- Outpatients Department refurbished
- Gynaecology rooms refurbished
- Nursing accommodation upgraded
- Progressing plans for theatre build and delivery suite refurbishment
- Maximising spatial capacity on current campus

Lead the development of Group maternity and gynaecologic services within the RCSI Hospitals Group:

- RCSI Hospitals Group Pathology Service established
- Perinatal Psychiatry team introduced screening for postnatal depression throughout the RCSI Hospitals Group
- Expansion in Fetal Medicine capacities across the Group
- Radiology joint consultant appointments progressed

Clinical Directors Office

Clinical Director

Dr. John Loughrey, Consultant Anaesthesiologist

Overview

The office of Clinical Director (CD) at the Rotunda was set up in 2009 following the introduction of the role nationally as part of the 2008 Consultants Contract. The primary purpose is to support the Master with respect to managing the Consultant and Non-Consultant Hospital Doctor (NCHD) staff in safe, effective and efficient delivery of care.

Activity

The Clinical Directors Office role is supported by Ms. Olga Pearson. Active communication with the lead NCHD, assistant masters and the NCHD Committee have been keys to drive numerous clinical innovations by medical staff at ground level.

Dr. Sean Armstrong and Dr. Sarah Nicholson were the lead NCHD's in 2018.

Continuing Professional Development

Attendance at continuing medical education events is a professional registration requirement and the office continues to facilitate this by certification of doctor's attendance at internal educational events. Facilitating mandatory training for medical staff and collating compliance reports are ongoing roles of the office.

Human Resource (HR) Liaison

Medical manpower is a valuable resource funded by the hospital. The CD office provides a direct link with Human Resources (HR) for the purpose of assistance and clarification with all elements and provisions of the Consultants Contract. Service planning manpower requirements and recruitment are also facilitated by the office and regular employment control meetings are held.

Training Site Accreditation

The Rotunda is a recognised training site for medical training in a number of disciplines. The Medical Council sets out the requirements for recognition. Regular internal assessment of the ability of the hospital to provide a quality training environment is conducted annually by the CD office. This is performed in conjunction with the specialty training leads. Preparations for a proposed Medical Council Inspection in 2019 were advanced at the end of 2018.

Maternal Newborn Clinical Management System (MN-CMS)

Following the introduction of the MN-CMS National electronic healthcare record in November 2017, this year was the first full year in operation. The NCHD committee provided innovative assistance in the training of incoming staff.

Successes and Achievements 2018

The Medical Executive Committee chaired by the Clinical Director with Heads of Clinical Departments as well as senior hospital management in attendance continued throughout 2018. This has provided a valuable additional forum to the Hospital Medical Board for communication between hospital management and medical staff leaders.

An improvement in communication and handover of patients was facilitated by introduction of new consultant rotas and hospital policies. A new policy on how medical teams function to provide continuity of care for patients was approved.

An electronic time management system (TMS) continues to demonstrate successful compliance for NCHD's with the key provisions of European working time legislation.

Plans and Challenges for 2019

The introduction of the electronic healthcare record (MN-CMS) will continue to be a challenge for the hospital as new medical staff unfamiliar with the system commence biannually. It is hoped that a national online training module will be facilitated in the near future as this issue also remains a challenge for all maternity hospitals who have implemented MN-CMS.

Consultant recruitment has been difficult with a number of key posts remaining vacant. Differential salaries since 2012 for new entrant consultants has contributed in no small way to this scenario.

I would like to acknowledge and thank the contribution of Ms. Olga Pearson and the lead NCHD's, assistant masters and all members of the NCHD committees, whose dedication and innovation resulted in another successful year.

Clinical Services

Clinical Services

Maternity

Department of Midwifery and Nursing

Head of Department

Ms. Margaret Philbin, Director of Midwifery & Nursing - retired June 2018
Ms. Fiona Hanrahan, Director of Midwifery & Nursing - from July 2018

Senior Staff*

Ms. Patricia Williamson, Assistant Director of Midwifery & Nursing
Ms. Fiona Hanrahan, Assistant Director of Midwifery & Nursing (to July 2018)
Ms. Marie Keane, Assistant Director of Midwifery & Nursing
Ms. Catherine Halloran, Assistant Director of Midwifery & Nursing
Ms. Geraldine Gannon, Assistant Director of Midwifery & Nursing
Ms. Mary O'Reilly, Practice Development Co-ordinator
Ms. Anne O'Byrne, Practice Development Co-ordinator
Ms. Marian Brennan, Assistant Director of Midwifery & Nursing- Infection Prevention & Control
Ms. Janice MacFarlane, Night Superintendent
Ms. Aideen Keenan, Night Superintendent
Ms. Mary Whelan, Clinical Audit Facilitator

*Supported by 456 committed Midwives, Nurses, Student Midwives & Maternity Care Assistants.

Service Overview

Midwives and Nurses are the largest single professional cohort of staff at the Rotunda Hospital and are present in almost every clinical department across the campus, interacting with women, their families and other staff. Midwifery and Nursing is pivotal in the delivery of high quality, safe and effective care. The role of midwives and nurses has evolved and changed over time with skills and qualification requirements increasing. There is increasing recognition that the safest levels of care are delivered when staff are highly qualified and engaged in continuous professional development. The Rotunda Hospital has pioneered many of today's advanced roles for Midwives and Nurses. Our first Advanced Nurse Practitioners (ANP) in Neonatology commenced in 2006, and more recently the second Advanced Midwife Practitioner (AMP) based in the Emergency & Assessment Service commenced in July 2018. The Rotunda Hospital currently employs a total of five advanced nurse and midwife practitioners as well as fifteen clinical midwife and nurse specialists (CNS/CMS).

The National Maternity Strategy (2016) is the driver for strategic change in the delivery of maternity services. The Rotunda's team of midwives and nurses spent 2018 implementing changes to convert the goals of this strategy into tangible improvements in care pathways for patients. The national MN-CMS electronic healthcare record for maternity services was launched in 2017, and throughout 2018 the Rotunda teams worked at integrating and optimising this system. The first fully 'digital' mothers and babies were delivered in May 2018 - these patients would have had their initial electronic booking visit during the launch of MN-CMS in November 2017 followed by a complete digital pathway of care over the subsequent months.

2018 presented challenges in terms of recruiting and retaining qualified and highly skilled specialist midwives and nurses - particularly for sub-specialised areas such as the neonatal intensive care unit (NICU) and Operating Theatres. In collaboration with the Human Resources service, extensive efforts were provided throughout the year to maximise recruitment, including utilisation of all social media platforms to promote the Rotunda brand as a great place to work.

Storm Emma arrived on March 1, 2018 and effectively brought the entire country to a standstill. It is a testament to the resilience and dedication of the Rotunda staff that a near-normal level of service was maintained during the week of the storm, including at the height of the blizzard. Many midwives and nurses volunteered to remain in local hotels to ensure that they could report for duty and a number of staff, living locally, volunteered on their time-off to see what they could do to assist. The Rotunda's Executive Management Team extends its deepest appreciation to all staff who ensured that the Rotunda remained open and safe during this national crisis weather event.

There were a number of notable retirements during 2018. Ms. Margaret Philbin retired as Director of Midwifery & Nursing in June 2018, having led the Midwifery and Nursing service with a sharp intelligence and strategic vision for nine years. Margaret devoted a total of 36 years' service to the Rotunda Hospital, and we wish her a long happy and healthy retirement. Ms. Marie Keane and Ms. Patricia Williamson, both Assistant Directors of Midwifery & Nursing, also retired in 2018, with Marie having worked at the Rotunda since 1980 and Patricia since 1982. Fortunately for the Rotunda, both Marie and Patricia have agreed to remain part-time in their leadership roles, which will be invaluable given their depth of irreplaceable corporate knowledge. Ms. Mary O'Reilly retired from her role as Practice Development Coordinator at the end of 2018. Mary was a stalwart of the Rotunda for many years and her role and abilities stretched above and beyond the practice development area. Mary was at the heart of many quality improvement and changes to practice, utilising her extensive clinical expertise to ensure safe transition to new practices.

Education and Training

Practice Development Unit (PDU)

The Practice Development Unit co-ordinates and supports all activities relating to professional midwifery and nursing standards and practice throughout the hospital. Much of the practice development work is done through various committees and working groups set up by members of the Practice Development team in partnership with key members of midwifery and nursing staff from all clinical areas and various interdisciplinary teams.

Critical to enhancing patient outcomes and safe delivery of care is having a highly educated midwifery and nursing workforce, responsive to the delivery of current healthcare models. The Rotunda Hospital has an outstanding record of nurturing our staff's pursuit of lifelong education. New midwifery and nursing staff are supported from day one by Clinical Skills facilitators, in addition

to pairing them with experienced midwives and nurse mentors. Once staff become established in their professional practice, they are encouraged to pursue further specialised certification and advanced academic degrees. The hospital, in collaboration with the HSE regional Practice Development Unit, supports its staff through innovation funding and higher-level education tuition payments. All training and educational offerings are based upon assessed needs, the hospital's strategic plan and regulatory requirements.

In 2018, eleven staff undertook Master's programmes in diverse aspects of care including, Ultrasound, Leadership, Midwifery Practice, Bereavement, Perinatal Mental Health and Quality and Safety. Four neonatal nursing staff undertook a postgraduate diploma in Neonatal Nursing care, while other courses included Lactation, Newborn Clinical Examination, Hypnobirthing and Preparation for Birth.

In-house training was provided for the multidisciplinary team in Basic Life Support, Neonatal Resuscitation and Emergency Skills and Drills. Other education programmes were introduced in response to the varying service and organisational needs of the hospital. During the summer months, optimisation sessions for the MN-CMS electronic healthcare record were provided, while towards the end of the year, staff attended training on the provision of care for the upcoming new Termination of Pregnancy service, scheduled to commence in January 2019.

Throughout the year there was a continued emphasis on role expansion opportunities for midwifery and nursing staff to undertake, for example, peripheral intravenous cannulation technique, which enhances the patient experience and reduces waiting times for initiation of various treatments.

Clinical placements were provided for 90 midwifery and 120 student nurses who require significant and consistent support in ensuring the clinical learning environment meets their needs. A revised midwifery undergraduate curriculum was introduced in September, which required collaboration across large segments of the midwifery and nursing team.

Colposcopy Service

2018 was an extremely challenging year for the Rotunda Colposcopy service. Confidence in the service was directly affected by the uncertainty that occurred in March 2018 relating to media commentary on audits that were carried out by the national Cervical Check system. The ensuing public and media attention resulted in erosion of public confidence in screening services, not only for cervical cancer screening but across the entire healthcare system. The Executive Management Team commends the entire team in Colposcopy who went above and beyond to ensure that existing and new patients of the service had their questions and queries dealt with in an empathetic and professional manner. The Colposcopy service managed the fallout from the public debate while maintaining vital clinical services.

Community Midwifery Services

During 2018, the Community Midwifery Team (CMT) continued to offer midwifery-provided care, choice and continuity to normal-risk pregnant women of the north side of Dublin city as well as north county Dublin. This demonstrates the continued adaptation of services to meet the needs of women who attend for care. A total of eight weekly antenatal clinics are provided in the outlying community, together with one clinic on the Rotunda campus to facilitate women living and working in the inner city area. The Community Midwifery team is currently in the process of opening a new antenatal clinic in the recently built Balbriggan Primary Care Centre, which is scheduled to open in early 2019. It will enable midwife-provided antenatal care to women in the geographical areas of Balbriggan, Skerries and Lusk. The Community Midwifery team is also hoping to open further services at the Corduff Primary Care Centre and in Blanchardstown to service these rapidly expanding population centres. This is reflected in the numbers of women attending the clinics in the Rotunda's catchment area which, in contrast to most other maternity centres throughout Ireland, has seen an increase in service demands in 2018.

In 2018, a total of 8,183 antenatal appointments were provided for women in these outlying community clinics. A total of 95 women were booked at home for community midwifery care and the remaining women were referred from adult outpatients departments to the service. All antenatal care was carried out in one of our community-based clinics. To facilitate women's needs, home antenatal visits were also provided, with a total of 274 home visits being provided to pregnant women in the last trimester of pregnancy.

All women who attend CMT antenatal clinics are also offered the opportunity for early transfer home (ETH) following delivery, further enhancing the range of maternity care options provided at the Rotunda. This early transfer home (ETH) scheme enables women to be discharged at between 6 and 48 hours following delivery. A total of 2,283 women availed of this service in 2018, offering care to both mother and baby in their home setting at up to day seven after birth, prior to subsequent discharge to GP and public health nursing services. The Community Midwifery team carried out a total of 7,491 postnatal visits, with each woman receiving an average of 3.2 visits in their home.

A total of 150 women attended the Next Birth After Caesarean (NBAC) service, which provides an additional visit at 18 weeks' gestation for patients who have previously had a caesarean delivery. At this visit, patients discuss their options for their upcoming birth and are provided written information on the risks and benefits of vaginal birth after caesarean (VBAC) compared with elective repeat caesarean delivery. Subsequently, women receive community-based antenatal care with the CMT, and if opting for an elective repeat caesarean section (ERCS) an additional 36 week appointment is provided with a senior consultant obstetrician to plan the surgery date. Patients then return to CMT care until their planned caesarean delivery date. For those patients opting for VBAC, their care remains with the CMT until 39 weeks' gestation, following which their care is supervised by a senior Consultant Obstetrician for the remainder of their pregnancy and delivery. The NBAC service is unique to the Rotunda Hospital and is an exemplar

service reflecting the National Maternity Strategy (2016) supported care pathway.

Patient education continues to be an important factor for the Community Midwifery Team in empowering and informing women in their pregnancy. The team conducts eight monthly classes, including antenatal, breastfeeding and hypnobirthing classes. A total of 975 women attended these antenatal and breastfeeding classes in 2018, while a further 279 attended hypnobirthing classes. The CMT constantly evaluates for appropriate changes and update to these classes. A Rotunda midwife is now trained in 'Real Birth Workshops' and further training of additional midwives is being facilitated within the RCSI Hospitals Group.

In 2019 CMT will continue to offer women and their babies access to safe, high quality maternity care in their local area, in a manner that is appropriate to their needs, with dignity and respect.

Day Assessment Unit (DAU)

There was a decrease in DAU attendances in the early part of 2018. However, a focused examination of referral criteria and adjustments to these criteria resulted in an increase in numbers towards the end of the year. DAU is an evolving service with plans being developed to continue to expand service availability, with the ultimate goal of safely reducing the requirement for inpatient admission.

- External cephalic version procedures were transferred to the DAU in May 2018 and are now completed in a dedicated weekly clinic
- Urodynamic nursing support for patients being managed with urinary retention to more efficiently assess their ability for catheter removal has also been implemented through the DAU
- Minimally invasive, outpatient management of Bartholin's cyst cases also commenced in the DAU in October 2018

Table 1

	2016	2017	2018
Attendances (patients)	4,174	4,269	3,769

The expanded DAU service facilitates the on-going assessment and management of the following clinical conditions:

Table 2

Attendance Reason	Number
Antenatal and Postnatal Hypertension monitoring	1,421
Cardiotograph Monitoring	1,228
Obstetric cholestasis	338
Blood Sugar Series	337
Miscellaneous	276
Insulin education	214
Intramuscular progesterone administration	195
Intrauterine growth restriction	135
Antenatal corticosteroid administration	124
Hyperemesis	101
Preterm pre-labour rupture of membranes	74
Intravenous iron infusion	31
Intravenous immunoglobulin administration	3

Labour and Delivery Suite

In 2018 Labour and Delivery Suite staff provided care to 8,359 women and their partners welcoming 8,514 babies into the world.

As well as providing high quality, evidence-based care, many staff undertook additonal further education and quality projects in order to enhance their current knowledge and improve standards of care for their patients. Aromatherapy training for midwives was also introduced and is now offered to all women in labour who wish to avail of this complementary therapy.

During 2018, the Rotunda Hospital hosted the television production company, Scratch Films, which completed a highly-regarded and well-received six episode television series "The Rotunda", which aired weekly on RTE2 from September 2018. Extremely strong positive feedback was received from patients, their family members, staff and the general public. The balance of showing the diversity of positive and some heartrending stories resonated with the public and reflected very well on the professionalism of all of our midwives.

Process improvement challenges for 2019 will include:

- Implementation of a standardised Oxytocin Care Bundle
- Implementation of the OASIS 'PEACHES' Care Bundle to reduce perineal injury during childbirth
- The renovation of the Labour and Delivery Suites

Neonatal Intensive Care Unit (NICU)

In 2018 the neonatal intensive care unit underwent major renovation following a fire in April 2017, which were carried out on a phased basis throughout the year. Works entailed upgrading of medical gas handling, improved fire safety and replacement of the air-conditioning system throughout the unit. It also involved a reconfiguration of the clinical areas to reduce overcrowding by combining a former three-bedded and a five-bedded room into an improved eight-bedded special care room, as well as reducing

the capacity of the high dependency room from thirteen incubator spaces to ten incubator spaces. The works were completed in December 2018 and have made a significant impact in optimising the unit's overall space. It is hoped that this will also have a positive impact in helping to reduce infection rates.

The neonatal nursing team remains committed to supporting all staff with ongoing education and professional development. This is pivotal to ensuring that high standards of nursing care are provided to all neonates and their families.

Four staff were sponsored to undertake the Postgraduate Diploma in Neonatal Nursing at RCSI and a further ten staff were supported in attending the 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' at the Centre of Midwifery Education, both of which are approved by NMBI at Category Level 1.

Throughout the year neonatal nurses also attended national and international conferences and, along with the education programmes previously mentioned, there are plans to introduce regular neonatal workshops in 2019, which will be facilitated by the Rotunda's clinical skills facilitators.

The hospital continued to actively recruit neonatal nurses throughout 2018, which resulted in a significant number of new nurses joining the neonatal team. Our clinical skills facilitators provide ongoing support for new staff during the orientation period.

Lactation Services

Throughout 2018 the Lactation Services team continued their focus on the need for premature babies to have access to their own mothers' expressed breast milk within the first hour after delivery. Resources were focussed on education and support for mothers of premature babies as well as for the staff caring for them. Particular focus is placed on the 'golden hour' after birth where mothers are encouraged to commence expression within one hour of the birth of a premature baby regardless of the type of delivery. Lactation staff liaised with Neonatologists in an audit on the percentage of women breastfeeding in the first hour after birth and factors contributing to non-exclusive breastfeeding in first time mothers. This work is currently being prepared for publication.

A policy for antenatal harvesting and collection of colostrum was developed and implemented throughout the hospital in 2018. This policy focuses specifically on mothers having elective caesarean deliveries and diabetic mothers who are encouraged to express from 38 weeks' gestation onwards. This policy also applies to mothers who are in preterm labour when it is expected that labour will progress with delivery imminent.

During World Breastfeeding week the Master, Prof. Fergal Malone, and Senior Clinical Midwife Specialist in Lactation, Maura Lavery, were guest speakers on RTE Radio for the Miriam O'Callaghan radio show where they spoke about the value of breastfeeding for mothers and babies, as well as the practices to support breastfeeding within the hospital.

A breastfeeding information stand was placed in the main reception area to optimise the visibility of our breastfeeding education efforts. Fund-raising for Blood Bikes East took place at the breastfeeding information stand with support from the Rotunda Foundation. Blood Bikes East is a voluntary charity, which plays an integral role in the transportation of expressed breast milk for premature and sick babies from the Milk Bank and from hospital to hospital.

A breastfeeding information stand also received significant visibility at the inaugural Rotunda Open Day in 2018. This lactation information stand was very busy and was visited by many service users and potential future service users. An educational presentation on breastfeeding was also given where visitors learned about preparation for breastfeeding and the supports available in the Rotunda as an inpatient and an outpatient.

Renowned international speaker Dr. Nils Bergman gave a lecture on Kangaroo care in June 2018 at the Rotunda, which was very well attended by staff and also attended the antenatal breastfeeding workshops for mothers. This was beneficial to mothers as it gave them an opportunity to meet with staff and realise that both ward staff and lactation specialists work together as a team, while it was also beneficial for staff in that it encourages consistent advice to be given to mothers.

Occupational Health

The Occupational Health team re-located to a new purpose-designed unit in October 2018. This move was welcomed by all as it increased privacy while allowing the team to deliver services in a more comfortable environment. As a result of an intensive and targeted campaign, the uptake of influenza vaccine amongst healthcare workers at the Rotunda was 77% which was an increase of 11% on 2017. This trojan work resulted in the Rotunda receiving a significant monetary award from the HSE as second highest performing hospital nationally.

"I love being a clinical midwife providing care for patients, but in order to drive change you have to have your voice so I've risen up the ladder to give voice to midwifery.

My area of interest or expertise is normalising high risk pregnancies and keeping normal risk pregnancies out in the community, so community midwifery is one of my passions ... but for women with at risk pregnancies, trying to normalise them as much as possible and giving them access to community care."

Fiona Hanrahan

Director of Midwifery and Nursing at the Rotunda Hospital

Emergency and Assessment Service

Head of Service

Dr. Sahar Ahmed, Consultant Obstetrician Gynaecologist

Staff

Mr. Ger Gannon, Clinical Midwife Manager 3
Ms. Bernadette Gregg, Registered Advanced Midwife Practitioner.
Ms. Debra England, Registered Advanced Midwife Practitioner.

Service Overview

The Emergency and Assessment Service is a unique setting in the Rotunda which provides Antenatal/Intrapartum/Gynaecologic/ Neonatal services 24 hours per day. There are clearly defined referral pathways and ongoing staff training which allow continued delivery of a dedicated service that manages patients in a safe, timely and supportive manner. Staffing is provided by the support of two registered advanced midwife practitioners (RAMP), clinical midwife managers, staff midwives, maternity care assistant as well as obstetric senior house officers on a 24 hour basis, with the support of senior registrars.

Clinical Activity

Table 1: Clinical Activity

	2017	2018
Obstetric	23,389	23,808
Gynaecology	1,272	1,370
Neonates	322	354

Successes and Achievements 2018

Enhancing Patient Care

The introduction of a second Registered Advanced Midwife Practitioner (RAMP) to the EAU provides a dynamic, expert and innovative obstetric emergency service. The nature of the EAU ensures the RAMP will remain a constant for patient contact and be a resource for obstetric assessment and emergency expertise to the midwifery and medical staff. This has extended professional and clinical expertise to women and their families and improves the quality of care for all women presenting to the unit.

MN-CMS in 2018

In November 2017 the MN-CMS electronic healthcare record was introduced hospital-wide. The introduction was largely a success and benefits of it have been greatly noted. The ability to view waiting times and discharges in real-time has been of huge benefit. The MN-CMS enables very efficient utilisation of our current triage system. By quickly establishing acuity of patients, this enables staff to triage patients appropriately and increases the intensity of monitoring as required. Remote chart reviews and remote fetal monitoring has allowed for increased senior input which in turn benefits patients, outcomes and turn-over of care. Electronic prescriptions and the ability to review charts easily also enhance care, especially from community midwifery, pharmacy and GP perspectives.

Challenges 2018

Space

The Emergency and Assessment Unit consists of one triage room, five individual adult examination rooms and one neonatal examination room. Given the high level of patient flow, space was still a constant challenge in 2018. This was most obvious at peak times in the evenings. Despite increased staffing levels, there are often not enough rooms for patients to be reviewed as quickly as we would like. Proposals to expand the unit have been approved. Caring for women following pregnancy loss alongside women with viable pregnancies and neonates remains an ongoing challenge in the EAU.

Complicated patients

It is evident from the spectrum of patients presenting to the Emergency and Assessment Unit that the hospital is now required to deal with ever more complicated patients. There are more medical issues present within the obstetric population and this has led to challenges for EAU staff. Increasing maternal age as well as greater use of assisted reproductive technology (ART) pregnancies resulting in more multiple pregnancies has proved challenging for the EAU.

Plans for 2019

We plan to expand the number of Registered Advanced Midwife Practitioners to optimise EAU staffing with independent midwifery-provided clinical evaluations. It is our intention to provide a seven day RAMP service. We will extend the number of clinical evaluation rooms ensuring a sensitive service to those experiencing pregnancy loss in a holistic environment.

Early Pregnancy Assessment Service

Head of Service

Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

Staff

Ms. Suzanna Byrne, Clinical Midwife Manager (CMM3)
Ms. Olivia Boylan, Administrator

Service Overview

The hard work of the administrative staff and the midwives who staff the unit and provide high-quality, comprehensive compassionate, care for women is acknowledged.

The Early Pregnancy Assessment service plays a key role in the management of complicated pregnancies up until 12 weeks' gestation, with case referrals from the Emergency and Assessment Service and external sources. It also provides a reassurance service for women who have had prior molar pregnancies, ectopic pregnancies or two prior consecutive early pregnancy losses, and maintains close links with the Bereavement and Social Work Services.

Women with prior poor obstetric outcomes are offered an early booking visit or a reassurance scan in order to facilitate early access to antenatal care and allied personnel.

The service goal is to provide a dedicated, patient-centered service that supports and facilitates safe, efficient, compassionate care.

Clinical Activity

Table 1: Clinical Activity

Activity	2017 No. Patients	2018 No. Patients	Activity (%)
Total number of patients seen	3,955	3,459	-13%
Repeat Early Pregnancy Assessment Service scans	1,247	1,633	+31%
Serial Beta hCG testing	545	724	+33%
Referred for Booking visit	886	815	-8%
Pregnancy of uncertain viability	315	231	-27%
Miscarriage	1,613	1,176	-27%
Surgical management of miscarriage	299 (19%)	310 (26%)	+4%
Expectant or medical management of miscarriage	1,314 (81%)	866 (74%)	-34%
Features suggestive of molar pregnancy on ultrasound	14	5	-64%
Pregnancy of unknown location	159	242	+52%
Ectopic pregnancy	37	46	+24%
Methotrexate therapy for ectopic pregnancy	42	132	+214%
Patients admitted from Early Pregnancy Assessment Service	55	56	+2%
Reassurance ultrasound	378	448	+19%

Successes and Achievements 2018

Enhancing Patient Care

The number of patients attending the early pregnancy assessment service dropped by 13% in 2018. This is in part because of the appointment of Advanced Midwife Practitioners Ms. Bernadette Gregg and Ms. Debra England in the Emergency and Assessment Service who efficiently triage, scan and manage women with bleeding in early pregnancy and other emergencies, thereby avoiding delays, recalls and onwards referral to the Early Pregnancy Assessment Service. Their skill, care and contribution to the management of women in early pregnancy is greatly appreciated by all involved and evident in our outcomes for 2018.

The number of women attending with pregnancy of unknown location increased in 2018. This is consistent with national trends and likely reflects earlier testing for pregnancy and earlier engagement of patients with hospital services. This consequently led to an increase in the number of repeat scans being required in our Service.

There was a 24% increase in ectopic pregnancy cases diagnosed at the Early Pregnancy Assessment Service in 2018. Overall, the total number of ectopic pregnancy cases managed at the Rotunda in 2018 was 87. Therefore, another 41 women were diagnosed with ectopic pregnancy following emergency presentation to the hospital. This highlights the importance of quality scanning and beta hCG availability in the Emergency and Assessment Service.

We therefore saw an increase in women being followed after methotrexate treatment in 2018. This has led to a change in our service and the establishment of a dedicated "EPAU Bloods" clinic, which results in all women needing hCG surveillance receiving formal timed appointments to attend. This will facilitate speed of review, allow management of increased patient numbers, further enhance the service and ensure improved follow-up of post-treatment care plans.

The number of miscarriages diagnosed in 2018 fell and the surgical treatment of miscarriage increased slightly from 18% to 24%. Overall, 76% of women experiencing miscarriage opted for either expectant or medical management following counseling. A total of 310 women attending for miscarriage management opted for surgical treatment. However, a further 168 women attended as emergencies to the hospital, requiring admission and emergency surgical evacuation of the retained products of conception under general anaesthetic. It is hoped that the training of staff in Manual Vacuum Aspiration may see a reduction in this number over the years to come.

Only five women had a molar pregnancy suspected following initial review, and were booked for surgical evacuation in order to obtain confirmatory histological diagnosis.

Service Developments

- Introduction of the Maternal & Newborn Clinical Management System (MN-CMS) electronic healthcare record in November 2017 meant greater availability of hCG trends throughout 2018

- The introduction of a sonographer-provided service has led to streamlining of patient care and less delays in the service
- The creation of an Early Pregnancy Assessment Service database to record weekly outcomes allowed for more efficient and accurate audit of the service. This will also allow more thorough assessment of cases that are expectantly managed

Challenges 2018

Service demand can lead to a delay in patient review as demand far exceeds capacity. However the vast majority of patients are still successfully reviewed within 48-72 hours of initial presentation to the hospital.

Despite the implementation of the MN-CMS electronic healthcare record, there is still a need to retrieve past paper records from archives for some women attending the Reassurance Clinic. This should become less of an issue as more data are being captured electronically and improved knowledge of the MN-CMS regarding data retrieval.

Infrastructure remains a challenge but there are plans to develop the unit and align patient care with proposed Sexual Health, Ambulatory Gynaecology and Termination of Pregnancy service provision.

Plans for 2019

The service plans for 2019 include:

- Amending the documentation and paperwork provided to general practitioners and highlighting changes in the service in order to improve primary care management of early pregnancy complaints
- Adapting the Early Pregnancy Assessment service in line with the general fetal medicine and ultrasound service where women are asked to attend without young children to allow for a quiet environment and privacy
- Introduction of a template as part of a quality improvement project led by Ms. Mary Deering CMM3 to standardise ultrasound reporting
- Introduction of a training session in Viewpoint (the obstetric ultrasound documentation system) for NCHDs as they join the hospital to optimise quality scanning and reporting
- Infrastructure changes including partitioning of the unit to facilitate greater privacy for this vunerable patient cohort pending further substantial hospital developments
- Introduction of a dedicated blood testing clinic to more efficiently capture activity and ensure patient follow-up
- Evolving the service in preparation for commencement of the Royal College of Physicians in Ireland (RCPI) Aspire Fellow who will address challenges in early pregnancy loss and lead on quality improvement projects
- Better links and pathways to counselors and Bereavement Services

Recurrent Pregnancy Loss Service

Head of Service
Dr. Karen Flood, Consultant Obstetrician Gynaecologist

Staff
Ms. Patricia Fletcher, Midwife

Service Overview
The recurrent pregnancy loss service was developed to provide thorough, standardised investigation and follow-up of couples with three or more consecutive first trimester miscarriages or two consecutive late miscarriages. The staff endeavors to deliver evidence-based care, limiting our investigations and interventions to those recognised by international best-practice guidelines.

All patients with histological confirmation of gestational trophoblastic disease (GTD) following a miscarriage also attend this clinic for counselling and are linked with the National Gestational Trophoblastic Disease Registry, Monitoring and Advisory Centre in Cork. Patients undergo close serum βhCG monitoring with rapid access for review if complications occur.

Clinical Activity

Table 1: Clinical Activity

	2013	2014	2015	2016	2017	2018
Total number of visits	499	667	681	744	918	845
New patient visits	109	157	82	111	170	151
Return visits	390	510	599	633	748	694
Livebirth rate %	39	44	61	70	69	80
GTD pregnancies followed	N/A	N/A	21	27	25	24

Successes and Achievements 2018
Enhancing Patient Care
This clinic continues to deliver an expanded service with the provision of dedicated early pregnancy support with frequent ultrasound monitoring and counselling. Of the 145 pregnant patients managed in our service this year, 116 (80%) achieved successful or ongoing pregnancies.

Challenges 2018
Although the clinic activity remained steady this year and the 'do not attend' (DNA) rates have slightly decreased (6%), the long waiting times for initial consultations needs to be addressed. We need to further reduce inappropriate referrals where the eligibility criteria are not met or where patients do not plan future conception.

Plans for 2019
We will aim to further optimise attendance of new referrals with direct patient contact immediately prior to their scheduled visit. This will hopefully ensure that the patient has received the correct details and also plans to embark on a further pregnancy therefore warranting investigation.

We will also commence complete recruitment of patients as part of a collaborative study with the Department of Immunology, Trinity College Dublin to definitively explore the role of Uterine Natural Killer cells in the setting of recurrent pregnancy loss.

Fetal Medicine Service

Head of Service

Dr. Carole Barry, Consultant Obstetrician Gynaecologist

Staff

Prof. Fergal Malone, Consultant Obstetrician Gynaecologist
Prof. Fionnuala Breathnach, Consultant Obstetrician Gynaecologist
Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist
Dr. Jennifer Donnelly, Consultant Obstetrician Gynaecologist
Dr. Karen Flood, Consultant Obstetrician Gynaecologist
Prof. Michael Geary, Consultant Obstetrician Gynaecologist
Dr. Richard Horgan, Consultant Obstetrician Gynaecologist
Dr. Etaoin Kent, Consultant Obstetrician Gynaecologist
Dr. Sieglinde Mullers, Maternal Fetal Medicine Fellow
Dr. Niamh Murphy, Clinical Tutor
Dr. Catherine Finnegan, Clinical Tutor
Dr. Suzanne Smith, Clinical Tutor
Ms. Mary Deering, Midwife Manager
Ms. Jane Dalrymple, Fetal Medicine Midwife
Ms. Nollaig Kelliher, Fetal Medicine Midwife
Ms. Joan O'Beirnes, Fetal Medicine Midwife
Ms. Laura McBride, Sonographer/Fetal Medicine Midwife
Ms. Avril O'Connor, Sonographer/Fetal Medicine Midwife
Ms. Suzanne Gillen, Midwife Sonographer
Ms. Allyson Lawless, Midwife Sonographer
Ms. Deirdre Nolan, Midwife Sonographer
Ms. Hilda O'Keeffe, Midwife Sonographer
Ms. Gemma Owens, Midwife Sonographer
Ms. Irene Twomey, Midwife Sonographer
Ms. Mabel Bogerabatyo, Radiographer
Ms. Fiona Cody, Radiographer
Ms. Katie Campbell, Radiographer
Ms. Linda Hughes, Radiographer
Ms. Louise O'Dwyer, Medical Social Worker
Ms. Suzanne Larkin, Administration
Ms. Mary Maguire, Administration
Ms. Anita O'Reilly, Administration

Service Overview

The Fetal Medicine Service at the Rotunda Hospital provides scheduled obstetric ultrasound services, prenatal diagnosis services and fetal treatment programmes. All Rotunda patients, at the time of their initial hospital booking visit, have a formal early pregnancy dating scan. In addition, all Rotunda patients have a formal fetal anatomic ultrasound survey at 20-22 weeks' gestation. Serial obstetric ultrasound examinations are provided for patients receiving ongoing care at various high risk obstetric and medical clinical services. Additionally, the Fetal Medicine Service provides a significant emergency ultrasound service for a variety of obstetric complications for local catchment area patients in the Early Pregnancy Unit and for patients referred from all over Ireland in the Fetal Medicine Clinics.

Clinical Activity

The table below includes a 5-year comparison of the number of obstetric assessments performed:

Table 1: Clinical Activity

	2014	2015	2016	2017	2018
Initial booking ultrasound examinations	N/A	N/A	1,998	6,054*	6,401*
Fetal Anatomic Survey (20-22 weeks)	8,838	8,499	8,581	8,296	9,016
Fetal Growth Assessments	8,711	8,472	9,734	11,067	14,843
Fetal Echocardiogram	215	322	304	379	289
Subtotal	**19,197**	**18,681**	**21,415**	**25,796**	**30,549**
Gynaecology ultrasounds	1,588	1,663	1,822	918**	541**
Total Ultrasounds	**20,785**	**20,344**	**23,237**	**26,714**	**31,090**

*Late bookers also had anatomy or growth scans at the initial booking ultrasound examination.
**Some aspects of the Gynaecology ultrasound service outsourced due to resource limitations

Prenatal Screening and Diagnosis Services

Prenatal screening and antenatal diagnosis of fetal abnormalities are essential parts of the Fetal Medicine Service; nationally, the Rotunda Hospital is the busiest provider of these services and accepts patients referred from all maternity units in Ireland. In 2018, 1,776 new patients attended for 4,365 assessments for Prenatal Screening and Diagnosis services.

The table below shows a 5-year comparison of screening and invasive diagnostic procedures performed:

Table 2: Invasive Procedures

	2014	2015	2016	2017	2018
NIPT (Cell Free Fetal DNA)	375	651	925	1,160	1,337
Amniocentesis	144	114	97	99	110
Chorionic Villus Sampling	80	80	63	94	90
First Trimester NT-based Screening	547	416	302	169	43
Total No. of Tests performed	**1,146**	**1,261**	**1,387**	**1,522**	**1,580**

Of the 200 diagnostic procedures performed, there were 63 abnormal results, representing 32% of invasive tests.

Table 3: Chromosmal Abnormality

Abnormality	CVS	Amniocentesis	Total
Trisomy 21	20	12	32
Trisomy 18	9	6	15
Trisomy 13	1	2	3
45X	3	1	4
Triploidy	0	1	1
Other	6	2	8
Total	**39**	**24**	**63**

Five patients with high risk NIPT screening results declined diagnostic invasive testing. However, subsequently four cases of Trisomy 21 and one case of Klinefelter were confirmed postnatally.

There were six false positive NIPT results which yielded normal results on further evaluation.

Eleven invasive procedures other than amniocentesis or CVS were performed. These included intrauterine fetal transfusions and fetoscopic laser ablations.

Dublin Fetal Surgery Group Service

Since 2010, the fetal surgical teams at the National Maternity Hospital Dublin, and the Rotunda Hospital Dublin have collaborated jointly for the management of all cases of twin-to-twin transfusion syndrome referred to either centre. This has resulted in a single team approach to all such cases, regardless of which of the two hospital locations at which such patients are seen. During 2018, a total of 7 cases of severe Twin-to-Twin Syndrome were managed by the Dublin Fetal Surgery Group by means of fetoscopic laser ablation of placental vessels. By the end of 2018, the group had completed 175 cases of laser surgery for severe TTTS, with at least one survivor occurring in 83% of cases (146/175). These results are consistent with the results at the major international centres providing this advanced fetal therapy. This approach to a complex, but relatively rare, fetal problem is an excellent example of a joint collaborative management strategy that successfully optimises care for these patients.

Major Fetal Structural Abnormality

Excluding soft markers and chromosomal abnormalities, 154 cases of major structural fetal abnormalities were detected in 2018. The table below represents a 5-year comparison of these major structural abnormalities:

Table 4: Structural Malformation

	2014	2015	2016	2017	2018
CNS	30	32	26	20	11
Head & Neck	22	27	25	21	25
Cardiovascular	36	43	36	56	34
Renal	49	48	48	50	33
Abdominal	7	17	12	13	19
Skeletal	15	24	12	26	19
Thoracic	8	16	4	5	10
Others	21	2	1	6	3
Total	**188**	**209**	**164**	**197**	**154**

Fetal Cardiac Services

The Fetal Cardiac service at the Rotunda is a national referral service provided by Dr. Orla Franklin, Consultant Paediatric Cardiologist and Prof. Fionnuala Breathnach, Consultant Obstetrician and subspecialist in Maternal Fetal Medicine. In 2018, the Fetal Medicine Service performed 289 targeted fetal echocardiograms.

Table 5: Cardiac Malformations

Lesion	2016	2017	2018
Hypoplastic Left Heart Syndrome	6	9	3
Hypoplastic Right Heart Syndrome	5	7	4
Complete AVSD	2	5	3
VSD	12	15	18
Tetralogy of Fallot	3	7	5
Transposition of the great arteries	5	5	5
Coarctation/Interrupted Arch	2	6	2
Truncus Arteriosus	1	0	1
Right Aortic Arch	1	0	2
Ebsteins Anomality	0	1	0
Systemic Vein anomalies	4	1	0
Arrhythmia	3	2	5
Cardiac tumours			1
Congenitally Corrected TGA			1
Aortic Stenosis			1
Critical Pulmonary stenosis			1
Total	**44**	**58**	**52**

HRHD = Hypoplastic left heart disease; HRHD = Hypoplastic right heart disease; AVSD = Atrio-Ventricular Septal Defect; VSD = Ventricular Septal Defect; TGA = transposition of the great arteries

80% of cases referred to the Combined Fetal Cardiology Clinic had a confirmed cardiac abnormality, as the vast majority of targeted screening is conducted in Prof. Breathnach's Fetal Clinic, with prenatal referral of cases to Paediatric Cardiology (Dr. Franklin) being generally limited to cases in which a cardiac abnormality has already been identified. Women who attend this clinic are supported by the Rotunda Fetal Medicine Midwife team and the

Paediatric Cardiac Liaison service at Our Lady's Children's Hospital Crumlin.

Multiple Pregnancy Service

Forty five multiple pregnancies were referred for assistance with management of select high-risk circumstances.

Table 6

MA Twins:	Normal Outcome	3
	Conjoined	1
MCDA Twins:	Normal Outcome	10
	Discordant Growth	3
	Structural Anomaly	1
	TTTS	6
DC Twins:	Normal Outcome	3
	Discordant Growth	4
	Structural Anomaly	6
MCTA Triplets:	Single Fetal Demise	1
DCTA Triplets:	Normal Outcome	3
	Discordant Growth	2
TC Triplets:	Discordant Growth	1
Quadruplets:	Fetal reduction to twins	1
	Total	**45**

MA = Monochorionic; MCDA = Monochorionic diamniotic; DC = Dichorionic; MCTA = Monochorionic triamniotic; DCTA = Dichorionic triamniotic; TC = Trichorionic; TTTS =Twin to twin transfusion syndrome.

Successes and Achievements 2018

- Provision of qualified midwife sonographer and radiographer services to optimise standards for all patients attending the Early Pregnancy Assessment Service
- Successful recruitment of two new Radiographers – Linda Hughes and Katie Campbell
- Point-of-care ultrasound examinations captured on Viewpoint and stored electronically on the new MN-CMS electronic healthcare record

Challenges 2018

Access to Fetal Medicine Appointments in the United Kingdom for patients requesting termination of pregnancy for fetal malformations was limited because of increased volume of patients from Ireland exceeding the capacity of UK centres. This resulted in some patients having significantly delayed access to termination of pregnancy services.

Plans for 2019

The Fetal Medicine Service has multiple priorities for 2019 including:

- Re-aligning current work practices in the Fetal Medicine Department in line with the Health (Regulation of Termination of Pregnancy) Act 2018
- Re-introduction of the outsourced parts of the gynaecologic ultrasound service to the Rotunda
- Appointment of additional Consultant Radiologists to maximise the provision of, and supervision of, the full range of diagnostic imaging
- Forging closer links and developing care plans with newly appointed Neonatal Palliative Care Consultant, Dr. Fiona McElligott
- The appointment of two Fetal Medicine Consultants across the RCSI Hospitals Group to provide integrated fetal medicine services between the Rotunda and Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital
- Provision of Trophon ultrasound probe cleaning units in all ultrasound facilities

"The midwives are superb."

Maternal Medicine Service

Staff

Dr. Jennifer Donnelly, Consultant Obstetrician/Maternal Fetal Medicine, Rotunda and MMUH
Dr. Etaoin Kent, Consultant Obstetrician/Maternal Fetal Medicine, Rotunda and OLOLH Drogheda
Prof. Fionnuala Ní Áinle, Consultant Haematologist, Rotunda and MMUH
Dr. Colm Magee, Consultant Nephrologist, Rotunda and Beaumont Hospital
Dr. Barry Kelleher, Consultant Gastroenterologist, Rotunda and MMUH
Prof. Conán McCaul, Consultant Anaesthesiologist, Rotunda and MMUJ
Dr. Patrick Thornton, Consultant Anaesthesiologist, Rotunda and MMUH
Prof. Ann Brannigan, Consultant Colorectal Surgeon, Rotunda and MMUH
Prof. Kevin Walsh, Consultant Congenital Cardiologist, MMUH
Dr. Damien Kenny, Consultant Congenital Cardiologist, MMUH
Dr. Tony Geoghegan, Consultant Radiologist, MMUH
Prof. Leo Lawler, Consultant Radiologist, MMUH
Ms. Cathy O'Neill, Staff Midwife
Ms. Carla Morales, Staff Midwife
Ms. Suzanna Byrne, Staff Midwife
Ms. Joyce Boland, Staff Midwife

Service Overview

The Maternal Medicine Service at the Rotunda comprises a number of different specialities which provide overlapping care for women with medical conditions throughout pregnancy and in the post partum period. For those medical specialities relating to endocrine, infectious diseases and epilepsy, these outcomes are found elsewhere in this Annual Report.

Clinical Activity

Combined Obstetric Maternal Medicine Clinic

The Combined Obstetric Maternal Medicine Clinic was established in January 2017 and patient numbers have increased significantly since then, with 1,081 patient encounters.

Table 1 gives an overview of the range of medical diagnoses managed at the clinic.

Maternal Medicine MDT

The MMMDT is held every six to eight weeks in the Mater Misericordiae University Hospital (MMUH) and provides a platform for multidisciplinary input into the management of women with complex medical backgrounds. A total of 120 cases were discussed at the Maternal Medicine MDT in 2018.

Successes and Achievements 2018

Almost double the amount of women attended the service compared to 2017. It is increasingly recognised that early recognition and appropriate treatment of medical problems, as well as access to best practice care, is very important in reducing maternal morbidity. This reflects development of the service and clearer referral pathways. In February 2018, an educational meeting on maternal medicine services at the Rotunda was organised for GPs from the North Dublin region. An International RCPI Maternal Medicine Fellow, Dr. Khadeeja Al-Nassar, commenced in July 2018.

Cardiac Obstetric Clinic

There were 527 patient encounters at the Cardiac Obstetric Clinic.

Table 2 gives an overview of the range of cardiac diagnoses managed at the clinic.

Table 2: Cardiac Disease Cases

	2017	2018
Congenital heart disease	48	43
Arrythmia	53	36
Aortic disease	17	10
Valvular heart disease	28	10
Cardiomyopathy	5	3
Coronary artery disease	1	2
Endocarditis	6	3
Family History of cardiac disease	6	2
Non-cardiac cases	17	13
Reviewed and discharged	8	23
Total	**189**	**145**

Cardiac MDT

The Cardiac MDT is held every six to eight weeks. It provides a forum for multidisciplinary discussion and delivery planning for women with complex congenital heart disease and other complex cardiac conditions. A total of 104 cases were discussed at the Cardiac Obstetric MDT held in the Mater Misericordiae University Hospital in 2018.

Plans 2019

- Appointment of dedicated RCPI Maternal Medicine Fellow is planned in 2019
- Further development of the Irish Medicines in Pregnancy Service in conjunction with the Pharmacy Service
- Development of a midwifery role to provide supportive, holistic care for women during pregnancy

Table 1: Medical Diagnosis Managed	
DERMATOLOGY	3
Psoriasis	2
Polymorphic eruption of pregnancy	1
FETAL	6
GASTROENTEROLOGY	49
Crohn's disease	31
Ulcerative colitis	12
Other GI	3
Liver transplant	1
Focal nodular hyperplasia of liver	1
Pancreatitis	1
INFECTIOUS DISEASES	3
IMMUNOLOGY	1
Chronic autoimmune urticaria	1
METABOLIC	1
Hyperphenylaemia	1
NEUROLOGY	54
Multiple sclerosis	13
Structural CNS lesion	11
Stroke/TIA	9
Ataxia/dystonia	3
Charcot-Marie Tooth	2
Family history aneurysm	2
Huntington's	2
Migraine	2
Hydrocephalus	2
Subarachnoid haemorrhage	2
Spina bifida	2
Intracranial hypertension	1
Myasthenia Gravis	1
Neurofibromatosis	1
Cerebral Palsy	1
Cerebral vasculitis	1
ONCOLOGY:	15
Previous	10
Current	5
MUSCULOSKELETAL	4
Ehlers Danlos	1
Osteogenesis imperfecta	1
Osteoporosis	1
Hemihypertrophy of limbs	1

Table 1: ***continued***	
RESPIRATORY	7
Sarcoidosis	3
Asthma (severe)	1
Bronchiectasis	1
Interstitial lung disease	1
Lung transplant	1
RENAL	19
Severe hypertension	4
Renal transplant	4 (1 preconception)
Structural	3
Chronic kidney disease	2
Lupus nephritis	2
Gitelmans	1
IgA nephropathy	1
Polycystic kidneys	1
Renal calculi	1
RHEUMATOLOGY	32
Rheumatoid arthritis	12
SLE	5
Arthritis (other)	4
Behcets	2
Psoriatic arthritis	2
Sarcoidosis	2
Alopecia areata	1
Anti-Ro antibody	1
Mixed connective tissue disease	1
Reynaud's	1
Sjogrens	1
HAEMATOLOGICAL DISORDERS	27
Haematology Disorder (Other)	12
Clotting Factor Disorder	9
Platelet Disorder	6
VENOUS THROMBOEMBOLISM	18
Current and previous DVT/PE	16
Other site thrombosis	2
ANTI PHOSPHOLIPID ANTIBODY SYNDROME	8
SURGICAL FOLLOW UP	6
OTHER	11

Teenage Pregnancy Service

Head of Service
Dr. Geraldine Connolly, Consultant Obstetrician Gynaecologist

Staff
Ms. Deborah Browne, Clinical Midwife Specialist

Service Overview
Antenatal care is provided to all teenage pregnant mothers up to age nineteen in the Rotunda Hospital's Teenage Pregnancy Service. Vulnerable patients, such as teenage multiparous girls, those with special needs or risk-prone social situations, may also attend the clinic as they may benefit from continuity of care and the specialised approach provided by this service.

Clinical Activity
Table 1 shows the number of patients managed at the service over the last five years:

Table 1: Clinical Activity

Year	No. of Patients
2014	119
2015	104
2016	129
2017	90
2018	129

In 2018, 60% of attendees at the service were Irish. Roma patients accounted for 16% of the total attending the service, while 12% were Irish travellers.

Table 2: Pregnancy Outcomes 2018

Spontaneous vaginal delivery	85	67%
Instrumental vaginal delivery	24	20%
Caesarean delivery (elective)	3	3%
Caesarean delivery (emergency)	14	10%
Total Delivered	**126***	

*(Three patients delivered in other hospitals as ambulance transport brought them to their nearest maternity unit).

The overall caesarean delivery rate in the teenage population was 13%.

Patient Outcomes
There was one case of intrauterine fetal death. This patient was a refugee, was a late registrant for antenatal care and only attended for some hospital appointments. Post-mortem assessment confirmed normal cytogenetics and normal external examination of the infant.

Successes and Achievements 2018
- Low caesarean delivery rate has been maintained in this young population
- Only one low birth weight infant at term
- Chlamydia rate decreased to 8% from 12% in 2018

Enhancing Patient Care
- Postpartum contraception is provided to all patients prior to discharge
- Provision of Long-acting reversible contraception (LARC) is provided to all patients interested in this service in a dedicated postnatal clinic
- A midwife specialist provides postnatal home visits for those patients resident in the North Dublin area

Challenges 2018
In common with other obstetric populations, an increased number of patients developing gestational diabetes has been noted. Eight patients were diagnosed with diet-controlled gestational diabetes, while one patient required insulin for gestational diabetic management.

Plans for 2019
Clinical Midwife Specialist currently training to obtain a Professional Certificate in examination of the newborn. This will enhance the provision of continuity of care on the postnatal ward.

Combined Obstetric Endocrine Service

Head of Service

Dr. Richard Horgan, Consultant Obstetrician Gynaecologist
Prof. Fionnuala Breathnach, Consultant Obstetrician Gynaecologist

Staff

Dr. Maria Byrne, Consultant Endocrinologist
Ms. Jackie Edwards, Clinical Midwife Manager
Ms. Aileen Fleming, Clinical Midwife Manager
Ms. Claire Kearney, Clinical Midwife Manager
Ms. Laura Kelly, Senior Dietician
Ms. Marian McBride, Senior Dietician
Ms. Ali Cunningham, Dietician

Overview of Service

The Combined Obstetric Endocrine Service manages endocrine conditions and complications in pregnancy. The predominant conditions are Diabetes Mellitus (DM) and thyroid dysfunction. Dr. Byrne also provides a preconception endocrine clinic at the Mater Misericordiae University Hospital.

Clinical Activity

The Combined Obstetric Endocrine Service remains one of the busiest and highest risk clinical areas within the Rotunda Hospital. The total number of women with diabetes (Type 1, Type 2, GDM) was 1,014, which represents 12% of the total number of women who delivered at the Rotunda Hospital in 2018. This is without a universal screening programme for GDM.

Women with type 1 and type 2 DM attend the hospital at a very early gestation but poor control in these women remains a common finding as reflected by their HbA1c and fructosamine levels. In spite of this, outcomes remain excellent with no stillbirths or neonatal deaths being recorded at the Rotunda in 2018 in type 1 and type 2 DM patients or in women with GDM.

There remains a high caesarean section rate in this group. The preterm delivery rate was 35% (17/48), with three of 48 patients with type 1 and type 2 DM delivering before 34 weeks, including one patient delivering at less than 32 weeks.

All women with type 1 and type 2 DM continue to have a targeted fetal echocardiogram and at least two third trimester fetal growth ultrasound assessments performed.

The number of women with GDM is similar to 2017. The majority of women with diabetes in pregnancy are managed conservatively by the multidisciplinary diabetic team but there was an increase in the number of women requiring insulin for GDM, which is significantly increased compared with 2017.

Table 1: Clinical Activity

	2014	2015	2016	2017	2018
Type 1	16	23	32	37	26
Type 2	37	33	22	24	25
GDM - diet	495	609	753	756	674
GDM - insulin	149	166	222	218	289
Total	**697**	**831**	**1,029**	**1,035**	**1,014**

Table 2: Pregestational Diabetes: Maternal Characteristics

	TYPE 1	TYPE II
N	n=26	n=25
Age [Mean(SD)]	32.0 (6.0)	34.8 (6.1)
DM duration (years) [Mean(SD)]	13.7 (7.7)	3.7 (3.4)
DM Complications: (Expressed in ongoing viable pregnancies)		
▪ Chronic hypertension	2/25 (8%)	8/23 (35%)
▪ Retinopathy	15/25 (60%)	0/17
▪ Nephropathy	5/25 (20%)	2/22 (9%)
▪ Neuropathy	1/25 (4%)	0/23
Preeclampsia	2/25 (8%)	1/23 (4%)
Gestation at booking (weeks) [Mean(SD)]	6.2 (1.7)	6.3 (2.0)
HbA1c at booking/IFCC [Mean(SD)] mmols/mol*	63.3 (18.2)	55.7 (21.1)
HbA1c at delivery/IFCC [Mean(SD)] mmols/mol	47.9 (9.9)	39.6 (8.3)
Fructosamine at booking [Mean(SD)] umols/L*	332.6 (71.4)	245.5 (44.7)
Fructosamine at delivery [Mean(SD)] umols/L	232.9 (26.6)	211.7 (34.8)

*HbA1c normal range 20-42mmols/mol; Fructosamine normal range 205-285umol/L

Table 3: Pregestational Diabetes: Perinatal Outcome

	TYPE 1	TYPE II
N	26	25
Spontaneous Fetal Loss (<24 weeks)	1/26 (4%)	2/25 (8%)
Preterm delivery 24+0 to 36+6 weeks	11/25 (44%)	6/23 (26%)
Liveborn	25/26 (96%)	23/25 (92%)
Stillbirth	0/25	0/23
Neonatal death	0/25	0/23
Delivered Elsewhere	0	2 (not included in N=25)
Caesarean Delivery	18/25 (72%)	14/23 (61%)
Gestational age at delivery (weeks) [Mean(SD)]	34.7 (7.5)	34.9 (9.2)
Birthweight (g) [Mean(SD)]	3,325 (811)	2,925 (1429)
Macrosomia > 4500g	2/25 (8%)	1/23 (4%)
Shoulder dystocia	2/25 (8%)	0/23
Major congenital anomaly	1/25 (4%) (VSD)	2/23 (9%) (intraventricular septal hypertrophy; hypospadias)

Table 4: Gestational Diabetes (GDM)

	Diet-controlled GDM	GDM on insulin
N	674	289
Age [Mean(SD)]	33.9 (5.7)	34.8 (5.3)
Gestational age at delivery (weeks) [Mean(SD)]	39.0 (1.9)	38.6 (1.4)
Birthweight (g) [Mean(SD)]	3,417 (597)	3,433 (552)
Caesarean delivery	276/674 (41%)	156/289 (54%)
Stillbirth	0/674	0/289
Delivered Elsewhere	0/674	0/289
Preeclampsia	20/674 (3%)	4/289 (1%)
Macrosomia >4500g	2/674 (0.3%)	1/289 (0.3%)
Shoulder dystocia	3/674 (0.4%)	1/289 (0.3%)
Major congenital anomaly	-	-

Successes and Achievements 2018

Research and Innovation

Prof. Fionnuala Breathnach and the Rotunda research team were successful in acquiring EU Horizon 2020 funding ('Big Medilytics' project) to research a self-management and remote monitoring programme for gestational diabetes, the pre-pilot phase of which started in 2018.

This team is also leading a HRB-funded randomized placebo-controlled trial of aspirin therapy in type 1 and type 2 diabetes in pregnancy, with the support of the HRB-funded Mother and Baby Clinical Trials Network.

Challenges 2018

With the increasing numbers of GDM patients, staffing and resources remains the main challenge to continue to provide an efficient service to optimize outcomes.

With the introduction of the MN-CMS electronic healthcare record, insulin prescribing poses a significant challenge and our colleagues in the Pharmacy Service have been invaluable in the development and optimisation of electronic prescribing.

The MN-CMS electronic healthcare record has also provided challenges in extracting data for analysis and there is on-going need for quality control on the generation of clinical reports.

Plans for 2019

The appointment of a new Diabetic Clinical Midwife Manager or Advanced Midwife Practitioner is a high priority for the service.

Continued patient education and liaison with General Practice regarding attendance for preconception care at the diabetic clinic is crucial for optimising care for type 1 and type 2 diabetic patients, as well as ensuring that all such patients are taking 5mg of folic acid.

Given the frequent co-existence of severe obesity in this patient population, it will be essential to develop protocols for the management of relevant women following bariatric surgery.

"I think what's unique about the Rotunda is the sense of collegiality, the sense of everyone working together happily. There's a lot of good communication between different departments and everyone really wants to do what's best for the women who are here."

Dr. Jennifer Donnelly

Consultant obstetrician maternal fetal medicine specialist


clinell

Infectious Diseases Service

Head of Service

Dr. Maeve Eogan, Consultant Obstetrician and Gynaecologist

Staff

Dr. Jack Lambert, Consultant in Infectious Diseases
Dr. Barry Kelleher, Consultant in GI/Hepatology
Dr. Richard Drew, Consultant Microbiologist
Dr. Wendy Ferguson, ID Associate Specialist Paediatrician
Ms. Mairead Lawless, ID Liaison Midwife
Mr. Justin Gleeson, Drug Liaison Midwife
Ms. Ruth Power, Medical Social Worker
Dr. Valerie Jackson, Clinical Audit & Surveillance Scientist

Service Overview

The Infectious Diseases Sevice, also known as the DOVE (Danger of Viral Exposure) Service looks after the specific needs of pregnant women who have or are at risk of blood and sexually transmitted bacterial and viral infections. This exposure may occur through drug use, unprotected sex, or any contact with infected blood or body fluid.

Clinical Activity

Infections in Pregnancy

In 2018, 128 women with positive screening serology booked for antenatal care at the Infectious Diseases Sevice clinic. Of these:

- 41 (32%) women were positive for Hepatitis B surface antigen, representing a decrease of 16% compared to 2017 (Fig 1)
- 41 (32%) women were positive for Hepatitis C antibody, an increase of 14% compared to 2017
- 31 (24%) were positive for HIV infection, an increase of 19% compared to 2017
- 20 (16%) women had positive Treponemal serology, an increase of 25% compared to 2017.

In addition to the figures presented above, a number of women attend the clinic during the course of their antenatal journey for diagnosis and treatment of HPV, HSV, Chlamydia and Gonorrhoea.

Figure 1: Infectious Diseases Service Clinic Bookings by Year

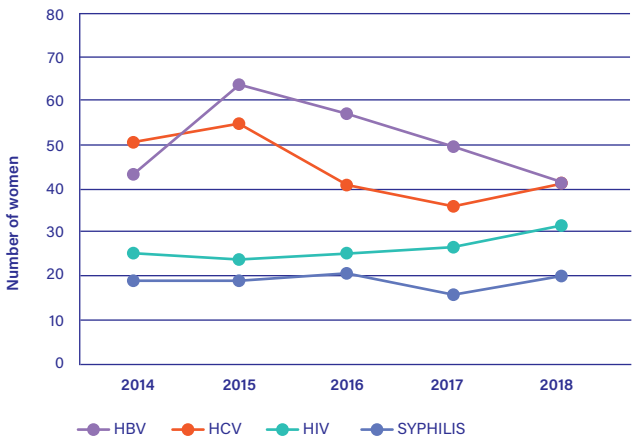


Table 1: Deliveries to HIV Positive Mothers 2018 (N=30)

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	30
Live Infants	31 (1 set twins)
Miscarriage	0
Stillbirths	0
Infants <37 weeks gestation	8
Infants ≥37 weeks gestation	23
Infants delivered by C. Section	15
HIV Positive Infants	0
Maternal Data (n=30)	
Median Maternal Age (Years)	34
Newly Diagnosed at First Visit	2

Table 2: Deliveries to HCV Positive Mothers 2018 (N=42)

Total Mothers Delivered <500g (incl. miscarriage)	1
Total Mothers Delivered >500g	41
Live Infants	43 (2 sets twins)
Miscarriage	1
Stillbirths	0
Infants <37 weeks gestation	10
Infants ≥37 weeks gestation	33
Infants delivered by C. Section	15
HCV Positive Infants	0*
Maternal Data (n=42)	
Median Maternal Age (Years)	32
Newly Diagnosed at First Visit	7

*Final serology not yet available for all infants

Table 3: Deliveries to HBV Positive Mothers 2018 (N=48)

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	48
Live Infants	48
Miscarriage	0
Stillbirths	0
Infants <37 weeks gestation	1
Infants ≥37 weeks gestation	47
Infants delivered by C. Section	17
HBV Positive Infants	0*
Maternal Data (n=48)	
Median Maternal Age (Years)	31
Newly Diagnosed at First Visit	7

*Final serology not yet available for all infants

Table 4: Deliveries to Syphilis Positive Mothers 2018 (N=16)	
Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	16
Live Infants	16
Miscarriage	0
Stillbirths	0
Infants <37 weeks gestation	1
Infants ≥37 weeks gestation	15
Infants delivered by C. Section	5
Syphilis Positive Infants	0
Median Maternal Age (Years)	34
Newly Diagnosed at First Visit	5

Drug Liaison Midwife (DLM) Service

During 2018, 106 women were referred to the DLM service, including 39 women who had a history of opiate addiction and were engaged in a Methadone Maintenance Programme. There were 16 babies who required admission to the neonatal intensive care unit for Neonatal Abstinence Syndrome (NAS).

Table 5: Deliveries to Mothers under DLM* service 2018 (N=61)	
Total Mothers Delivered >500g	61
Mothers on prescribed methadone programmes	37
HCV positive mothers	22
HIV positive mothers	1
Live Infants	63
Stillbirths	0
Infants <37 weeks gestation	7
Infants ≥37 weeks gestation	56
Infants delivered by C. Section	15
NICU admissions for NAS	16

*DLM: Drug Liaison Midwife

Infectious Disease Medical Social Work

In 2018, the medical social worker for the Infectious Diseases Service clinic provided emotional and practical support to women attending the specialist clinic. Patients attending this service have an infectious disease diagnosis and/or substance misuse issues. The social worker liaised closely with the Drug Liaison Midwife, the Infectious Disease Midwife and the Consultants to provide a comprehensive service for patients.

Where required, the medical social worker referred patients to Tusla (Child and Family Agency) and other community services to ensure patients and their babies had appropriate supports in place. In 2018, 57 women were referred to Tusla. The following actions were the outcome of Tusla social work involvement:

- 24 Discharge Safety Planning Meetings
- 25 Child Protection Case Conferences
- One baby taken into care under an Interim Care Order
- Five babies discharged into care under a Voluntary Care Agreement
- 10 mothers discharged under the supervision of a non-drug using relative for a period of time until stability was assured
- One mother and baby discharged to a parenting assessment unit

Paediatric Infectious Disease Clinic

In 2018, over 300 infants were provided with follow-up appointments for the Rotunda paediatric infectious disease clinic. The clinic is delivered by Dr. Ferguson who is affiliated with the Rainbow Team: the national service for Paediatric Infectious Diseases.

Successes and Achievements 2018

Education & Training

Members of the Infectious Diseases Service continue to be actively involved in undergraduate, postgraduate and hospital education programmes.

The ID Liaison Midwife provides monthly in-service education sessions for all clinical staff. She also lectures on Infectious Diseases in Pregnancy to the TCD undergraduate and postgraduate midwifery students annually. In addition, the ID Liaison Midwife was a key member in organising and facilitating the multicentre training programme 'Update of Infectious Diseases & STIs in pregnancy', held in May 2018 in conjunction with The Centre for Midwifery Education (CME). It is hoped this will run annually.

The Drug Liaison Midwife has delivered lectures on substance misuse in pregnancy to both undergraduate and postgraduate midwifery students in TCD, as well as to students on the Masters Programme in Addiction Studies in the Dublin Business Institute.

The British Association for Sexual Health and HIV (BASHH) accredited Sexually Transmitted Infection Foundation (STIF) Courses (STIF Core & STIF Plus) continue to be held in Dublin, with Dr. Lambert acting as course director, and Dr. Eogan providing teaching on management of rape and sexual assault. The courses took place in May and October 2018 and provided multidisciplinary training in the knowledge and skills required for the prevention and holistic management of STIs.

Dr. Ferguson provides regular lectures to NCHDs in-house and also lectures at the microbiology study days and the Diploma in Primary care paediatrics.

Dr. Ferguson is the paediatric representative on the following national and European committees:

- The Irish Congenital Cytomegalovirus CMV Working Group
- The European Congenital CMV Initiative (ECCI)
- The national working group to develop an integrated care pathway for children who are deaf or hearing impaired

Enhancing Patient Care

As well as continuing to provide responsive patient-focussed care to pregnant women and their babies, there are several research projects ongoing in the Infectious Diseases Service. Many of these are collaborations with other disciplines in the Rotunda Hospital, and also with the infectious disease and Hepatology teams at the Mater Misericordiae University Hospital. Areas of interest include the emergence of drug resistance and the pharmacokinetics of Highly Active Antiretroviral Therapy (HAART) during pregnancy.

Following on from previous work in 2017, we were delighted to initiate screening for Group B Streptococcus (GBS) when women present with spontaneous rupture of the membranes at term. Knowledge of GBS status enables triage for antibiotics and induction of labour. It is hoped that this rapid test for GBS will result in more effective and more efficient approaches to neonatal GBS prevention rather than risk factor based screening or universal screening of all pregnant women at 36 weeks' gestation, as is the current practice in other countries. In keeping with national and international Guidelines, the team continues to be a strong advocate for vaccination in pregnancy and had publications and presentations in this regard.

Dr. Wendy Ferguson is the Paediatric infectious disease representative on the national working group to develop an integrated care pathway for children who are deaf or hearing impaired. This working group was set up in 2017, through the RCPI Integrated Care Programme for Paediatrics and is a national multidisciplinary working group for children with established deafness/hearing loss. The objective of the working group is to agree national guidelines for the prompt aetiological assessment and management of neonates born with congenital deafness/hearing loss.

The Infectious Diseases Service also carries out clinical audit, comparing practice against local, national and international guidelines to support continued high performance and positive patient outcomes.

Challenges 2018

The number of women attending the Infectious Diseases Service with HCV, HIV and syphilis increased significantly in 2018.

Plans for 2019

Routine screening for HCV at antenatal booking is still not being provided, but it is hoped that this will be achieved soon. The availability of well tolerated and accessible treatment for HCV means that patients can be referred for post-pregnancy treatment if the diagnosis is made. Treatment will have a positive impact on future pregnancies, by eliminating the risk of mother to child transmission and also be beneficial in terms of reducing the long term health effects of HCV.

Furthermore, the Infectious Diseases Service and allied agencies need to adapt and respond to evolving patterns of addiction. While there are excellent inpatient stabilisation services for pregnant women with opiate addiction, it is a challenge to provide similar settings for women with alcohol and other complex addictions.

Epilepsy Service

Head of Service

Dr. Mary Holohan, Consultant Obstetrician Gynaecologist

Staff

Ms. Sinead Murphy, Clinical Nurse Specialist (Epilepsy)

Service Overview

The clinic provides essential epilepsy care in the obstetric setting, preparing plans to reduce the possibility of seizures during pregnancy, labour and the postpartum period.

Clinical Activity

Table 1: Activity

	2014	2015	2016	2017	2018
Total Number of Women Seen	119	124	151	145	161
Total Delivered	**80**	**85**	**101**	**105**	**118**

Thirty-three women who delivered at the Rotunda had not required anti-convulsant treatment for some years, while 55 needed anti-epilepsy medication for the duration of their pregnancy. Ten women had stopped treatment shortly before this index pregnancy but four of these had recurrence of aura or seizures necessitating recommencement of treatment. Four patients had a first seizure in this index pregnancy with commencement of Levetiracetam for three of these. Five women attended for care but had unfortunately suffered an early pregnancy loss. Seizure activity in 11 women occurred in the setting of substance abuse.

Successes and Achievements 2018

Care was successfully provided without significant epilepsy-related morbidity or complications during 2018. There was only one case of obstetric haemorrhage, one case of preterm labour at 29 weeks, and one case of fetal growth restriction, none of which were directly related to the patients' epilepsy.

Enhancing Patient Care

Clinical Nurse Specialist (Epilepsy), Ms. Sinéad Murphy, attends the clinic on alternate weeks, providing consultations with each of the women on treatment, and liaising with the patients' baseline neurology service. Women who have not recently had a neurology review are enabled to attend a Rapid Access Seizure Clinic.

Innovation

Five women having pregnancy care in hospitals outside of the RCSI Hospitals Group catchment area had a single consultative visit at the Epilepsy Service in order to establish links with a clinical nurse specialist and to support their primary care team with pregnancy, delivery and postpartum care schedules. Women who did not have access to pre-pregnancy counseling were facilitated to have consultation with a clinical nurse specialist.

Challenges 2018

One woman with previous history of epilepsy suffered a major obstetric haemorrhage and one woman whose seizures were related to substance abuse required early delivery due to severe fetal growth restriction.

Among women using anti-epilepsy medications:

- One woman on treatment with Lamotrigine was delivered at 29 weeks primarily due to other co-morbidities
- Five women had Non Epilepsy Attack Disorder (NEAD) whose care was complex
- Four women had an additional neurology diagnosis other than Epilepsy
- One woman persisted while using Valproate despite the evidence of potential harm having been previously discussed

Plans for 2019

Dr. Mary Holohan retired from clinical practice in December 2018. This marked the end of an era of significant enhancement to epilepsy care in pregnancy, based on the extensive innovation and diligence of Dr. Holohan. She will be greatly missed by her patients, but can retire in the knowledge of significant improvement in multidisciplinary care due to her efforts over many years practice at the Rotunda. Dr. Nicola Maher will take over the role of Clinical Lead for the Epilepsy Service in 2019.

Mental Health Service

Head of Service

Prof. John Sheehan, Consultant Psychiatrist

Staff

Ms. Ursula Nagle, Mental Health Midwife
Ms. Jeanne Masterson, Mental Health Midwife
Ms. Louise Rafferty, Mental Health Midwife

Service Overview

The Mental Health Service is a multidisciplinary service provided by a part-time consultant psychiatrist and 2.5 whole-time equivalent mental health midwives. Two consultant-provided outpatient clinics are held weekly as well as eight mental health midwife clinics. An assessment and treatment service for women attending the Rotunda with perinatal mental health problems is provided and pre-pregnancy counselling is offered on a national basis. From Monday to Friday, ward consultations are conducted. A strong emphasis is placed on prevention of mental health problems and screening for perinatal depression is conducted. In addition to the clinical service, there are educational and research components to the service. Furthermore, a telephone advice and information service is provided to other mental health services, GPs and public health nurses.

Clinical Activity

During 2018, 160 new patients attended Prof. Sheehan's outpatient clinics and 185 follow-up visits were conducted. Assessments were performed by Prof. Sheehan and Dr. Ana Maria Clarke, Senior Registrar in Psychiatry. A total of 515 new patients attended the mental health midwives clinics and 643 review appointments were conducted. As regards the inpatient service, the mental health midwives assessed 1,477 women and conducted 154 follow-up appointments.

Successes and Achievements 2018

Ms. Ursula Nagle achieved the title of Clinical Midwife Specialist in Perinatal Mental Health, the first midwife in Ireland to do so. She also completed the RCSI Certificate in Nurse Prescribing. Ms. Jeanne Masterson completed the first year of an MSc in Mental Health Care Practice at Dublin City University (DCU). She also attended the Maternal Mental Health Alliance conference in London. Her permanent CMM2 post was confirmed.

Ms. Louise Rafferty returned to the service having completed an MSc by Research at Trinity College Dublin (TCD). Her research was on anxiety during pregnancy and at three months postpartum. Prof. Sheehan and Ms. Ursula Nagle were appointed to the National Oversight Implementation Group for Specialist Perinatal Mental Health Services. The Rotunda 2017 Perinatal Mental Health Service Project, "Introducing Early Screening for Postnatal Depression across the RCSI Hospital Group" was chosen for presentation at the annual HSE Showcase Event in Dublin.

Education and Training

Biannual workshops in Perinatal Mental Health for Rotunda staff were held in 2018. There was a good attendance from many different disciplines on each occasion. Regular teaching sessions with undergraduate and postgraduate midwifery students were also conducted. Perinatal psychiatry lectures to the UCD Final Year medical students were delivered by Prof. Sheehan.

Ms. Ursula Nagle collaborated with Dundalk Institute of Technology to develop a Level 9 Module in Perinatal Mental Health which will start in 2019. She presented at the Rotunda/Nursing and Midwifery Board of Ireland (NMBI) Midwives centenary conference and at the Limerick Perinatal Mental Health conference.

Research

A submission was made to the Ethics Committee by Dr. Firdous Murad, Senior Registrar, for a prospective study to assess neonatal adaptation and mother-infant bonding in neonates exposed to psychotropic medication in utero. Ms. Ursula Nagle published her MSc research, entitled "Women's views and experiences of having their mental health needs considered in the perinatal period" in the journal, Midwifery.

Two audits were conducted on the documentation of assessments and the completion rates of the Edinburgh Postnatal Depression Scale on discharge.

Challenges 2018

The main challenge was the implementation of the comprehensive recommendations of the "Specialist Perinatal Mental Health Services Model of Care for Ireland". Job descriptions for an administrator, clinical nurse specialists, a psychologist, a mental health social worker and an occupational therapist needed to be written and agreed. Recruitment will take place in 2019. Furthermore, a system for data collection needed to be designed and agreed.

Plans for 2019

- To develop a full multidisciplinary perinatal mental health team by recruiting relevant staff approved through the Model of Care for Ireland
- To establish formal links with the "spoke" hospitals so as to standardise services across the RCSI Hospitals Group
- To obtain adequate accommodation for the new expanded perinatal mental health team

“I had a brilliant experience with the mental health support services within the Rotunda.”

Next Birth After Caesarean Service

Head of Service

Prof. Sam Coulter-Smith, Consultant Obstetrician Gynaecologist

Staff

Ms. Audrey Gorman, Midwife
Ms. Ciara Begg Roche, Midwife

Service Overview

The Next Birth After Caesarean Service (NBAC) is now in its third year and was initiated to encourage and support women who have had one previous caesarean section to consider, where appropriate, an attempt at vaginal birth after caesarean (VBAC) and hopefully reduce surgical intervention rate for this group of women.

Women with one previous lower segment caesarean section and who are otherwise normal risk are eligible to attend this service.

Exclusion criteria for this service include:

- More than one previous caesarean
- History of macrosomia
- History of dystocia
- Prior premature delivery
- Presence of co-existing medical complications
- Maternal age over 40 years
- Diagnosis of obesity, based on a body mass index (BMI) greater than 30kg/m2
- Otherwise poor obstetric history

The midwives managing the clinic provide a support antenatal visit between 18 and 24 weeks' gestation, at which time the patient's prior medical records are reviewed and appropriate birth options are explained. Risks and benefits of VBAC compared with elective repeat caesarean are explained in detail. The patient's current and prior medical records are then reviewed by the supervising consultant obstetrician to ensure that the patient's chosen mode of delivery is appropriate and that there are no contraindications for a trial of labour after caesarean (TOLAC). All such patients can then continue to attend midwifery-provided care from 24 to 39 weeks' gestation, at which point they are reviewed again by the consultant obstetrician to plan the management of the remainder of their pregnancy. Patients who have chosen to deliver by planned repeat caesarean are given a scheduled date for surgery, which is generally at or after 39 weeks' gestation. Patients who have chosen a trial of VBAC are also reviewed to confirm specific plans for care if the pregnancy extends beyond 40 weeks' gestation.

Clinical Activity

During the year the total number of women to have NBAC support visits and who actually delivered in 2018 was 141, which represented a 25% decrease on the 188 managed and delivered in 2017.

A total of 33 (23%) patients decided to revert to routine hospital care, a further 13 (9%) were diagnosed with gestational diabetes which required transfer to hospital care, one patient moved away from the Rotunda catchment area and one patient unfortunately suffered an intrauterine fetal demise.

The remaining 93 (66%) women who had continued support visits in the NBAC, delivered still under NBAC midwifery-provided care, which represented an increase of 6% on the rate for 2017. Their outcomes are summarised in the table below:

Successful VBAC	37 (40%) up 5% from 2017
—Spontaneous vaginal delivery	25 (27%) up 3% from 2017
—Forceps-assisted vaginal delivery	2 (2%) no change from 2017
—Vacuum-assisted vaginal delivery	10 (10%) up 1% from 2017

Type of caesarean delivery	
Emergency caesarean delivery	14 (15%) down 9% from 2017
Elective repeat caesarean delivery	42 (45%) down 4% from 2017
—Before 40 weeks' gestation	35 (38%) up 1% from 2017
—After 40 weeks' gestation	7 (8%) up 3% from 2017

Although it was disappointing to note the numbers deemed suitable for inclusion in the service, and those who wished to avail of the clinic, decreasing by 25% from 2017, the overall outcomes were gratifying in that the VBAC rate increased to 40% and the number of emergency caesarean deliveries was reduced to 15%.

Challenges in 2018

The new MN-CMS electronic healthcare record has been a challenge for the NBAC service as there can be difficulties in extracting and recording relevant past obstetric history in the medical record. On some occasions it has been challenging trying to evaluate the specific reason for the prior caesarean delivery and what impact prior obstetric care may have on the subsequent pregnancy. The lack of a clear patient narrative and the loss of a clear partogram makes reviewing the old notes and making an informed opinion on the suitability for trial of labour much more difficult for the clinician.

Plans for 2019

Our challenge for the next year is to encourage more women who are otherwise at normal risk to avail of the service.

Labour and Delivery

Head of Service

Prof. Michael Geary, Director of Labour and Delivery

Staff*

Ms. Geraldine Gannon, Clinical Midwife Manager

(*supported by a dedicated team of midwives, non-consultant hospital doctors and consultants)

Service Overview

2018 was another very busy year for the hospital, with 8,359 women delivering 8,514 babies. This was an increase of almost 2% compared to 2017. Approximately 15% of these women had an elective pre-labour caesarean section, meaning that more than 85% of our patients passed through the Labour and Delivery unit. With such a busy demand on our services, 2018 remained a challenging year. In the 2017 Annual Report the introduction of the MN-CMS electronic healthcare record, which was implemented in November 2017, was described. While this initial transition of record-keeping systems was a massive change, ultimately our staff rose to this challenge and achieved the bedding down of the electronic healthcare record during 2018 admirably. All delivery outcomes for both mothers and babies, as well as rates of induction, operative vaginal delivery and caesarean section, are continuously monitored. It has been well established that a rigorous approach to audit can have a beneficial influence on caesarean section rates in particular, which will continue to be monitored into the future.

The headline Labour and Delivery performance rates for 2018 were spontaneous vaginal delivery 50%, operative vaginal delivery 16%, caesarean delivery 34% and induction of labour 31%.

Induction of labour

The induction of labour rate has remained stable at the Rotunda for the last five years (Table 1).

Table 1: Induction of labour

	2014	2015	2016	2017	2018
Total Number of Inductions	2,631	2,430	2,464	2,509	2,610
Incidence expressed from total deliveries	30%	29%	29%	31%	36%
Number of caesarean deliveries following inductions	614	547	568	570	584
Incidence of caesarean delivery amongst inductions	23%	23%	23%	23%	22%

The rate for 2018 was 31% which is similar to the rate for 2017. For many years the hospital had a very active policy of trying to maintain a low rate of induction of labour, which traditionally remained at a rate of approximately 20%. However, our population has changed over the last number of decades, with an increasing number of women with complex medical disorders, a greater number of older women conceiving and a higher incidence of gestational diabetes. Maintaining an induction rate of 20% with such a changing poplulation is clearly not realistic. Recent evidence from a number of randomised trials has shown that caesarean section rates are not necessarily increased by induction of labour compared to expectant management, in women with hypertension, in women of advanced maternal age, and in women with a large-for-dates fetus.

Of major potential impact on decisions around induction of labour was the ARRIVE Trial which was published in August 2018. This was a multi-centre randomised trial performed in the US comparing routine induction of labour at 39 weeks' gestation in 6,000 normal-risk healthy nulliparous patients versus expectant management. The caesarean section rate in the routinely induced group was in fact significantly lower than those in the expectantly managed group, which for many was a surprising and unexpected finding. Further data from this research has shown that labour length was not substantially different in the two groups, and in fact women who were induced did not find the experience any more painful when compared to spontaneous labour. Again, this was a new finding that is contrary to popular opinion that induction of labour is a more painful process. This trial may have a significant impact on the management of term pregnancies in the future, as it is likely that more patients will request elective induction of labour at 39 weeks' gestation, in the knowledge that such a decision will not be associated with a prolonged, painful labour and will not be associated with a higher risk of caesarean delivery. How to operationalise such a change in patient demands will present additional challenges for our busy Labour and Delivery unit.

The indications for induction of labour are presented in Table 2. The classification system for this has changed and is now based on the MN-CMS system. The number of indications is far less than previously. The main indications for induction are now categorised as maternal-fetal, post-dates pregnancy, and other. The reason that the "other" category is as high as 20% is that ambiguity is present with the new electronic healthcare record system, such that the specific indication for induction is not always captured. Further education and monitoring of this system will be provided in 2019 in an attempt to reconcile prior to the next clinical report.

Table 2: Indication for Inductions 2018

Reasons	Total	%
Fetal	585	22%
Maternal	535	20%
Post Dates	434	17%
Prolonged rupture of membranes	352	13%
Preeclampsia/Hypertension	172	7%
No medical indication	20	1%
Other	512	20%
Total	**2,610**	**100%**

Our approach to methods of induction of labour at the Rotunda have changed somewhat in recent years. The Propess prostaglandin administration system was introduced a number of years ago, which has allowed continuous exposure to a prostaglandin agent over a 24-hour time period. The device can be removed immediately if there are any concerns with respect to fetal welfare, for example due to uterine hypercontractility.

During 2018 we introduced midwifery-administered, outpatient Propess in normal-risk healthy nulliparous patients at term + 12. This change of practice was received very positively and was very successful. The midwifery team performed in excess of 300 such inductions of labour. The vast majority of these patients went home within a couple of hours, receiving a telephone call follow-up approximately 12 hours later from a midwife to ensure all was well, and then returning after 24 hours to continue with the induction process as an inpatient. Many of these women progressed into labour prior to the 24 hour mark. These outcome data have been presented at local and national academic research meetings and the involvement of our midwifery team has been received very positively by patients. It is hoped that during 2019, a greater involvement of the midwifery team will be seen in all aspects of the induction of labour process, including use of alternative cervical ripening methods and amniotomy.

Caesarean Delivery

The overall caesarean delivery rate at the Rotunda for 2018 was 34%, which was the same as the 34% rate seen in 2017 (Table 3). Caesarean delivery rates receive much external attention but it should be noted that they remain a crude measure of hospital activity with extremely limited potential for inter-hospital comparison. The most important obstetric metric remains safe outcomes for both mothers and babies. In 2018 the corrected perinatal mortality rate was 3.0 per 1,000 births, which objectively confirms our continued excellent standards of obstetric and neonatal care, while being low by comparison to any international standard.

Table 3: Caesarean Delivery

	2017	2018
Total Caesarean Section	2,796	2,820
Incidence Versus Total Mothers Delivered > 500g	34%	34%
Primary Caesarean Section	58%	57%
Repeat Caesarean Section	42%	43%
Classical Caesarean Section	5	19
Tubal Ligation at Caesarean Section	105	166
Caesarean Hysterectomy	12	8

The indications for caesarean delivery are outlined in Table 4. The two most common indications remain non-reassuring fetal testing and failure to progress in the first stage of labour. The classification system for indications for caesarean delivery were changed during the year, to reflect a new nationally agreed set of indications for caesarean section based on the new MN-CMS electronic healthcare record. No classification system is ideal and the list of indications does not always reflect the complete reasons behind decision-making for caesarean section. As reported previously, there has been a significant change in patient demographics with a significant increase in maternal age and maternal obesity, both of which are significantly associated with higher caesarean delivery rates. As previously highlighted over the last number of years, there has been a marked change in patient's and their partner's

Table 4: Indication for Caesarean Delivery

	Primary	Repeat	Total
Previous caesarean delivery	0	943	943
Fetal indication	621	143	764
Maternal medical reason	274	53	327
Inefficient uterine action - Fetal intolerance	230	10	240
Inefficient uterine action - Poor response to oxytocin	187	11	198
Efficient uterine action - Persistent malposition	103	3	106
Non-medical reason/maternal request	61	6	67
Preeclampsia/Hypertension	42	19	61
Efficient uterine action - Cephalopelvic disproportion	21	1	22
Prolonged rupture of membranes	18	20	38
Inefficient uterine action - Over contracting	16	3	19
Inefficient uterine action - No oxytocin given	13	10	23
Post dates	11	1	12
Totals	**1,597**	**1,223**	**2,820**

participation in decision-making around delivery. Patients' personal thresholds for tolerating risk have undoubtedly changed, which has resulted in more women requesting caesarean delivery, both electively and during labour, when progress is not straightforward. Our aim is to continue to audit these indications for caesarean delivery in the future. Our commitment to patient autonomy remains and therefore the hospital does not target a specific caesarean section rate to achieve in any particular year.

The Robson Ten Group classification system has been in use at the Rotunda since 2002. This classification system allows a critical evaluation of the indications for caesarean section, and enables improved inter-hospital comparisons. Indications for each caesarean delivery are reviewed on a weekly and monthly basis throughout the year, which allows the hospital to compare rates against other hospitals, both nationally and internationally. This enables timely and valid comparisons to be made, and potential lessons to be learned from other units. Caesarean section rates at the Rotunda over the last five years based on the Robson Ten Groups are described in Table 5. A note of caution is required with these data as the introduction of the MN-CMS electronic healthcare record resulted in some difficulties in allocating the exact group for caesarean section indication. This had to be done retrospectively, so there may be some minor inconsistencies in the overall figures for the year. Group 1 refers to nulliparous patients with a singleton pregnancy and a cephalic presentation with spontaneous onset of labour at term. This group has been the subject of specific focus over the last few years, and is often used as a benchmark when comparing against other units, national and internationally. The rate for this Group 1 was 17% in 2016. Following focused attention by clinical managers, and the re-introduction of a weekly audit and review of all Group 1 caesarean sections, this rate fell to 15% in 2017 and has fallen again to 13% in 2018. There have been no significant

Table 5: Trends in Caesarean Delivery Rates (2014-2018) - Robson Ten Group Analysis

	2014	2015	2016	2017	2018
All Deliveries	8,787	8,361	8,405	8,226	8,359
All Caesarean Sections	2,753	2,696	2,904	2,796	2,820
Section Rate	31%	32%	35%	34%	34%
Group 1 - Nulliparous Singleton Cephalic Term Spontaneous Labour	220/1,686	190/1,597	269/1,554	226/1,504	201/1,541
Section Rate	13%	12%	17%	15%	13%
Group 2 - Nulliparous Singleton Cephalic Term Induced	497/1,389	414/1,234	447/1,222	451/1,337	469/1,349
Section Rate	36%	34%	37%	34%	35%
Group 2a - Nulliparous Singleton Cephalic Term CS Before Labour	207	231	242	259	291
Group 3 - Multiparous Singleton Cephalic Term Spontaneous Labour	57/2,136	36/1,963	49/1,963	35/1,840	25/1,773
Section Rate	3%	2%	3%	2%	1%
Group 4 - Multiparous Singleton Cephalic Term Induced	65/1,065	88/1,046	80/1,098	73/1,017	60/1,078
Section Rate	6%	8%	7%	7%	6%
Group 4a - Multiparous Singleton Cephalic Term CS before Labour	156	169	144	124	123
Group 5 - Previous Section Singleton Cephalic Term	873/1,139	965/1,220	1,026/1,247	1,026/1,261	996/1,261
Section Rate	77%	79%	82%	81%	79%
Group 6 - All Nulliparous Breech	190/197	174/182	161/169	157/167	176/180
Section Rate	96%	96%	95%	94%	98%
Group 7 - All Multiparous Breech	167/181	132/141	158/169	143/152	145/157
Section Rate	92%	94%	93%	94%	92%
Group 8 - All Multiple Pregnancies	141/189	113/169	128/179	117/182	104/152
Section Rate	75%	67%	72%	64%	68%
Group 9 - All Abnormal Lies	13/13	18/18	19/19	18/18	21/21
Section Rate	100%	100%	100%	100%	100%
Group 10 - All Preterm Singleton Cephalic	167/429	167/392	181/399	167/365	209/433
Section Rate	39%	43%	45%	46%	48%
Elective Caesarean Section Total	1,319	1,364	1,430	1,417	1,435
Emergency Caesarean Section Total	1,434	1,332	1,474	1,379	1,385
Total Multiparous patients	3,748	3,514	3,441	4,674	4,747
Total Nulliparous patients	5,009	4,847	4,964	3,552	3,612

changes in Group 2 (nulliparous, term, induced labour) or Group 3 (multiparous, term, spontaneous onset of labour). A slight decrease in the caesarean rate for Group 4 (multiparous, term, induced labour) was noted. The caesarean delivery rate for Group 5 (women with a previous caesarean section, singleton, cephalic presentation at term) has seen no appreciable change over the last five years.

The Next Birth After Caesarean (NBAC) Clinic was introduced in 2016, which has been a very positive development in maximising patient choice. However, due to capacity constraints, this clinic has been unable to see all patients who have had one previous caesarean section. Our goal is to encourage, where appropriate, a trial of vaginal birth after caesarean (VBAC) in carefully selected patients who are otherwise at normal risk. A crucial aspect of this individualised decision-making process, is a careful review of the indication for the original caesarean delivery and the labour progress, so that an optimal shared decision is made with each patient. In an effort to standardise the information provided to patients as part of the informed consent process, an information leaflet was developed in late 2017 which clearly highlights the risks and benefits of having a trial of labour after caesarean (TOLAC) versus an elective repeat caesarean section. Our goal is to provide this information leaflet to all patients who have one previous caesarean delivery at their booking visit. In addition, for those patients who do not attend the NBAC clinic, a policy was introduced in 2018 where all such patients would be formally reviewed by a consultant obstetrician at their 28 week antenatal visit. This visit would provide patients with the opportunity to discuss the pros and cons of TOLAC versus repeat caesarean section. Whilst these two developments were introduced in late 2017/early 2018 we have not formally audited the effect of these changes. It is our plan to do this in 2019.

There have been no changes in caesarean delivery rates for the other Robson Groups 6, 7, 8 and 9 over the last five years. There has been a small increase in the Group 10 caesarean delivery rate, which is the preterm, singleton, cephalic presentation group.

Operative Vaginal Delivery

The operative vaginal delivery rate for 2018 was 16%. The vacuum delivery rate was 11%, the forceps rate was 4%, and the use of sequential instruments (vacuum/forceps) was 1%.

Table 6: Operative Vaginal Delivery Rate

	2014	2015	2016	2017	2018
Forceps	4%	3%	4%	4%	4%
Vacuum	14%	12%	10%	11%	11%
Sequential	2%	2%	1%	1%	1%
Total	**20%**	**17%**	**15%**	**16%**	**16%**

The overall operative vaginal delivery rate has remained very stable at the Rotunda over the last 5 years as shown in table 6. Our main focus for the performance of operative vaginal delivery is to ensure good supervision of obstetric and gynaecology trainees in the selection and performance of vacuum and forceps-assisted deliveries. The introduction in 2017 of the dedicated presence of a consultant obstetrician on the Labour Ward (Monday to Friday 08.00 - 16.00 hours) has been a very positive development for the hospital and has assisted in optimising the degree of senior supervision of obstetric trainees. During 2018 we introduced a practical and pragmatic guideline on operative vaginal delivery. This has been shared with other hospitals within the RCSI Hospitals Group. The purpose of such a guideline is provide direction to trainees, with a view to leading to safer outcomes for mothers and babies. In particular, it is hoped that the use of sequential operative vaginal delivery instruments (vacuum followed by forceps) is minimised and is used only in exceptional circumstances.

Plans for 2019

The planned renovation of the entire Labour and Delivery unit was due to commence in late 2018, but its commencement was deferred slightly until the early part of 2019 due to construction tendering challenges. The plans include refurbishment of all nine delivery rooms with the implementation of a birthing pool, as well as construction of a new dedicated operating theatre for the Labour and Delivery unit. This will also include a new meeting room space on the Labour and Delivery ward, which will further improve the quality of handover rounds, leading to greater multi-disciplinary involvement and further opportunities for teaching.

Fetal Monitoring during labour remains a challenge for all labour and delivery units worldwide. Our hospital continues to promote the importance of education and standardisation around fetal heart tracing interpretation. We achieved our ambition during 2018 of 100% compliance for all midwives and doctors with the K2 CTG education/training tool. It is difficult to maintain 100% compliance with this education metric at all times, as new recruits to our team commence periodically during the year and other staff move to other hospitals. However, our target remains maintaining compliance with this education metric between 95% and 100%. The re-introduction of the weekly caesarean section/CTG education meeting during late 2017 was continued throughout 2018. This provides a valuable forum to discuss fetal monitoring and also provide other educational opportunities around management of women and babies in labour.

The hospital had hoped to introduce new safety measures with respect to delivery of oxytocin infusion during the year. There were a number of delays in introducing the newly developed pre-made oxytocin infusion packs and new 'smart' intravenous infusion delivery pumps. These will undoubtedly make a difference to the safe delivery of oxytocin in labour. These pumps will be integrated with the MN-CMS electronic healthcare record and ensure oxytocin infusion rates are always at the appropriate level. Despite the slight delays, the hospital hopes to introduce these safety measures in early 2019.

The excellent care provided by all of the team involved in labour and delivery for so many women and babies during 2018 is greatly appreciated.

“I cannot speak highly enough of the hospital.”

Anaesthesiology Service

Head of Service

Prof. Conan Mc Caul, Director of Anaesthesiology

Staff

Dr. Mary Bowen, Consultant Anaesthesiologist
Dr. Anne Doherty, Consultant Anaesthesiologist
Dr. Niamh Hayes, Consultant Anaesthesiologist
Prof. John Loughrey, Consultant Anaesthesiologist
Dr. Caitriona Murphy, Consultant Anaesthesiologist
Dr. Ciara Jean Murphy, Consultant Anaesthesiologist
Dr. Roisin Ni Mhuircheartaigh, Consultant Anaesthesiologist
Dr. Patrick Thornton, Consultant Anaesthesiologist

Service Overview

The Department of Anaesthesiology provided clinical care to over 12,000 obstetric and gynaecologic patients in the operating theatres, labour ward, critical care areas and in three specialist outpatient clinics in 2018.

Clinical Activity

An integrated pain management service is provided for labouring mothers on a 24-hour basis in the Rotunda. The most popular analgesic options are epidural or combined spinal-epidural neuraxial techniques, with patient-controlled epidural pumps providing individualised drug-dosing for our patients. Remifentanil analgesia is available as an alternative in selected cases where epidural options are unsuitable. There is immediate anaesthesiology support for elective and emergency care for operative obstetrics and gynaecology, critical care and resuscitation on a 24-hour basis.

The high risk obstetric anaesthesiology clinic saw almost 600 patients in 2018, many of whom have significant co-morbidities and require multi-disciplinary professional planning of perinatal anaesthetic care. The Department of Anaesthesiology is also involved in delivery planning for the complex cohort of patients discussed in the Maternal Medicine Multidisciplinary Team meetings, which are hosted at the Mater Misericordiae University Hospital.

Obstetrics

Neuraxial Analgesia in Laboury

Table 1: Neuraxial Analgesia In Labour

	2017	2018 (% of those labouring in each category)
Nulliparous	1,450	2,201 (72%)
Multiparous	1,378	1,562 (46%)
Total*	2,828	3,763

*Includes combined spinal-epidural analgesia which was used in 428 patients.

We experienced a notable increase in overall neuraxial analgesia utilisation for labour compared with 2017 being used by 72% of nulliparous and 46% of multiparous patients. Remifentanil was used by 34 patients in 2018 which also represents an increase in provision of this service compared with 2017.

Anaesthesia For Caesarean Delivery

Table 2: Anaesthesia For Caesarean Delivery

	2017		2018	
	Elective	Emergency	Elective	Emergency
Spinal	1,600	431	1,348	646
Epidural	4	682	12	588
Combined spinal-epidural*			47	20
General (de novo and/or rescue technique)**	43	104	28	131
Total*			1,435	1,385

*Data for 2017 is not available.

**Some patients had more than one type of anaesthetic; the final anaesthetic type utilised for delivery is listed

The vast majority of caesarean deliveries are conducted under neuraxial blockade. General anaesthesia was administered in almost 6% of caesarean deliveries where there was a contraindication to, or failure of, the neuraxial technique. In addition, anaesthesia was required for a variety of obstetric procedures, including cerclage, instrumental deliveries, controlled ARMs and returns to theatre for Laparotomy or manual placenta removal.

Post Dural Puncture Headache (PDPH)

PDPH was reported in 53 obstetric patients which represents less than 1% of obstetric neuraxial blocks. This compares favourably with international reports of this complication in teaching obstetric units. An additional 6 patients had a recognised accidental dural puncture but did not develop PDPH. Overall, 17 patients (32%) had epidural blood patch treatment for PDPH. This represents a reduction on 2017 figures by 9 patients.

Operating Theatre Gynaecology Workload

In addition to more than 3,000 obstetric procedures carried out in the operating theatres, 1,571 gynaecology patients received anaesthesia for elective and emergency procedures. This represented an increase in the volume of gynaecology caseload compared to 2017.

Achievements in 2018

Epidural Pump Technology

Preparatory plans were devised to upgrade the epidural regime to provide Programmed Intermittent Epidural Bolus options for delivery of epidural medication in labour. This substantial service development project was led by Dr. Anne Doherty to make the advantages of this technology (improved patient satisfaction and reduced local anaesthetic dosing) available to Rotunda patients. It will be rolled out in early 2019.

Education and Training

The department enhanced its links with the RCSI by providing formal Rotunda-based anaesthesiology placement for undergraduate medical students for the first time in 2018. This

is in addition to an active teaching programme in postgraduate anaesthesiology for trainees at all levels from the College of Anaesthesiologists of Ireland. The anaesthesiology fellows are involved in both on- and off-site participation in specialist cardiac and multidisciplinary maternal medicine clinics, and provision of anaesthesia and perioperative care for complex obstetric patients in the Rotunda and Mater Misericordiae University Hospitals. Transthoracic echocardiography teaching is provided to all anaesthesiology trainees, and fellows are also formally trained on the critical care echocardiography course in the Mater Misericordiae University Hospital. Dr. Patrick Thornton coordinates teaching as the College Tutor.

Members of the Service are involved in advanced airway teaching and high-fidelity simulation training at the College of Anaesthesiologists and at the RCSI. They also contribute as examiners for both membership and fellowship examinations in the College of Anaesthesiologists. Prof. Conan Mc Caul supervises higher degrees and data generation for Masters' students in University College Dublin, and has established a 3-D airway printing laboratory there in association with the Department of Anatomy. Dr. Niamh Hayes completed her Masters in Human Factors in Patient Safety (RCSI).

Research

A busy research programme in the department has resulted in a number of peer-reviewed publications in 2018. At national and international obstetric anaesthesiology meetings, members have represented the Rotunda as invited speakers and presented prize-winning research work. Collaborative partnerships with a number of other third-level institutions are ongoing, including novel devices for point-of-care fibrinogen testing in the setting of maternal haemorrhage. Dr. Anne Doherty secured the Rotunda Foundation Seed Funding Grant for the study of epidural fever in labour.

Challenges in 2018

High quality, effective and safe care for obstetric patients with complex medical co-morbidities is facilitated by robust, co-ordinated multidisciplinary assessment and peripartum planning. This is despite limited access to on-site diagnostics and Level III critical care services. Clinical links with other medical services in the Mater Misericordiae University Hospital and RCSI Hospitals Group hospitals help to mitigate adverse impact on efficient care for the high-risk patient cohort.

Plans for 2019

Provision of high quality, patient-centred analgesia options on the Labour Ward is a key focus for 2019, along with robust assessment of efficacy. Multi-disciplinary professional engagement in improved processes for common obstetric emergencies and outcome evaluation is important. Continued development of teaching, academic and clinical links with the Mater Misericordiae University Hospital and RCSI Hospitals Group hospitals will benefit both our patients and our doctors-in-training who make an invaluable contribution to the department year-on-year.

"I always knew I wanted to be a midwife. I previously worked as a midwife in the delivery suite for 16 years, as a staff midwife, clinical midwife manager and finally as the unit manager. I have many proud memories over the years in the Rotunda, qualifying as a midwife in 2005 stands out!

The people who work here make the Rotunda unique, a nice mix of hard work, commitment and always fun."

Geraldine Gannon

Assistant Director of Midwifery and Nursing

Critical Care Service

Head of Service

Dr. Mary Bowen, Consultant Anaesthesiologist

Overview

The High Dependency Unit at the Rotunda Hospital is a dedicated two-bedded facility that provides high intensity nursing and medical supervision for select critically ill patients. Most forms of critical care, with the exception of prolonged ventilatory requirements, are provided. A multi-disciplinary approach including obstetrics-gynaecology, anaesthesiology and nursing is provided, supplemented as needed by external specialist consultants.
The unit receives tremendous support from the intensive care consultants at the Mater Misericordiae University Hospital, who regularly facilitate access to ICU beds when onwards transfer to an adult general hospital is needed. Additionally, support from the intensive care consultants at Beaumont Hospital was also provided, typically when neurosurgical critical care services were needed.
There were 200 admissions to the High Dependency Unit (HDU) in 2018.

Table 1: Clinical Activity

	2014	2015	2016	2017	2018
Obstetric	197	245	217	250	199
Gynaecologic	13	19	10	10	1
Total HDU Admissions	**210**	**264**	**227**	**260**	**200**

The table below summarises the obstetric cases which required HDU admission in 2018:

Table 2: Obstetric Cases Requiring HDU Admission, 2018

Obstetrics	Number	% Overall
Haemorrhage	69	35%
Preeclampsia/Eclampsia	48	24%
Sepsis	31	15%
Cardiac	16	8%
Caesarean Hysterectomy	6	3%
Miscellaneous	30	15%

Table 3: Cardiac Problems in Obstetric Patients

Cardiomyopathy (Ejection Fraction < 15%)
Marfan's syndrome following caesarean delivery
Transposition of Great Vessels following caesarean delivery
Tetralogy of Fallot
Hypertrophic Obstructive Cardiomyopathy with Atrial Fibrillation and ICD in situ
Coarctation of the Aorta with Moderate Sub-aortic Stenosis
Atrial Fibrillation folllowing caesarean delivery
Pulmonary Atresia – ASD Closure
Truncus Arteriosis with Hypertension, Right Ventricular Hypertrophy, polycythaemia
Supraventricular Tachycardia

Table 4: Miscellaneous Admissions

Cystic Fibrosis following caesarean delivery
Diabetic Ketoacidosis
Heroin Overdose
Morbid Obesity (BMI 59kg/m2)
Polycystic Kidneys Awaiting Renal Transplant following caesarean delivery
Neurofibromatosis with Cardiac Loop Device + Spinal Cord Stimulator in situ

Table 5: Patients Transferred to Another Hospital ICU/HDU from Rotunda

2018	12
2017	27
2016	18
2015	8
2014	30

Table 6: Inter Hospital Transfers Rotunda HDU

	17
To MMUH	8
From MMUH	2
To Beaumont Hospital	3
From Beaumont Hospital	3
From Craigavon	1

Table 7: Invasive Lines

	Number
Arterial Line Insertions	53
Triple Lumen Central Venous Line Insertions	8

Maternal Morbidity

Head of Department

Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

Staff

Prof. Michael Geary, Consultant Obstetrician Gynaecologist
Dr. Khadeeja Alnasser, Maternal Medicine Fellow
Dr. Vanitha Zutschi, Department of Anaesthesiology
Ms. Catherine Finn, Department of Anaesthesiology
Ms. Siobhan Enright, Haemovigilance Officer
Ms. Kathy Conway, Clinical Reporting Unit
Ms. Ruth Ritchie, Information Technology Midwife

Service Overview

The Rotunda Hospital is committed to the safe delivery of obstetric care to all mothers who entrust their care to our doctors and midwives. While there can be no more important measure of maternal safety than maternal mortality, it is crucial that careful attention is also provided to measures of maternal morbidity. For this reason, for a number of years now, the Rotunda has provided detailed data on a wide range of major obstetric events that can be associated with adverse maternal outcomes. Severe maternal morbidity continued to be prospectively monitored during 2018 and this year our classification of end-organ dysfunction was in line with the National Perinatal Epidemiology Centre classification system.

The Rotunda is grateful for the hard work of the multidisciplinary team involved in caring for these patients, and also to all those involved in collecting the major morbidity data and reporting on these cases to facilitate this review.

Clinical Activity

There were 200 admissions to the maternal High Dependency Unit (HDU) in 2018, with 78 cases meeting the criteria for NPEC reporting. The additional 122 women required Level 1 monitoring and multidisciplinary care for a wide range of medical disorders and obstetric complications. In addition to the end-organ diseases listed in this report, there were ten women with significant cardiac disease requiring HDU care and a further six women with medical demands outside the remit of the current obstetric setting. This included one patient with renal failure awaiting transplant postnatally and one postnatal patient with neurofibromatosis with a spinal stimulator and cardiac loop device in-situ.

In total there were 95 major maternal morbidity events affecting 78 patients in 2018. The incidence of accepted measures of severe maternal morbidity in pregnancy for 2018 was 0.9%. This is slightly lower than the 2017 incidence of 1.3%, with this decrease primarily being due to adherence to NPEC criteria for classification and a reduced incidence of massive haemorrhage. The reduction in massive haemorrhage rates may be in part the result of implementation of multidisciplinary training in the Code Red Emergency Protocol for massive haemorrhage and new agreed parameters that mandate senior input earlier in these cases. There was also a reduced number of cases of peripartum hysterectomy in 2018 when compared to 2017 (6 cases versus 12 cases) which also contributed to the reduced rates of massive haemorrhage.

There were 17 patient transfers to and from the Rotunda Hospital in 2018, twelve of which were critical patient transfers involving complex multidisciplinary care. The support of the Mater Misericordiae University Hospital and Beaumont Hospital for the provision of intensive or coronary care for twelve patients in 2018 is acknowledged and gratefully appreciated.

Details on these events, the major morbidity categories, and trends over the past five years of care are outlined below:

Table 1: Clinical Activity

	2013	2014	2015	2016	2017	2018
Number of mothers delivered	8,648	8,787	8,361	8,405	8,226	8,359
Number of patients with major morbidity	40	64	59	87	91	64
Number of major morbidity events	53	81	73	102	109	85
Incidence of major morbidity events (%)	0.7%	0.9%	0.9%	1.0%	1.3%	0.9%

The mean maternal age amongst these 64 cases was 33 years, with a range of 20 to 47 years. The majority had booked initially for antenatal care in the Rotunda Hospital (55 patients; 71%), however the remainder of major morbidity cases occurred in patients transferred to the Rotunda from other hospitals which highlights the importance of the Rotunda as a Tertiary referral centre for smaller units nationally.

The mean gestational age at delivery was 36 weeks (range 23-42 weeks). A total of 45% of major morbidity cases were delivered preterm. Forty percent of patients with major morbidity were overweight, with a body mass index (BMI) greater than 25 kg/m^2.

Table 2: Haemorrage and Operative Events

	2013	2014	2015	2016	2017	2018
Massive haemorrhage	26 0.3%	30 0.3%	25 0.3%	34 0.4%	36 0.4%	26 0.3%
Uterine rupture	1 0.01%	0 0%	4 0.05%	3 0.03%	1 0.01%	1 0.01%
Peripartum hysterectomy	3 0.03%	0 0%	1 0.01%	9 0.1%	12 0.1%	6 0.07%
Interventional radiology required for haemorrhage	0 0%	0 0%	2 0.02%	1 0.01%	0 0%	0 0%

*Massive haemorrhage defined as >2.5 litre blood loss, or >5 units transfusion, or treatment required for coagulopathy

There were six caesarean hysterectomies undertaken in the Rotunda in 2018. Five were total abdominal hysterectomies and one was a subtotal abdominal hysterectomy.

The first hysterectomy was undertaken in a patient with a significant cardiac history and was a planned procedure in the Mater Misericordiae University Hospital. The procedure was uneventful and the patient was transferred back to the Rotunda in the early postnatal period. Three cases were performed as life-saving measures in patients with massive obstetric haemorrhage

secondary to uterine atony unresponsive to other haemostatic measures. The final case of total abdominal hysterectomy was undertaken for placenta accreta as a planned measure in late gestation.

The subtotal hysterectomy case was planned in a patient with a history of three prior caesarean sections and an antenatal diagnosis of placenta accreta.

Table 3: End Organ Disease

	2013	2014	2015	2016	2017	2018
Renal or liver dysfunction	3 0.03%	14 0.2%	7 0.1%	25 0.3%	37 0.5%	19 0.2%
Pulmonary oedema or acute respiratory dysfunction	3 0.03%	5 0.1%	2 0.02%	6 0.1%	2 0.02%	3 0.04%
Pulmonary embolism	4 0.1%	1 0.01%	0 0%	0 0%	1 0.01%	0 0%
Cardiac arrest	1 0.01%	2 0.02%	1 0.01%	0 0%	1 0.01%	0 0%
Severe sepsis	0 0%	10 0.1%	11 0.1%	7 0.1%	10 0.1%	13 0.2%
Other			13 0.2%	6 0.1%	3 0.04%	6 0.07%

In 2018, adherence to NPEC criteria resulted in an apparent reduction in the reported incidence of severe renal and liver dysfunction when compared with earlier reports. While only nineteen women made the NPEC criteria for renal or liver dysfunction there were a further 29 patients admitted to the HDU for Level 1 care because of hepatic or renal dysfunction.

Table 4: Central Nervous System

	2013	2014	2015	2016	2017	2018
Eclampsia	0 0%	0 0%	1 0.01%	0 0%	4 0.1%	3 0.04%
Status epilepticus	1 0.01%	1 0.01%	1 0.01%	2 0.02%	2 0.02%	0 0%
Cerebrovascular accident	0 0%	1 0.01%	0 0%	0 0%	0 0%	0 0%
Coma	1 0.01%	1 0.01%	0 0%	0 0%	0 0%	0 0%

There were three cases of eclampsia in 2018. The first was a pregnant patient found unconscious at home. On ambulance review her blood pressure was noted to be elevated. She regained consciousness but remained drowsy and the diagnosis of probable eclamptic seizure was made. The second patient presented with an eclamptic seizure at 29 weeks' gestation and was stabilised prior to prompt delivery. The third case was an eclamptic seizure at 33 weeks' gestation at home with a further seizure on presentation to the hospital. She was also stabilised and promptly delivered. All three mothers made a full recovery.

Table 5: Intensive Care Management

	2013	2014	2015	2016	2017	2018
Anaesthetic issue	1 0.01%	2 0.02%	0 0%	0 0%	0 0%	0 0%
ICU/CCU Transfer	11 0.1%	17 0.2%	5 0.1%	10 0.1%	19 0.2%	12 0.1%
Maternal death	3 0.3%	1 0.01%	0 0%	0 0%	0 0%	0 0%

Successes and Achievements 2018

Enhancing Patient Care

All surgeries for antenatally-identified cases of abnormal placentation were planned and undertaken in the most appropriate setting following appropriate multidisciplinary case discussions, with consideration for optimising surgical requirements and availability of staff. The instigation of Code Red in cases complicated by Massive Haemorrhage has mandated the presence of senior staff at an early timepoint in these cases, which allows for senior multidisciplinary involvement and increased staffing in management of these challenging cases. This has positive implications for patient care and for resources.

Education & Training

Monthly Maternal Medicine Multidisciplinary Meetings take place in the Mater Misericordiae University Hospital. Additionally, a quarterly Maternal Medicine Review is provided at the Rotunda Hospital to discuss care of complex cases, and regular Grand Rounds meetings are held to review multidisciplinary developments in individual high risk maternal medical problems.

The commencement of Dr. Etaoin Kent and Dr. Richard Horgan as consultant subspecialists in maternal-fetal medicine as joint posts between the Rotunda and other RCSI Hospitals Group hospitals has resulted in improved communication and input in management of cases that may require multidisciplinary tertiary service.

Research

The appointment of a Maternal Medicine Fellow, Dr. Khadeeja Nassser, has led to increased opportunities to review maternal morbidity outcome data and identify trends and learning points from case management.

Challenges 2018

The MN-CMS electronic healthcare record was introduced in November 2017. Throughout 2018, Rotunda Hospital staff became more familiar with the system, and although challenging during this transition period, the many benefits of the system are being realised when faced with cases of complex maternal morbidity. Reviews of the narrative of cases and accurate report generation continue to be challenging. This is an issue that continues to be addressed with the national MN-CMS leadership team.

Plans for 2019

Plans for a three-storey construction project to expand and improve Operating Theatres and Labour and Delivery Ward commenced in 2018. This will provide a new operating theatre on the Labour

Ward and a third operating theatre in the main theatre department. It will also allow for an enhanced Recovery Care program, which will be divided between the traditional Gynaecology postoperative recovery area and a new elective caesarean delivery recovery area. There will be new teaching space on the Labour and Delivery Ward which will further improve the quality of handover rounds, leading to greater multidisciplinary involvement, and further opportunities for teaching in cases of major maternal morbidity.

Complicated Postnatal Service

Head of Service

Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

Service Overview

This service was originally developed to offer postnatal review to women who sustain obstetric anal sphincter injury (OASI) at vaginal delivery. In addition, women who are pregnant again after a previous anal sphincter injury, or other perineal complications, attend the clinic to discuss options and risks in terms of mode of delivery.

The clinic also provides care for women who have had other postnatal concerns, including wound infection, perineal pain, dyspareunia and faecal incontinence. In 2018, this clinic began to provide follow-up for women who had Word catheter placement for management of Bartholins gland cyst/abscess.

Clinical Activity

355 new patients attended the clinic in 2018:

Table 1: Indication for Attendance

	No. of Patients Seen
Antenatal Assessment (previous OASI)	109
Antenatal Assessment (other issues)	25
Postnatal Assessment after Third-Degree Tear	99
Postnatal Assessment after Fourth-Degree Tear	8
Postnatal Assessment of Perineal Infection/Pain/ Dyspareunia	64
Postnatal Assessment of Faecal Incontinence	6
Female Genital Mutilation (FGM) Assessment	15
Word catheter follow-up for Batholins	9
Other	20
Total	**355**

114 women sustained obstetric anal sphincter injury in 2018, which represents a fall from a peak of 3.4% of vaginal births in 2011 to 2.1% of all vaginal births in 2018. The modes of delivery of those who sustained anal sphincter injury are tabulated below:

Table 2: Mode of Delivery

	3rd Degree	4th Degree
Spontaneous vaginal	61	3
Vacuum only	20	1
Vacuum and Forceps	6	2
Forceps only	20	1
Born Outside Hospital	0	0
Total	**107**	**7**

43 patients who attended the clinic required additional treatment or ongoing referral, in addition to physiotherapy, which is offered to all patients. The specific additional treatments that were required are listed below:

Table 3: Procedure/Referral

	No. of Patients
Referral to colorectal service	7
Treatment of granulation tissue (outpatient)	14
Removal of persistent suture material (outpatient)	11
Perineal revision (day case)	6
Perineal injection (day case)	3
Reversal of Female Genital Mutilation	2
Total	**43**

Successes and Achievements 2018

Enhancing Patient Care

The primary focus of this clinic is to provide postpartum follow-up for women who have sustained obstetric anal sphincter injury. This enables assessment of recovery, review and discussion of labour outcomes and events, integration with physiotherapy follow-up and coordination of referral to other disciplines as required (e.g. colorectal surgery).

The clinic also supports and advises women who are pregnant again after a previous anal sphincter injury (or other perineal complications) in order to discuss options and risks in terms of mode of delivery and intrapartum care. In 2018, written patient information was developed to support this counselling.

Education and Training

An obstetric non-consultant hospital doctor (NCHD) attends this clinic and receives in-service training in OASI, as well as gaining the opportunity to undertake audit and research.

The remit of the clinic in terms of care of women after OASI is also included in the NCHD hospital induction.

Dr. Maeve Eogan and Dr. Mona Abdulrahmen undertook an electronic survey of obstetricians working in Ireland regarding their technique, management, and education on episiotomy and OASI. This was recently published in the Irish Medical Journal.

Innovation

The Irish Family Planning Association (IFPA) with support from the HSE National Social Inclusion Unit and AkiDwA have established Ireland's first Specialist Clinical Service for the Treatment of Female Genital Mutilation (FGM). This clinic refers any women who require surgical treatment to the complicated postnatal clinic at the Rotunda for evaluation and management.

In 2018 the Word Catheter was introduced as an outpatient management option for women with cysts or abscesses of the Bartholin's Gland. Follow-up of these patients was confined to the complicated postnatal clinic to ensure that they were seen by the same cohort of doctors.

Challenges 2018

Provision of follow-up care for patients who have sustained OASI in other units in RCSI Hospitals Group is challenging. The Rotunda clinic currently does not have sufficient human or infrastructural resource to provide this care for our hospitals group partners.

Providing appropriate postnatal care to women who have sustained other antenatal, intrapartum and postnatal issues who require hospital based follow-up is also challenging.

Plans for 2019

Introduction of the "Peaches" care bundle into labour ward care and assess its impact on Obstetric Anal Sphincter Injury rates. This care bundle optimises all aspects of intrapartum care in an evidence-based manner to minimise OASI.

Analysis of impact of, and patient satisfaction with, Word catheter for outpatient management of Bartholin's cyst/abscess.

Radiology Department

Head of Department

Dr. Ailbhe Tarrant, Consultant Paediatric Radiologist

Staff

Dr. Neil Hickey, Consultant Adult Radiologist
Dr. Stephanie Ryan, Consultant Paediatric Radiologist
Ms. Aine Hahessy, Radiology Services Manager
Ms. Louise Duffy, Clinical Specialist Radiographer in Ultrasound
Mr. Patrick Feeney, Senior Radiographer in Ultrasound
Ms. Shenaz Subjee, Radiation Protection Officer and PACS Manager

Service Overview

The Radiology Department provides diagnostic imaging for the adults and infants of the Rotunda Hospital, both as inpatients and outpatients. The department provides 24-hour support to the maternity service and the neonatal intensive care unit (NICU) through our Rotunda Radiography staff and the Radiologists from The Rotunda Hospital and The Children's University Hospital, Temple Street.

Clinical Activity

The Radiology Department performed 5,905 exams in 2018 representing a similar level of activity to 2017 (6,120).

Adult Radiology

In 2018, a total of 424 adult radiologic procedures were performed of which (47%) 200 were hysterosalpingograms, performed as part of a subfertility work-up. Other radiologic procedures included cystograms, non-obstetric ultrasound (general abdominal, renal, pelvic, head and neck, vascular and soft tissue) and plain radiographs. A total of 46 gynaecologic ultrasound examinations were performed. These patients were referred from the gynaecologic clinics and also as direct GP referrals. In addition, 352 gynaecologic ultrasound examinations were outsourced to an external radiology provider (Charter Medical), with resultant images and reports being imported into Rotunda patients' radiology files. This initiative was implemented by Rotunda Hospital management to provide short-term resolution to a significant increase in waiting lists for gynaecologic imaging, and has been funded directly from the hospital's own financial reserves.

Paediatric Radiology

In 2018, a total of 4,925 paediatric studies were performed. Of these, 2,801 (51%) were paediatric ultrasound examinations including hip ultrasounds, performed as part of the National Screening Programme for Developmental Dysplasia of the Hip (DDH). A total of 2,102 plain films and 49 fluoroscopy studies (Upper and Lower Gastrointestinal contrast studies and Video Swallows as part of a Service Level Agreement with the Children's University Hospital, Temple Street) were performed.

The CT and MRI needs of Rotunda paediatric patients are provided by The Children's University Hospital, Temple Street. Adult CT and MRI requirements are provided by the Mater Misericordiae University Hospital. In 2018, The Children's University Hospital Temple Street performed three neonatal CT examinations, 4 antenatal fetal MRIs and 41 pediatric MRIs on patients referred from the Rotunda.

Due to continuing challenges meeting the demand for antenatal fetal and neonatal MRI scans, the MRI service in the National Maternity Hospital continued to scan some Rotunda patients. A total of 41 Rotunda patients had antenatal and neonatal MRI studies at NMH (20 antenatal MRIs and 21 pediatric MRIs). Ultrasound, CT and MRI scans of Rotunda babies are discussed, when appropriate, at multidisciplinary meetings in Children's University Hospital Temple Street attended by Rotunda neonatologists and radiologists.

Successes and Achievements 2018

Enhancing Patient Care

Since 2016 the Rotunda Hospital has been included in the National Integrated Medical Imaging System (NIMIS), which is a radiology image archiving and reporting system. Within this national system, Rotunda patients have benefited from the secure transfer of their images to all other participating hospitals, including Our Lady's Hospital for Children, Crumlin and The Mater Misericordiae University Hospital. Once again, the Rotunda Radiology Department committed this year to participating in the National Radiology Quality Improvement Programme.

Education & Training

2018 was the seventh year in which the hospital provided a cranial ultrasound training programme, which is a practical course for paediatric trainees designed to give participants an introduction to cranial ultrasound and provide practical hands-on experience for neonatal/paediatric trainees. Both Dr. Ryan And Dr. Tarrant participate also in the neonatal registrar training day in June every year which began as a Rotunda registrar training day and has become a national event.

Research

Both Dr. Ryan and Dr. Tarrant are actively involved in paediatric radiology research. Several audits have been performed by radiography staff including:

- DNA (Did Not Attend) audit, and re-audit following a change of practice, presented at the Rotunda Audit Day in June 2017
- Audit of referrals to the Developmental Dysplasia of the Hip screening service after the MN-CMS electronic healthcare record 'Go-Live' date
- Patient Identification Audit
- Anatomical Marker Placement Audit
- Migration Data Audit

There were several publications from the department as well as presentations and lectures at national and international meetings, including:

Lectures Dr. S Ryan

- Inflicted rib injuries in infants. Clinical Club RCSI Dublin, January 2018
- Radiology of surfactant deficiencies and related neonatal respiratory problems. European Course of Paediatric Radiology. RCSI Dublin October 2018
- Imaging in Paediatric Trauma of the Lower Limb. Faculty of Radiologists Annual Meeting. RCSI Dublin September 2017
- Neuroradiology in Paediatric neurosurgery – the light side. Neurosurgery Symposium. RCPI 26 October 2018

Challenges 2018

Staff retention and recruitment:

Ms. Sheelagh Gibson, Radiology Services Manager, relocated from the Rotunda after 14 years of service to become Peamount Hospital's Radiology Services Manager and also attended King's Inns to become a member of the Bar Council. Ms. Meave Hayes and Ms. Sarah Johnson, radiographers, left to take up positions in the Beacon Hospital and Global Diagnostics respectively.

Ms. Sheelagh Gibson was replaced by Ms. Aine Hahessy, as Radiology Services Manager and Mr. Patrick Feeney joined the Rotunda Radiography staff in September 2018.

Our aim is to return to 1:4 rotation for the radiographer on-call rota service to reduce its reliance on locum radiographer staff. The current recruitment drive will continue throughout 2019.

The lack of an interface between NIMIS and the MN-CMS electronic healthcare record persisted in 2018. Efforts to resolve this significant issue continued, not least due to the impending addition of gynaecologic patients to the MN-CMS electronic healthcare record in September 2019. This issue was highlighted again with the National Implementation Committee for the MN-CMS system.

Plans for 2019

- To encourage and facilitate complete integration of the MN-CMS electronic healthcare record and the NIMIS image archiving systems, allowing reliable and easy access by the end-user to all aspects of patient records.
- Continued recruitment drive to replace radiographers who have left the service and recruitment of a senior radiographer from the National Hip Screening service to facilitate the continued increasing demand for this service
- In the absence of an MRI service on site at The Rotunda hospital, to formalise a service level arrangement with The Children's University Hospital Temple Street and The National Maternity Hospital, to ensure ease of access to fetal and paediatric scans for Rotunda patients
- To expand the radiology service to enable adult gynaecology ultrasound to be exclusively performed in The Rotunda rather than continuing to outsource externally. This is reliant on clarifying governance arrangements as well as the employment of another consultant radiologist
- To introduce HyCoSy Ultrasound Service to reduce requirement for using ionizing radiation as part of hysterosalpingography to image the uterus and tubes in fertility evaluations
- To continue Radiology's need to be included on the national HSE Medical Equipment Replacement Program
- To provide educational assistance for Masters Education Programmes in Ultrasound to support staff education and maximise staff retention

Clinical Services

Gynaecology

Gynaecology Service

Head of Service

Dr. Rishi Roopnarinesingh, Director of Gynaecology

Service Overview

The Rotunda offers both general gynaecology and subspecialty/special interest clinics in Reproductive Medicine, Urogynaecology, Adolescent Gynaecology, Contraception and Family Planning and Colposcopy.

While The Rotunda had significant infrastructure and capacity limitations in 2018, the hospital was still able to cater for an expanding gynaecologic service. A direct consequence of the increasing demand for gynaecology services was a further increase in the outpatient waiting times for new referrals, which continues to be one of the hospital's main challenges as we strive to keep within national and good practice standards. This increased workload was buffered by an extremely committed and caring staff, as well as by the results of the investment made in developing our Outpatient Gynaecology and Same Day Surgery service, through Minimally Invasive Techniques. The Rotunda's Outpatient Gynaecology Surgery facility (located on the Connolly Hospital campus) has greatly benefitted patients and allowed procedures to be effectively performed in a less resource-intense setting, with excellent outcomes, while at the same time ensuring the efficient use of hospital beds in The Rotunda.

Being the major tertiary referral gynaecologic centre for the northern half of the Greater Dublin Area has ongoing challenges, particularly with ensuring that patients are appropriately triaged and accommodated in the most appropriate specialists' clinics. Due to the volume of referrals, active management by the administration staff is required to present referral letters to the individual consultants on a weekly basis and then to make contact with patients to acknowledge receipt of the referral and reassurance that they will have further notice of an actual appointment. Despite significant resources devoted to appointment scheduling, an increase in waiting lists has continued as the number of referrals are surplus to the available appointment slots on a monthly basis. Currently, the number of referrals from GPs received each month significantly exceeds the number of new patient appointment slots available. Inevitably, gynaecology waiting lists will therefore increase, unless significant additional resources are provided for this specialty. Disappointingly, patients not showing up accounted for just under 20% of all appointments and this compounded the services ability to manage waiting lists effectively. This high "Did Not Attend" (DNA) rate has continued despite multiple anticipatory reminders and patient contacts from administrative staff in the days prior to their appointment.

Acknowledgement and credit must be given to the numerous members of staff from various departments including administration, household, GP Liaison, midwives/nurses and doctors whose individual contributions make it possible to provide this essential Gynaecology Service.

Clinical Activity

2018 was another busy and successful year across all sectors of the Gynaecology Service including emergency gynaecology, outpatient visits and elective gynaecologic surgery. The outsourcing of gynaecologic ultrasound continued as the hospital was still unable to meet the demands for pelvic sonography. Some pelvic imaging continued to be performed on-site in The Rotunda in individual clinics supervised by consultants in an effort to maintain an efficient service. The Radiology Department was also able to provide a very limited gynaecologic ultrasound service and also facilitated the reproductive clinics by performing 200 HysteroSalpingoGrams (HSGs) in 2018.

Gynaecology is provided as both a public and private service on the Hospital campus with the General Outpatient Clinics in the main hospital building and the private clinics in the Private and Semi-Private building.

There were 3,668 new gynaecology referrals to the public hospital clinics (404 more than in 2017) and 6,258 return visit appointments. This compounded the outpatient waiting list and 2018 saw a longer time interval for patients between acknowledgment of their referral and their eventual appointment date. This situation is not sustainable and investment in gynaecology services has been initiated which will be realised in 2020 and 2021 with further infrastructural developments and staffing. This will take the form of additional gynaecology clinics and increased operating theatre capacity.

Gynaecology Clinics

General Gynaecology Clinics

Daily public General Gynaecology Outpatient Clinics, focusing on benign gynaecologic complaints are provided by the following consultants: Dr. Kushal Chummun, Dr. Sharon Cooley, Dr. Sam Coulter-Smith, Dr. Eve Gaughan, Dr. Michael Geary, Dr. Ronan Gleeson and Dr. Hassan Rajab. These consultants all have individual special interest areas such as operative hysteroscopy, pelvic floor surgery, management of ovarian pathology, endometriosis, benign pathology of the vulva and vagina and minimal access surgery.

In addition, Dr. Geraldine Connolly provides an Adolescent Gynaecology Clinic.

Reproductive Medicine Clinics

Two public clinics are provided weekly, dedicated to the investigation and management of subfertility. This is becoming an increasingly challenging sub-specialty as couples are more inclined to delay starting a family for a number of reasons and also single women and same sex couples may wish to be investigated and to explore their fertility choices. The complete array of investigations and expertise are available at these clinics to thoroughly assess female and male factor subfertility. Both medical and surgical investigations and treatment options are provided.

Advanced Assisted Reproductive Techniques are not provided by The Rotunda Hospital itself, but instead those patients requiring

this intervention are referred elsewhere. A small number of couples that fulfil specific criteria may qualify for Pro Bono IVF treatment supported by The Rotunda Hospital Board at the privately-owned Rotunda IVF Unit, presently located on the hospital campus.

Both clinics are staffed by two consultants, Dr. Edgar Mocanu and Dr. Rishi Roopnarinesingh, and this arrangement ensures that expert advice is readily available with the most appropriate management options being provided for patients.

Promotion of Continence Clinic

This specialist clinic has proven itself enormously popular and beneficial for patients. It is a multi-disciplinary clinic staffed by consultant gynaecologists, Dr. Mary Holohan and Dr. Naomi Burke, as well as by physiotherapists, led by Ms. Cinny Cusack. In 2018, Ms. Caroline Hendricken, specialist nurse in bladder care and urogynaecology, joined the team and her expertise has had an immediate impact on the efficiency with which bladder care problems are dealt with in the hospital.

The clinic structure has been highly successful in ensuring that accurate pelvic floor disorder diagnoses are made and that an individualised management programme is implemented. This includes patient education and insight, medication, biofeedback, physiotherapy and surgery in selected cases.

Recurrent Miscarriage Clinic

This specialist clinic is provided by Dr. Karen Flood and Senior Nurse Specialist Ms. Patricia Fletcher. It caters for the investigation and treatment of couples that have experienced three or more consecutive miscarriages. It also provides for early pregnancy ultrasound and support for these couples in the early first trimester of pregnancy and beyond for their subsequent pregnancies. The Clinic adheres to accepted national and international standards for the investigation and treatment of this particularly challenging patient population. Given the profound upset and frustration that is experienced by patients who are unlucky enough to suffer recurrent miscarriages, patients can become vulnerable to pressure to undergo unproven investigations or therapies. The clinic strives to provide reassurance to patients within accepted international standards of practice.

Out-Patient Hysteroscopy Service (Connolly Hospital campus)

The Outpatient Hysteroscopy Service is a Rotunda-funded and Rotunda-managed clinical programme on the campus of Connolly Hospital in Blanchardstown. Patients referred to the Rotunda who meet eligibility criteria are scheduled for "one-stop/see-and-treat" gynaecologic evaluation by Rotunda staff in a facility within the Connolly campus. Funding to develop and implement this service has been provided by the Rotunda Hospital Board from its own financial reserves. The clinics are led by consultant gynaecologists Dr. Eve Gaughan, Dr. Naomi Burke, Dr. Kushal Chummun and Dr. Edgar Mocanu. Ms. Michelle Cullen is the Clinical Nurse Specialist who ensures the smooth and efficient running of the clinics. The team is completed by care assistants Ms. Lisa Hillman and Ms. Ciara Deegan.

In this its third year, this outpatient hysteroscopy service saw a 20% increase in activity levels, with a total of 652 procedures being performed compared to 546 cases in 2017.

The service has been highly effective for the management of women with abnormal uterine bleeding in an outpatient setting. It initially reduced waiting times for women and also alleviated some of the demand for operating theatre time in the Rotunda Hospital. However, the clinic has become so popular that the demand in 2018 outstripped the capacity of the clinic and challenged its ability to maintain an efficient service. As a result, a strategic plan was put in place to increase the number of clinics per week in 2019.

The clinic provides the gold standard care for the investigation and management of abnormal uterine bleeding. It delivers an efficient service affording women the opportunity to avoid general anaesthesia through minimally invasive techniques and local anaesthesia. Minimally invasive treatment is available for endometrial polyps, submucosal fibroids and also to treat some cases of menorrhagia with endometrial ablation. The use of local anaesthesia via cervical and fundal blocks facilitates the performance of these procedures in the outpatient setting.

213 patients were post-menopausal and five percent of these patients either had endometrial hyperplasia or carcinoma. Of the 10 cases of endometrial carcinoma, seven were in post-menopausal women and three were in pre-menopausal women. Of the five cases of endometrial hyperplasia, four cases were in post-menopausal women and one case was in a pre-menopausal woman. The three cases of pre-menopausal endometrial carcinoma had elevated body mass indices (BMI) of 36, 47 and 60kg/m^2 respectively, highlighting this important risk factor for the disease.

Out-Patient Hysteroscopy Activity	
Total Hysteroscopy	**652**
Endometrial Sampling	413
Endometrial polypectomy	115
Mirena Insertion/Removal	105
Myomectomy	43
Endometrial Carcinoma	10
Endometrial Hyperplasia	5
Endometrial Ablation	3

GP led Intrauterine Contraceptive Device and Vaginal Pessary Clinic

This clinic is run by Dr Deirdre Lundy, Dr. Geraldine Holland and Dr. Shirley McQuaid, General Practitioners with a special interest in women's health. They work closely with consultant gynaecologist, Dr Eve Gaughan, to allow for efficient access to theatre or specialist input where necessary. The clinic provides an efficient service for fitting and removal of intrauterine contraceptive devices and vaginal pessaries. General contraceptive advice and a peri-menopausal support service are also provided. This clinic helps to alleviate some of the pressure on the general gynaecology clinics by accepting both internal and external referrals.

GP Led Clinic Activity		
	2017	2018
New patients	160	190
Return patients	77	124

Gynaecologic Surgery (main operating theatres)

Since 2017, gynaecologic surgical reporting has been modified to take into account that many patients have multiple surgical procedures during a single operation. All major surgical procedures are tabulated under seven categories namely:

- Hysteroscopy
- Laparoscopy
- Laparotomy
- Vaginal/Transvaginal Surgery
- Other Vulvovaginal Procedures
- Other Minor Procedures
- Colposcopic procedures

Under this system, the actual number of patients having surgery is recorded with significant complexity amongst the cases. In 2018, almost 10% more cases were performed in the main operating theatre compared with 2017 (1,571 vs 1,445).

Abbreviations used in the Tables:	
AP Repair	Anterior and Posterior Colpoperineorrhaphy
BSO	Bilateral Salpingo-oophorectomy
D+C	Dilatation and Curettage
Dye	Methylene Blue Dye
EVA	Examination Under Anaesthesia
FGM	Female Genital Mutilation
IUCD	Intrauterine Contraceptive Device
LLETZ	Large Loop Excision of the Transformation Zone
STAH	Subtotal Abdominal Hysterectomy
TCRE	Transcervical Resection of the Endometrium
TOT	Transobturator Tape
TVT	Transvaginal Tape
UBT	Uterine Balloon Therapy (for endometrial ablation)
IUS	Intrauterine system

Table 1: Hysteroscopic Procedures

	2017	2018
Dilatation and Curettage (D+C)	224	272
D+C with insertion of Intrauterine System (IUS)	170	185
Polypectomy	79	86
D+C with endometrial ablation (UBT, Rollerball, TCRE)	61	71
D+C with diathermy/biopsy of cervix/vagina	16	13
Fibroid resection	32	33
Resection of uterine septum	2	4
Total	**592**	**664**

Table 2: Laparoscopic Procedures

	2017	2018
Dye+/-hysteroscopy/curettage +/-argon plasma +/-adhesiolysis +/-ovarian drilling	128	136
Salpingectomy	86	83
Hysterectomy +/- salpingectomy +/- salpingooophorectomy	39	52
Diagnostic	42	51
Ovarian cystectomy	47	37
Dye/cystectomy +/- hysteroscopy +/- adhesiolysis	39	22
Salpingooophorectomy +/- hysteroscopy + curettage	17	21
Dye + salpingostomy +/- hysteroscopy	15	16
Dye + tubal clipping +/- hysteroscopy	6	7
Sterilisation	14	6
Hysteroscopy +/- endometrial ablation +/- IUCD	19	5
Oocyte retrieval	5	5
Myomectomy	3	5
Oophorectomy	12	2
Excision of cornual ectopic	1	1
Appendicectomy	0	1
Total	**473**	**450**

Table 3: Laparotomy

	2017	2018
Total abdominal hysterectomy +/- salpingooophorectomy	24	37
Myomectomy	20	27
Subtotal abdominal hysterectomy +/- salpingooophorectomy	12	13
Conversion from laparoscopy	5	8
Ovarian cystectomy	6	6
Oophorectomy	7	4
Reversal of sterilisation	2	4
Salpingectomy	3	1
Cystectomy/oophorectomy, washings/omentectomy	3	1
Total	**82**	**101**

Table 4: Vaginal and Transvaginal surgery

	2017	2018
Vaginal hysterectomy with anterior and posterior colpoperineorrhaphy	58	46
Anterior and posterior colpoperineorrhaphy	31	37
Sacrospinous fixation +/- vaginal hysterectomy +/- anterior/posterior repair	15	8
Tension free vaginal tape (TVT)	18	4
Trans obturator tape +/- vaginal hysterectomy and repair	1	1
Trans vaginal oocyte retrieval	0	4
Bulkamid injection	0	1
Total	**123**	**101**

Table 5: Other Vulvovaginal Procedures

	2017	2018
Revision of perineum	0	6
Fenton's procedure	5	4
Labial reduction/repair	3	4
Repair of Female Genital Mutilation (FGM)	2	2
Resection of vaginal septum	1	0
Total	**11**	**16**

Table 6: Minor Surgical Procedures

	2017	2018
D+C with insertion of IUCD/Insertion of IUCD in theatre	63	781
Bartholin's abscess/cyst or vulval/labial cyst	39	38
Vulvovaginal biopsy/removal of lesions	23	26
Cervical cerclage (2 done laparoscopically)	0	24
EUA +/- smear	0	20
Cystoscopy	0	11
Hymenectomy	3	6
Evacuation of vaginal wall haematoma/suturing of vagina	0	4
Intravesical Botox injection	0	1
Diathermy of labial condyloma	1	0
Total	**139**	**218**

Table 7: Large Loop Excision of the Transformation Zone (LLETZ)

	2017	2018
LLETZ	12	11
LLETZ with hysteroscopy	8	6
LLETZ with vaginal biopsy	5	1
Total	**25**	**18**

Table 8: Five-year Comparative

	2014	2015	2016	2017	2018
Laparoscopic hysterectomy +/- BSO				39	52
Vaginal hysterectomy and AP repair	41	62	57	58	46
AP repair/pelvic floor repair	41	42	28	31	37
TAH +/- BSO	45	64	46	24	37
LLETZ	23	7	21	33	18
STAH	27	22	15	12	13
Sacrospinous fixation	5	10	8	15	8
Laparoscopic sterilisation	28	34	22	14	6

Analysis

There were 126 more cases done in the main operating theatre in 2018 compared with 2017, which is an approximate 10% increase in surgical workload. While there were 19 more hysterectomies done in 2018, the greatest increase was in the hysteroscopic and minor surgical categories. This is likely a reflection of the saturation of the new "one stop/see-and-treat" outpatient hysteroscopy service in Connolly Hospital which was started in 2016 and has seen year-on-year increases in the demand for this service. The Outpatient Hysteroscopy clinics in Connolly Hospital receive direct referrals from GPs and also 'internal' referrals from the other gynaecology clinics in the Rotunda. The service has been so quickly inundated with referrals that plans to expand by two extra clinics will be implemented in 2019.

Following a similar trend from 2017, more hysterectomies were performed laparoscopically compared with laparotomy (52 compared with 50 respectively) and this is a reflection of the growing expertise with minimal access surgery in the Rotunda. The proportion of hysterectomies performed by various surgical approaches were laparoscopic (35%), laparotomy (34%) and vaginal (31%).

The vast majority of the 84 salpingectomy procedures were performed due the presence of a tubal ectopic pregnancy, with all but one being performed laparoscopically. This likely represents increasing minimal access surgical proficiency amongst gynaecology consultants and trainees.

There was a significant decrease in the use of synthetic mid-urethral slings for continence surgery compared with 2017 (5 vs 19) and this no doubt was secondary to the concerns raised about complications arising from the use of mesh and the reports that followed (e.g. Mesh Oversight Group Report 2017, NHS, RCOG, NICE, BSUG and MHRA).

This 2018 report is the first description of experience at the Rotunda to describe the use of the products Bulkamid and Intravesical Botox both of which may become more popular in the future in the management of women with bladder or bladder neck problems.

An interesting trend is the further decrease in the number of women having laparoscopic sterilization, with only six in this report. This likely represents increasing popularity of longer term reversible contraceptive methods, including the intrauterine levonorgestrel releasing system.

Five women had a laparoscopic oocyte retrieval and four had a transvaginal oocyte retrieval in the main operating theatre, which is a reflection of a more complicated patient profile attending for advanced fertility services.

Successes and Achievements 2018

Specialist Nurse in bladder care and urogynaecology—Ms. Caroline Hendricken has been an invaluable addition to the Promotion of Continence Team. Her contribution to the care provided to patients with bladder problems, both obstetric and gynaecologic, was immediate and allowed for significant developments with this

service. Portable bladder ultrasound scanners were also purchased in 2018 and reduced the number of occasions that patients with urinary retention required catheterisation.

Further investment in surgical equipment was necessary to replace outdated devices, in particular, hysteroscopes for the outpatient service. This is an ongoing requirement that is coordinated through the consultants, theatre coordinator and the hospital's procurement department.

Challenges 2018

Once again due to the busy and unpredictable obstetric workload (caesarean sections, trials of delivery in theatre, miscarriages), there were frequent curtailments of capacity for elective gynaecologic surgeries. Such situations are very disruptive for patients and have a knock-on effect for surgical lists on the following days and into the future. The operating theatre manager, administrative staff and consultants managed this by optimising communication in advance as theatre lists evolved, although not all such curtailments could be avoided. Theatre capacity was once again recognised as a major priority for the strategic development of the hospital.

It was not possible to implement plans to extend the elective operating theatre times to accommodate the increasing demand and the recently employed consultants due to a general shortage of operating theatre nursing and midwifery staff. This will remain an ambition for 2019.

Plans for 2019

- To continue to actively and efficiently manage gynaecology referrals and to achieve acceptable waiting list targets
- To encourage the expansion of a telephone clinic facility to all gynaecologists so that results and advice can be given without the need for the patient to re-attend the clinic. This has been successful in the Reproductive Medicine clinics and is ideal for most post-operative reviews where problems are not anticipated
- After introducing the MN-CMS electronic healthcare record for obstetrics in 2017, the ambition is to extend this to gynaecology in 2019. This will facilitate record keeping and communication between departments within the hospital such as anaesthesia, pharmacy, laboratory and physiotherapy all of which are already functioning electronically. The hospital will then become completely paperless in all departments
- To further expand the Outpatient Hysteroscopy Service in Connolly Hospital and to continue with the long-term plans of developing gynaecology services on the Rotunda Hospital site which will include the construction of two additional operating theatres
- To continue promoting Minimal Access Surgical Techniques by continuing professional development for consultants and the dedicated training of the non-consultant medical staff. This will proceed in tandem with the appropriate use of novel technology and innovations that facilitate the safe and efficient provision of both Outpatient and Same Day Surgery
- To plan the provision of termination of pregnancy services after the national referendum legalising an expanded range of termination services
- To expand the provision of a complete gynaecologic ultrasound service in the Rotunda Hospital and to minimise outsourcing this investigative modality
- To implement a north Dublin emergency gynaecology rota to ensure optimal and safe provision of emergency laparoscopy services across the RCSI Hospitals Group, including Connolly Hospital and Beaumont Hospital, with the Rotunda providing the core gynaecology service

"As a public patient I am hugely impressed with the level of care."


Joseph 335
ase, Mrs. 150
n, Mrs. 90
d. Duke of 50
er. Duke of 50
owne. Marchioness 50
d. Duke of 100
ord Chancellor 50
ughs. W. D. 200
(Will) 50
rson. John 1.090
William 506
ter. Duke of 50
tjoy. Lord 50
ng. John 113
on. Capt. Thos. 500
by. Lord Primate 1.000
. Rev. Jno. 50
ins. Francis 100
ls. Rev. Richd M.A. 500
e. Geo. Lowther 3.112
Rt. Hon. Robt Bart. 50
Joseph 100
. Rev. J. 50
ster. Duke of 50
Donnell. (legacy) 100
ness. Arthur 100
oughs. George 50
y. Miss Margaret 50
Rt. Hon. Robt Bart. 50
allen. Alex 1.068
er. Miss (legacy) 50
ton. Sophia (legacy) 276
. Richard Mrs. 500
Mrs. Anne 100
200

"I work in general obstetrics and gynaecology. I cover delivery suite, ambulatory gynaecology and the incontinence clinic. I always imagined working in an area with variety and a diverse population. I specialise in the lost art of being a generalist."

Dr. Naomi Burke

Consultant Obstetrician Gynaecologist

Colposcopy Service

Head of Service

Prof. Paul Byrne, Consultant Obstetrician Gynaecologist

Staff

Dr. Sahar Ahmed, Consultant Obstetrician Gynaecologist
Dr. Kushal Chumman, Consultant Obstetrician Gynaecologist
Dr. Eve Gaughan, Consultant Obstetrician Gynaecologist
Dr. Yahya Kamal, Consultant Obstetrician Gynaecologist
Dr. Hassan Rajab, Consultant Obstetrician Gynaecologist
Ms. Selena Igoe, Lead Nurse Coordinator
Ms. Jennifer O'Neill, Nurse Colposcopist
Ms. Virginie Bolger, Nurse
Ms. Carol O'Rourke, Nurse
Ms. Rose Thorne, Nurse
Ms. Nicola Boyd, Healthcare Assistant
Ms. Janice Glynn, Healthcare Assistant
Ms. Trish O'Donovan, Healthcare Assistant
Ms. Susan Daly, Administrative Team Leader
Ms. Éilis Dalton, Administrative Support
Ms. Lisa Gleeson, Administrative Support
Ms. Jade Ng, Administrative Support
Ms. Niamh O'Carroll, Administrative Support
Ms. Margaret O'Sullivan, Administrative Support

Service Overview

The Colposcopy Service in the Rotunda Hospital is one of fifteen clinics in Ireland providing a service for CervicalCheck — The National Cervical Screening Programme. The primary objective of cervical screening is to reduce the mortality from cervical cancer by detecting and treating premalignant disease. This objective has been achieved with remarkable degrees of success since the introduction of the national screening programme in 2008. The Rotunda Colposcopy Service plays a key role in the screening programme by ensuring optimal management of women who have abnormal cervical smears. This is a quality assured service with an annual review of all key performance indicators.

Clinical Activity

Five-year Comparative

Table 1: Five-year Comparative Data

	2014	2015	2016	2017	2018
New Attendees	1,503	1,902	1,805	1,681	1,936
Return Visits	3,424	3,442	3,857	3,382	3,472
Total	**4,927**	**5,344**	**5,662**	**5,063**	**5,408**

Treatment

Table 2: Treatment

	2017	2018
Cervical Biopsy	1,388	1,679
Large Loop Excision of the Transformation Zone (LLETZ)	386	455
Cold Coagulation (CC)	405	371
Total Treatments (CC + LLETZ)	**791**	**826**
Total Procedures	**2,179**	**2,505**

There was a significant increase it the workload of the clinic in 2018. The service continues to develop the use of Cold Coagulation, which allows treatment of CIN while minimizing the risk of subsequent pregnancy complications.

Successes and Achievements 2018

In common with the other fourteen colposcopy clinics nationally, 2018 was a very challenging year for the Rotunda Hospital Colposcopy Service because of the adverse publicity related to the findings of a national audit that had been undertaken by CervicalCheck. This generated significant media attention which resulted in fear and panic by women who had been through the screening programme. A decision that was made at a national level to offer women a "reassurance smear" resulted in an unmanageable backlog of unreported smears as the laboratories could not cope with the dramatic increase in throughput. For several months, the colposcopy nurses answered thousands of phone calls from worried women. Furthermore, the workload of the clinic increased significantly as the number of referrals increased dramatically. The staff of the clinic, particularly the nurses and the administrative staff, are to be congratulated for their dedication and commitment during these difficult times.

We congratulate nurse colposcopist Ms. Virginie Bolger who was awarded her British Society for Colposcopy and Cervical Pathology (BSCCP) colposcopy accreditation in 2018.

Clinical Audit and Research

Audits completed in 2018 included an audit of glandular cytology referrals, an audit of the first 1,000 patients treated with cold coagulation and an assessment of compliance with National Cancer Screening Service (NCSS) guidelines regarding excisional treatments. These were presented at multiple local and national meetings.

Nurse-led Clinics

We continue to expand the role of our nurse colposcopists in the clinic. Three of our Nurse Colposcopists have now achieved BSCCP accreditation.

Upgrade of Colposcopy Equipment

In order to address aging and deficient equipment, in 2018, our colposcopes, monitors and couches were upgraded. Despite repeated requests to the HSE for funding to replace this equipment after 10 years of use, no funding was forthcoming and therefore the

Rotunda Board made a decision to directly fund this replacement equipment in order to maximise patient safety.

Challenges 2019

One of the challenges at a national level is to educate the public regarding realistic achievements of a screening programme, otherwise, there is a risk that screening will become an unviable service in Ireland. We need to be prepared for the publication of the Royal College of Obstetrician and Gynaecologists (RCOG) audit of cervical screening that was instigated by the Department of Health. Despite the negative impact of the CervicalCheck controversy on staff morale, it is still our aim to provide a quality assured service that continues to reduce the mortality from cervical cancer for women in Ireland.

Sexual Assault Treatment Unit

Head of Service

Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

Staff

Ms. Noelle Farrell, Midwife Manager
Ms. Deirdra Richardson, Clinical Midwife Specialist
Ms. Christine Pucillo, Staff Nurse
Ms. Moira Carberry, Administration
Ms. Rita O'Connor, Administration
Dr. Killian Bates, Forensic Medical Examiner
Dr. Haroon Khan, Forensic Medical Examiner
Dr. James Moloney, Forensic Medical Examiner
Dr. Nicola Cochrane, Forensic Medical Examiner
Ms. Aideen Walsh, Forensic Nurse Examiner
Ms. Sarah O'Connor, Project Manager for Higher Diploma in Nursing (Sexual Assault Forensic Examination)
Dr. Daniel Kane, Forensic Medical Examiner
Dr Jill Mitchell, Forensic Medical Examiner
Dr. Cathy Montieth, Forensic Medical Examiner
Dr. Niamh Murphy, Forensic Medical Examiner

Service Overview

The Rotunda Sexual Assault Treatment Unit (SATU) is one of six HSE-supported SATUs around the country. Each unit provides responsive patient-centred care underpinned by national inter-agency guidelines. This ensures that all men and women who seek care after sexual crime receive the same standard of care regardless of which SATU they present to.

We acknowledge the support the SATU receives from the Executive Management Team and all colleagues. When compared with other clinical areas we see a small number of patients, so our value in the hierarchy of service provision is not evident to all. In many ways our absence would be noted more than our presence, and the Rotunda's support, despite competing and important demands on valuable resources is greatly appreciated.

Clinical Activity

Table 1: 5-year Comparison of Attendees to the SATU

	2014	2015	2016	2017	2018
No.	286	317	289	327	319

In 2018 the SATU at the Rotunda Hospital provided care for 319 people (96% women) after rape or sexual assault, a reduction of 2% from the previous year. That being said, overall national figures increased by almost 10%, and attendances at the Mullingar SATU increased by 14%. It is likely that the reduction in attendances was due to the fact that Mullingar SATU covered some of the Rotunda's on-call due to temporary staffing gaps – particularly in the first six months of 2018. In total, the national SATU services saw 941 people, which is an increase of 44% from 2009, when national metrics were first collated. In addition to acute SATU attendances, the SATU also provides follow-up care including sexually transmitted infection (STI) screening, support and health promotion (e.g. hepatitis B vaccination programme) for up to six months after first attendance.

Patients ranged from 14 years to over 70 years. 239 (75%) attended within seven days of an incident of sexual assault; early presentation is optimal in terms of provision of appropriate care as well as collection of forensic evidence. Of the 277 Rotunda cases where the incident was reported to have taken place in the Republic of Ireland, 193 (70%) of these took place in Dublin city or county. Eleven other counties were also represented in the figures. While 82% of attendees reported that the incident took place between 8pm and 8am, the majority of patients {212 (66%)} actually attended for care within daytime hours (8am-8pm). Nevertheless, approximately one third of our patients were seen between the hours of 8pm and 8am, which emphasises the continued need for a round-the-clock service.

Successes and Achievements 2018

Education & Training

SATU staff undertake outreach education within general hospital emergency departments, general practice clinics, mental health services, prison services, schools and universities, An Garda Síochána, and the Dublin Rape Crisis Centre. This aims to raise awareness, understanding and recognition of sexual violence and to equip people to appropriately respond to disclosures of sexual violence.

This year's interagency study day for those involved in SATU care provision took place at the Pillar Room at the Rotunda, and coincided with the launch of the fourth Edition of the Interagency Guidelines of the Sexual Assault Response Team. This was the tenth annual study day, and it continues to provide us with an excellent opportunity to remain updated on developments in all aspects of the interagency service.

Funding for this study day came from HSE, Tusla and An Garda Síochána, through their funding of the fourth Edition of the Guidelines. We continue to lobby the HSE and all agencies involved in service provision to provide a defined training budget annually to ensure sustained provision of interagency training.

Despite staffing issues, the team has continued to provide education and training in many areas. This has included the well-established Transition Year programme, run by Ms. Deirdra Richardson, but also a range of interagency education collaborations with Dublin Rape Crisis, An Garda Síochána and the STI Foundation.

In 2018 we welcomed Ms. Naomi Finnegan, Ms. Christine Pucillo Murphy and Ms. Kate O'Halloran who have commenced training as clinical nurse specialist sexual assault forensic examiners (CNS SAFE). Additionally, a number of our obstetric and gynaecology doctors in training committed to training in SATU care and some of them now provide clinical and forensic care on our on-call rota. Sincere thanks to Dr. Cathy Montieth, Dr. Daniel Kane, Dr. Niamh Murphy and Dr. Jill Mitchell for this commitment, and thanks to all

SATU staff for the ongoing training they provide for new staff joining the service.

Enhancing Patient Care

As well as providing care for people who report an incident of sexual violence to An Garda Síochána, since 2009 the unit has supported men and women who preferred not to report the incident. Since 2016 we have had a facility for secure storage of forensic evidence for those who are uncertain about their reporting intentions. This enables patients to come to an informed decision regarding whether or not they wish to report the incident to An Garda Síochána.

Of the 319 patients that attended the SATU in 2018, 132 (41%) attended without reporting the incident to An Garda Síochána. 33 of these patients chose to securely store forensic evidence in the SATU. This evidence is stored for up to one year, and can be released to An Garda Síochána if and when the patient reports the incident.

All women who attend SATU within 120 hours are offered Emergency Contraception (EC). Additionally, all SATU attendees are offered follow-up screening for sexually transmitted infections. In 2018, 291 men and women accepted this offer, and 200 (69%) actually attended for screening. Such low return rates are not uncommon, both nationally and internationally, and have encouraged continued provision of routine prophylaxis for Chlamydia at the time of the patient's initial attendance. The rate of identification of Chlamydia has fallen precipitously since the introduction of routine prophylaxis. All patients are also offered a course of Hepatitis B vaccination, and can also be offered HIV prophylaxis on-site if required following risk assessment. In 2018, 29 (9%) patients received post-exposure prophylaxis for HIV, and none of these patients acquired HIV as a result of the incident.

Innovation

Over the past few years the service has been offering a patient experience questionnaire in both written and electronic format to encourage feedback from as many SATU attendees as possible. The SATU service continued to do this in 2018, and has used feedback received to drive further service developments. We really value this as it allows us to critically appraise our service through the lens of a service user and underpins continuous quality improvement.

Challenges 2018

Recruitment of forensic medical examiners is difficult. Traditionally these examiners came from a primary care background, but the increasing demands on General Practitioners mean that many of them cannot undertake additional work outside their practices. We are delighted to have been able to include some of our specialists in training on the on-call rota, and thank them sincerely for their significant contributions. The commitment of all our forensic examiners is acknowledged, this year and every year. Our staffing shortage has meant that staff are going above and beyond in terms of on-call commitment, and this is greatly appreciated. In particular the resilience of Ms. Noelle Farrell and Ms. Deirdra Richardson in the face of these recruitment challenges is to be commended.

Although the remit for the adult SATU services is for patients over 14 years, in 2018 the unit provided care for six female patients less than 14 years of age. These were instances where acute care in a paediatric service could not be arranged. Ms. Aideen Walsh and colleagues in Our Lady's Hospital Crumlin are now providing far more care in their Laurel's Clinic than previously, meaning that we can expect accommodation of such patients within paediatric settings in the future.

Dr. Haroon Khan and Dr. Killian Bates, forensic examiners who worked with us for many years in the Rotunda SATU, reduced their on-call commitment in 2018. We acknowledge their many years of service and remind them that the door remains open for a welcome return if circumstances change.

Plans for 2019

Our highest priority, to ensure appropriate provision of responsive care at all times, is to increase staffing levels, both for forensic examiner and assisting nurse rotas. We look forward to our new Clinical Nurse Specialists completing their training, and hope to continue to support doctors in obstetric and gynaecology training posts to also train in forensic gynaecology and SATU care. As the SATU is a 24/7 service, it is imperative that the SATU has adequate staffing levels to cover the service.

With this in mind, we welcome the commitment of the Department of Health and Minister Simon Harris who undertook a short review of SATU services, commencing in Autumn 2018. This review focused on the unpredictable demand for this relatively low volume service and the review team consulted a large number of stakeholders to identify potential solutions to identify staffing and service gaps. This review will publish a report and implementation plan in the coming months and we welcome the opportunity to implement their funded recommendations. It has been a pleasure to be involved in such a solution-focused project – and if these solutions are delivered as efficiently as the project, 2019 will be a good year for all involved in the provision of SATU care.

Clinical Services

Neonatology


NO VIDEO TAKING ALLOWED
PLEASE SPEAK TO MIDWIVES REGARDING THE TAKING OF PHOTOGRAPHS

Department of Neonatology

Head of Department

Dr. Breda Hayes, Consultant Neonatologist

Staff*

Dr. Michael Boyle, Consultant Neonatologist
Prof. David Corcoran, Consultant Neonatologist
Prof. Afif El-Khuffash, Consultant Neonatologist
Prof. Adrienne Foran, Consultant Neonatologist
Prof. Naomi McCallion, Consultant Neonatologist
Dr. Jan Franta, Consultant Neonatal Transport Physician
Dr. Hana Fucikova, Consultant Neonatal Transport Physician
Prof. Mary King, Consultant Paediatric Neurologist
Dr. Wendy Ferguson, Infectious Disease Associate Specialist Paediatrician

*Supported by a team of Nurses, Midwives, Non-consultant Hospital Doctors and Healthcare Assistants

Service Overview

The Neonatal Intensive Care Unit (NICU) at the Rotunda Hospital continues to be one of the busiest neonatal tertiary referral centres in Ireland. In our NICU we provide specialist care to babies born in the Rotunda and also to small or sick babies delivered at other hospitals throughout the state. As part of the RCSI Hospitals Group, we continue to work closely with other neonatal intensive care centres (Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital) and have well-developed network pathways for both in utero and ex utero transfer of babies. In addition, the Rotunda has well established links with both national Children Hospitals (Children's University Hospital, Temple Street and Our Lady's Hospital Crumlin).

The Rotunda NICU admits approximately 1,200 infants per annum, including between 120 and 150 very low birth weight (VLBW) infants. The NICU has 39 beds with seven spaces designated as Level 3 (intensive care), 12 spaces designated Level 2 (high dependency) and the remaining 20 spaces designated as Level 1 (special care). Our NICU is recognised as a centre for therapeutic hypothermia, and provides state-of-the-art therapeutic modalities including high frequency oscillation and inhaled nitric oxide.

The Rotunda also has an extremely busy paediatric outpatient department providing follow-up care for infants born at the Rotunda Hospital. There are over 1,500 clinics scheduled every year, which cater for 8,000 – 9,000 visits to the department. Services provided include developmental and health surveillance visits for premature and term infants admitted to the neonatal unit, routine well-baby checks, feeding advice and jaundice review, in addition to dedicated infectious disease and neurology clinics.

In a rota with our colleagues at the National Maternity Hospital and the Coombe Women and Infants' University Hospital, the Rotunda undertakes responsibility for the national neonatal transport service once every three weeks. The neonatal transport service is available 24 hours a day, seven days a week. The transport team is comprised of skilled and experienced staff including a neonatal registrar, a neonatal transport nurse, an ambulance driver (road transports) and air crew/paramedics (air transports) under the guidance and leadership of a dedicated neonatal transport consultant.

Clinical Activity

Neonatal Intensive Care Unit (NICU)

Renovations to improve fire safety (rewiring and isolation of medical gases and electrical supplies in each area) were carried out throughout 2018 in response to a serious electrical fire in the NICU in 2017. These works required a series of rolling closures and hence resulted in a 25% reduction in our total bed capacity to between 29 and 32 beds during this time. Careful planning and co-ordination of the works resulted in minimal impact on the babies of women who had booked in the Rotunda. However our ability to accept outborn babies for tertiary neonatal care was significantly reduced. This resulted in significant additional pressure for admissions on our sister Dublin hospitals (the National Maternity Hospital and the Coombe Women and Infants University Hospital), whose support is very much appreciated. Despite this restricted service, overall activity figures were closely in line with 2017 figures with the admission of 112 extremely low birth weight (ELBW) infants. A slight increase in the admission numbers of babies >2.5kgs resulted in only a very slight decrease in overall admission numbers for 2018. Overall survival and survival without key neonatal morbidities was lower than in previous years (Table 2.4), although the acuity of patients admitted to the NICU was also higher. This is reflected in an increase in the proportion of ICU/HDU care days from approximately 40% between 2014-2107 to almost 50% of total care days in the NICU during 2018 (Table 1.2). Presumably this reflects the fact that priority for inpatient delivery during times of reduced capacity was given to the sickest babies with more robust babies being transferred to an alternative centre in the neonatal network.

Our commitment to avoid unnecessary separation of mother and baby in the newborn period is again reflected in this year's figures. Over 900 babies received treatment (e.g. intravenous antibiotics and/or phototherapy) at their mothers' bedside representing a continued increase in the number of babies successfully treated in the postnatal ward, thereby avoiding admission to the NICU. This practice facilitates bonding and breastfeeding initiation.

In May 2018 having reviewed best medical evidence from centres worldwide, in addition to our own data and data from other Irish centres, we extended the gestational age at which we offer resuscitation and intensive care downwards to 23+0 weeks' gestation. As always, we continue to work very closely with our obstetric colleagues to ensure that conditions are optimized for care of the periviable infant and that all decisions at the border of viability are multidisciplinary, including parental input.

Hypoxic Ischaemic Encephalopathy (HIE)

Capacity limitations due to renovation works resulted in only one baby being transferred in to the Rotunda from an external hospital during 2018 for therapeutic hypothermia. That baby had signs of moderate encephalopathy without seizures and completed 72 hours of therapeutic hypothermia. On brain MR imaging a punctate

area of restricted diffusion in the posterior limb of the internal capsule bilaterally was evident. At 4 months assessment this baby was doing well with normal neurodevelopmental progress, and was discharged at that time to the local paediatrician for ongoing neurodevelopmental surveillance.

Eight inborn babies were admitted with moderate or severe encephalopathy. All eight babies completed 72 hours of therapeutic hypothermia. Of the five babies with moderate encephalopathy, two had abnormal brain MR imaging showing watershed/white matter injury. All five babies have subsequently done well with only one child showing signs of mild developmental problem (central hypotonia associated with mild gross motor delay and early hand preference). Three babies were classified as having severe encephalopathy. Two of these babies had normal brain imaging and have normal neurodevelopmental progress to date. The remaining baby had evidence of global diffuse cortical ischemia with some sparing of the deep grey nuclei and the peri-rolandic cortex. This baby has evolving dyskinetic cerebral palsy with associated cortical blindness and is linked with disability services.

Specialist Cardiology Services

The Rotunda has well established links with pediatric cardiology. Dr. Orla Franklin (Consultant Pediatric Cardiologist) attends the neonatal unit weekly and provides formal cardiology assessment including echocardiography. In 2018, she assessed 158 babies in the NICU. The most common indication for assessment was prematurity-related heart disease. This figure does not include babies transferred with known duct-dependent cardiac malformations or other babies transferred directly from the Rotunda to Our Lady's Hospital, Crumlin for review. The Department of Neonatology also has on-site routine haemodynamic and cardiovascular assessment through Prof. Afif El-Khuffash (Consultant Neonatologist) who has extensive training and experience with neonatal echocardiography.

National Neonatal Transport Program (NNTP)

The National Neonatal Transport Programme (NNTP) continued to provide its country-wide retrieval and outreach services in 2018, its 17th year. Dr. Hana Fucikova was appointed to a permanent consultant neonatal transport physician role and this has facilitated the introduction of transport-specific, critical care consultant cover. Since September 2018, a consultant neonatologist is available to directly deliver care during retrieval, on a 24/7 basis. This has improved the NNTP teams' capabilities and enhanced the learning opportunities for non-consultant hospital doctors. The NNTP's outreach education programme saw its busiest year yet, with the delivery of 14 STABLE courses together with 34 other transport-related focused training sessions in neonatal units around the country, delivered by Ms. Ann Bowden (NNTP Coordinator) and her team of instructors.

The total number of infants transported by the NNTP in 2018 was 577. Of these, 349 (60%) involved a hospital outside the greater Dublin area. The Rotunda received 37 (6.4%) of these infants. This figure represents 14.5% of the total number (124) of NNTP transports referred for neonatal management to the three Dublin maternity Hospitals in 2018. This is significantly lower than previous years reflecting prolonged closure of the Rotunda NICU to external referrals due to renovations.

The Rotunda Hospital also used the NNTP service to transfer out 77 infants. Of these, 59 (77%) were referrals for paediatric surgical and cardiac management. Two infants were transferred to another Dublin NICU due to inadequate space in the Rotunda NICU and 18 (23%) were returns to hospitals outside Dublin.

The NNTP team from the Rotunda conducted 31% (178) of the total number (577) of NNTP transports in 2018. Transports outside the greater Dublin area accounted for 48% of total transports and included one transfer to the UK.

Paediatric Outpatients

There were 8,771 neonatal outpatient attendances in 2018. Of these 5,150 were new appointments. Despite all efforts , the non-attendance rate remains high at almost 15% overall (13% for new appointments and 17% for return appointments). Strategies to reduce non–attendance continues to be a key area to keep under review for 2019.

Specialist Neurology Clinic

We are very fortunate to have Prof. Mary King as a valued member of our team. The availability of a senior neurologist for both inpatient consultation and also outpatient review in a dedicated neurology clinic greatly facilitates prompt access to specialist neurology services.

In total, 39 babies (21 new referrals) were seen in the neurology clinic. The reasons for referral included follow-up after therapeutic hypothermic treatment in the newborn period, developmental delay and abnormal neurological examination.

Neonatal Developmental Screening Program

The Neonatal Developmental Screening Program formally assesses the development of babies with a birthweight < 1,500g, and those with a history of Hypoxic Ischaemic Encephalopathy (HIE). Assessment is via the Bayley Scales of Infant and Toddler Development, third edition (BSIT-3) at 2 years corrected gestational age (preterm population) and 2 years chronological age (term population). Using BSIT-3, scaled scores ≥ 8 are within or above the typical/normal range. Scaled scores of 5-7(composite score equivalent 75-85) are considered borderline and scaled scores ≤ 4 (composite score equivalent 55-70) are within the significantly abnormal range. The domains assessed include gross motor skills, fine motor skills, expressive and receptive language skills and cognition.

Up to 2015, formal developmental screening had been performed by our esteemed colleague Dr. Susan Keane. Following her retirement the importance of maintaining a high standard of neurodevelopmental follow-up was recognised and so work began on creating a model of care that would ensure all high-risk babies would continue to receive formal assessment. This culminated in 2018 with the appointment of a senior clinical psychologist, Dr. Liezl Wienand, to our team. Dr. Wienand has a very strong background

in developmental assessment of young children and will be commencing in The Rotunda in January 2019.

In the interim, since Dr. Keane's retirement, assessments have been performed by either a senior paediatric fellow or an assistant psychologist. In 2018, due to limited availability of personnel trained in these formal assessments, only 26 children were offered evaluation. All of the 26 children offered assessments were very low birth weight (VLBW) babies. Developmental scores are available on all of these children. 23 children (89%) showed outcomes within the normal range across all domains of the BSIT-3. One child (4%) had scores in the borderline range across all domains. In two cases (8%), children had scores in the Extremely Low/Abnormal range for developmental outcomes across all domains.

Paediatric Infectious Disease (ID) Service and Rainbow Clinic

The paediatric infectious disease service is delivered by a paediatric specialist who works in close liaison with the Rotunda obstetric infectious disease service (DOVE team) and also in liaison with the national paediatric ID service, known as the Rainbow team. The paediatric ID specialist manages and follows up all infants born to women with infectious diseases which can be transmitted to the infant in-utero, peripartum or postpartum. This includes HIV, Hepatitis C, Hepatitis B, syphilis, Chlamydia trachomatis, Neisseria gonorrhoea, herpes simplex, TB, malaria, genital HPV and other sexually transmitted infections. Infants with common neonatal infections, such as conjunctivitis and skin infections are also referred to this specialist paediatric clinic.

In addition, the paediatric ID specialist manages all infants with congenital CMV and toxoplasmosis on a local and national basis via liaison with paediatricians nationwide. In 2018, 366 infants were referred to the Rotunda Rainbow Clinic for specialist follow-up.

Successes and Achievements 2018

Enhancing Patient Care

The need for repairs to the NICU after the fire of 2017 provided a much anticipated opportunity to renovate and modernise the unit. Unfortunately, due to space restrictions an ideal incubator/cot spacing was not possible, and therefore throughout the works an emphasis was placed on design that would help enhance the environment. Infrastructural improvements include state-of-the-art air conditioning, which ensures a complete exchange of air in the main NICU every three seconds, and lighting which allows different zones of the unit to be lit or dimmed independently of each other as needed. In addition, significant investment was made in equipment with the purchase of high-tech modern incubators, respiratory drivers and monitors so that each patient space is streamlined and clearly delineated with an individual monitor for access to the MN-CMS electronic healthcare record. Not only is the NICU now a much brighter, more modern area for both parents and staff but importantly it is a safer place for babies as the enhanced environment helps to reduce infection risk. Despite renovations, space limitations and a lack of isolation facilities remain a critical challenge for the future.

In conjunction with the renovations in 2018, many very generous donations were received from families through the Rotunda Foundation. These funds provide tremendous support to various initiatives in the unit and also assist in the purchase of specialist equipment. Donations raised in 2018 have assisted with the purchase of bespoke isolation screens, comfortable reclining chairs for parents, blanket warming cabinets and a digital x-ray reading system. Donations have also helped to continue the "beads of courage" program. The Rotunda has pioneered this initiative in Ireland in recognition of the need to support and involve parents and families through their NICU journey. Another important initiative in the Rotunda is the "tentacles for tinies" programme which continues thanks in no small part to the Rotunda Knitters.

Every year, including 2018, an annual party for NICU graduates when they reach two years of age is held. Held annually on World Prematurity Day, all babies born <1,500 grams who have or are due to turn two years old within the year are invited back to the Rotunda for a party. This is a lovely day for past families and staff, and remains a great source of hope and inspiration for families currently undertaking their NICU journey.

Education & Training

The Neonatal unit remains committed to supporting all staff with ongoing education and professional development. This is pivotal in ensuring that a high standard of nursing care is provided to sick neonates and their families.

Four staff were sponsored to undertake the RCSI Postgraduate Diploma in Neonatal Nursing and a further ten staff attended both 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' in the Centre for Midwifery Education, both of which are approved by NMBI at Category Level 1.

The hospital continues to actively recruit nurses for the neonatal unit. This resulted in a significant number of new nurses joining the neonatal team in 2018. Our Clinical Skills facilitators, Jeyanthi Sukumaran and Anu Garg, provide ongoing support for new staff during their orientation period and beyond. The specialist role of clinical skills facilitators is a very important resource for the unit, and it is hoped to further develop this role and plan to introduce regular neonatal workshops facilitated by clinical skills facilitators in 2019.

The work of Advanced Nurse Practitioners (ANPs) Ms. Christine Mc Dermott, Ms. Edna Woolhead and Mr.Mark Hollywood is also acknowledged. They have made tremendous advances in their roles within nursing education and the advancement of specialist neonatal nursing. They have major roles within curriculum development, assessment and teaching on the Postgraduate Diploma (Nursing) in Neonatal Intensive Care and also on the 'Principles of High Dependency Neonatal Care' and 'Principles of Neonatal Intensive Care' programmes. They continue to play a major role in Neonatal Resuscitation training (NRP) nationally and facilitated two national NRP instructor programmes in 2018. They also provide continued medical education on midwifery study

days and lectures for HDip and BSc Midwifery students in Trinity College Dublin. The STABLE program is another national education program facilitated by our ANPs.

Research

The importance of good quality medical research is well recognised within our unit. This helps to foster an environment where practice follows evidence-based guidelines and also creates an environment which is conducive to medical research. The Department of Neonatology continues to actively participate in research trials with a number of single-centered trials and one multicentered trial ongoing in the unit.

During 2018 there were a total of eight higher degree candidates in the department: Dr. Raga Malika, Dr. Colm Brethnach, Dr. Adam Reynolds, Dr. Nurul Aminudin, Dr. Neidin Bussmann, Dr. Patrick McCrossan, Dr. Aisling Smith, Dr. Kamelia Krysiak.

A number of other research and audit projects undertaken by our clinical non-consultant hospital doctors at all levels (specialist registrar, registrar, senior house officer and academic intern) were also facilitated in 2018.

Challenges 2018

As can be imagined, the challenges of maintaining a busy neonatal unit in the midst of renovation works were considerable. The renovation works took part in three main phases commencing in the HDU area followed by the main intensive care area and finishing in the special care wing. These works necessitated rolling closures and the adaption of postnatal wards as temporary special baby care areas. Ongoing infrastructural challenges have been compounded by low nurse-to-baby ratios within the unit. Significant resources were invested in nursing recruitment over 2018 and it is reassuring to note a continued improvement in nursing numbers from a nadir of 65 whole time equivalents (WTE) in 2017 to 72 WTE by the end of 2018.

We would like to thank all our staff and parents for their great patience and understanding during the period of the renovation works.

Despite the significant improvement in electrical wiring, gas delivery, air-handling, lighting and overall appearance of the NICU at the end of 2018, the renovations have not resulted in significant additional space. Currently, each incubator area has $5m^2$ of surrounding space, while minimal international standards requires $15m^2$ of space. On many occasions in times of increased occupancy, some incubators are only one metre apart, while the minimum accepted standard is three metre separation between incubators. This lack of space results in significant increased risk of transmission of infection, even with maximal hand-hygiene standards. It also greatly limits parents access to their babies in a comfortable, private and hygienic manner. Expressing breast milk at the cot-side is greatly limited when only one metre of space separates babies.

Plans for 2019

Although infrastructural work in 2018 has modernized and improved our unit considerably, we are aware of the infrastructural limitations that remain. These limitations are most notable in our ICU/HDU areas where we have no isolation facilities and a very limited area for each patient space.

While an eventual relocation of the Rotunda to the Connolly campus is planned, this will likely take a minimum of 10-15 years to achieve. In the interim, continued work is ongoing to improve the physical structure for the NICU on the Rotunda Campus.

In addition to improvements in physical structure we recognise the importance of optimum nurse-to-baby ratios to ensure optimum care. We have committed to continue our investment in nursing recruitment and hope to reach our target of 86 WTE neonatal nurses in the near future.

In addition to acute neonatal services we recognise the importance of very robust and thorough neurodevelopmental follow-up. To complement the appointment of a permanent psychologist, during 2019 we aim to strengthen links with neurodevelopmental services in the Children's Hospitals to aid faster and more efficient referral of babies to intervention services.

“I’ve had many proud memories, but the proudest is when babies that were critically ill and looked like they may not survive come back to clinic and are doing well..... especially when parents email me videos of them running around as toddlers or send photos of their first day at school. Really reflects the hard work of an amazing NICU team and reassures us that although, sadly, all don’t make it or do well, most do.”

Dr. Adrienne Foran
Consultant Neonatologist


DYLAN
FIRST AID

Table 1.1: Admissions and discharges to the neonatal unit

	2014	2015	2016	2017	2018
Admissions*	1,439	1,311	1,262	1,146	1,116
Discharged alive	1,416	1,273	1,213	1,094	1,114
Infants > 1,500 grams	1,302	1,145	1,089	975	1,097
Infants Treated on Ward	846	752	911	773	967

*Infants are not always admitted and discharged within the same clinical year

Table 1.2: Categories of Neonatal Care*

	2014	2015	2016	2017	2018
Total Number of Intensive Care Days	1,976	2,145	2,084	1,855	1,568
Total Number of High Dependency Care Days	2,723	2,463	2,431	2,343	3,403
Total Number of Special Care Days	6,804	6,517	6,264	6,222	5,081

* British Association of Perinatal Medicine. Categories of Care 2011.

Table 1.3: Admissions to the Neonatal Unit by Birth Weight

	2014	2015	2016	2017	2018
<500gms	0	0	0	2	2
500 – 1,000g	37	46	50	51	44
1,001 – 1,500g	77	82	74	68	63
1,501 – 2,000g	141	143	120	117	128
2,001 – 2,500g	194	175	168	178	160
Over 2,500g	967	827	801	680	719
Total discharged	**1,416**	**1,273**	**1,213**	**1,096**	**1,116**

Table 1.4: Admissions to the Neonatal Unit by indication

	2014	2015	2016	2017	2018
Respiratory Symptomatology	532	523	497	458	464
Prematurity < 37 weeks	387	346	317	332	401
Jaundice	405	347	294	326	328
Low birth weight < 2.5kg	276	257	237	246	397
Hypoglycaemia	217	196	141	200	184
Congenital abnormalities	191	184	181	174	184
Suspected sepsis	31	40	35	28	36
Hypoxic Ischaemic Encephalopathy (HIE)	28	29	13	25	12
Neonatal Abstinence Syndrome(NAS)	24	28	18	16	21
Dehydration	14	16	14	16	11
Seizures	22	8	12	8	9
Social	10	5	7	8	4
Gastro-intestinal symptoms	10	11	5	3	3

* Some infants are assigned more than one reason for admission

Table 1.5: Respiratory morbidity in term infants > 37 weeks admitted to the neonatal unit

	2014	2015	2016	2017	2018
Respiratory distress syndrome (RDS)	243	250	230	247	340
Transient Tachypnoea of the Newborn (TTN)	285	257	263	209	156
Congenital Pneumonia	8	15	27	19	12
Meconium Aspiration Syndrome (MAS)	18	5	9	14	9
Pulmonary Hypoplasia	3	1	3	9	1
Stridor	13	15	4	4	1
Congenital Diaphragmatic Hernia (CDH)	5	6	2	2	1
Tracheo-Oesophageal Fistula	0	1	1	2	2
Congenital Cystic Adenomatoid Malformation (CCAM)	0	1	0	1	2
Air leak	0	0	0	0	0
Laryngomalacia	2	1	2	0	1

Table 1.6: Congenital heart disease in infants admitted to the neonatal unit

	2014	2015	2016	2017	2018
Patent Ductus Arteriosus (PDA)	61	69	68	55	62
Dysrhythmia	52	63	49	38	55
Ventricular Septal Defect (VSD)	25	25	23	36	30
Persistent Pulmonary Hypertension Of The Newborn (PPHN)	47	36	41	35	27
Atrial Septal Defect (ASD)	24	21	21	11	13
Atrioventricular Septal Defect (AVSD)	3	3	5	4	2
Transposition Of The Great Arteries (TGA)	1	5	3	6	6
Tetralogy of Fallot	4	3	2	4	1
Hypoplastic Left Heart Syndrome (HLHS)	2	4	4	3	1

Table 1.7: Gastrointestinal abnormalities in infants admitted to the neonatal unit

	2014	2015	2016	2017	2018
Omphalocele	3	3	10	4	5
Inguinal Hernia	6	11	8	15	4
Tracheo-Oesophageal Fistula	0	1	1	4	3
Imperforate Anus	2	2	7	4	2
Cleft Lip	1	3	1	2	2
Isolated Cleft Palate	0	4	2	7	1
Spontaneous Perforation	2	2	0	2	1
Bowel Atresia	0	0	1	1	1
Pyloric Stenosis	0	0	0	0	1
Gastroschisis	3	3	1	0	0

Table 1.8: Central nervous system abnormalities in infants admitted to the neonatal unit

	2014	2015	2016	2017	2018
Neonatal Abstinence Syndrome (NAS)	24	28	18	16	21
Seizures not associated with HIE	22	8	12	8	9
Meningitis	8	11	7	10	7
Microcephaly	4	2	3	6	4
Hydrocephalus	4	2	5	3	4
Erb's Palsy	6	0	0	3	2
Schizencephaly	2	3	2	1	2

Table 1.9: Metabolic/endocrine/haematological abnormalities in infants admitted to the neonatal unit

	2014	2015	2016	2017	2018
Hypoglycaemia	217	196	141	200	184
Anaemia of Prematurity	81	93	75	81	72
Polycythaemia	30	39	17	36	44
Thrombocytopaenia	39	47	28	39	34
Hyperglycaemia	21	19	20	31	29
Haemolytic Disease Of Newborn	39	14	13	27	19
Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH)	4	6	5	7	17
Anaemia (not associated with prematurity)	6	8	7	8	10
Hypothyroidism	2	3	4	1	4
Galactosemia	0	1	0	1	2
Disseminated Intravascular Coagulopathy	31	19	4	7	0

Table 1.10: Chromosomal abnormalities in infants admitted to the neonatal unit

	2014	2015	2016	2017	2018
Trisomy 21 (Down Syndrome)	27	14	22	18	23
Trisomy 18 (Edwards Syndrome)	1	0	0	2	1
Trisomy 13 (Patau Syndrome)	0	0	0	2	1

Table 1.11: Jaundice in term infants > 37 weeks admitted to the neonatal unit

	2014	2015	2016	2017	2018
Non-Haemolytic Jaundice	146	130	129	121	114
Haemolytic Jaundice					
— ABO Incompatibility	35	14	11	27	16
— Rhesus Incompatibility	6	2	4	5	5

Table 2.1: Babies Admitted to NICU with Birth Weight ≤ 1,500gms and/or <29+6 Weeks' Gestation

	2014		2015		2016		2017		2018	
	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies
Infants < 401g but ≥22+0 weeks gestation	2	2	0	0	0	0	0	0	2	2
Infants 401-500g	7	7	0	0	2	1	3	2	2	2
Infants 501-1,500g	126	101	124	108	118	87	111	92	104	94
Infants > 1,500g but ≤29+6 weeks gestation	0	0	5	5	2	0	1	1	1	1
Total	**135**	**110**	**129**	**113**	**122**	**88**	**115**	**95**	**109**	**99**

Table 2.2.2: Survival to Discharge for Babies born ≤ 1,500gms and/or <29+6 Weeks' Gestation - Based on Gestational age & Excluding Babies with Congenital Anomalies

	2018 Inborn			2018 Outborn			2018 Total (Inborn & Outborn)			2017 (Inborn & Outborn)		
	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 22 Weeks	1	0	0	-	-	-	1	0	0	1	0	0
22^{+0}—22^{+6}	4	0	0	1	0	0	5	0	0	3	0	0
23^{+0}—23^{+6}	10	1	10	-	-	-	10	1	10	1	0	0
24^{+0}—24^{+6}	6	5	83	1	0	0	7	5	71	7	4	57
25^{+0}—25^{+6}	6	5	83	1	1	100	7	6	86	9	6	67
26^{+0}—26^{+6}	10	9	90	4	3	75	14	12	86	6	5	83
27^{+0}—27^{+6}	9	8	89	2	2	100	11	10	91	15	11	73
28^{+0}—28^{+6}	4	4	100	2	2	100	6	6	100	16	16	100
29^{+0}—29^{+6}	11	9	82	1	1	100	12	10	83	9	9	100
30^{+0}—30^{+6}	14	14	100	1	1	100	15	15	100	15	15	100
31^{+0}—31^{+6}	5	4	80	-	-	-	5	4	80	8	8	100
32^{+0}—32^{+6}	6	6	100	-	-	-	6	6	100	4	4	100
>32 weeks	3	3	100	-	-	-	3	3	100	3	3	100
Total	89	68	76	13	10	77	102	78	76	97	81	84

Table 2.3.1: Survival to discharge for Babies born ≤ 1,500gms and/or <29+6 Weeks' Gestation - Based on Birth Weight & Including Babies with Congenital Anomalies

	2018 Inborn			2018 Outborn			2018 Total (Inborn & Outborn)			2013-2017 Aggregate		
Birth weight grams	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%
< 501	7	1	14	1	0	0	8	1	13	17	1	0.06
501-600	9	2	22	-	-	-	9	2	22	39	11	28
601-700	7	3	43	1	0	0	8	3	38	43	25	58
701-800	8	6	75	1	1	100	9	7	78	41	34	83
801-900	8	8	100	2	1	50	10	9	90	62	48	77
901-1,000	10	8	80	1	1	100	11	9	82	48	45	94
1,001-1,100	2	2	100	4	4	100	6	6	100	67	56	84
1,101-1,200	9	8	89	1	1	100	10	9	90	64	60	94
1,201-1,300	12	11	92	1	1	100	13	12	92	86	84	98
1,301-1,400	12	12	100	1	1	100	13	13	100	61	53	87
1,401-1500	15	12	80	-	-	-	15	12	100	103	101	98
Total	**99**	**73**	**74**	**13**	**10**	**77**	**112**	**83**	**74**	**638**	**520**	**82**

Table 2.3.2: Survival to discharge for Babies born ≤ 1,500gms and/or <29+6 Weeks' Gestation—Based on Birth Weight & Excluding Babies with Congenital Anomalies

	2018 Inborn			2018 Outborn			2018 Total (Inborn & Outborn)			2013-2017 Aggregate		
Birth weight grams	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%
< 501	7	1	14	1	0	0	8	1	13	3	0	0
501-600	8	2	25	-	-	-	8	2	25	3	0	0
601-700	7	3	43	1	0	0	8	3	38	4	2	50
701-800	6	6	100	1	1	100	7	7	100	8	5	63
801-900	8	8	100	2	1	50	10	9	90	9	6	67
901-1,000	10	8	80	1	1	100	11	9	82	13	12	85
1,001-1,100	2	2	100	4	4	100	6	6	100	11	11	100
1,101-1,200	8	7	88	1	1	100	9	8	89	6	6	100
1,201-1,300	9	9	100	1	1	100	10	10	100	13	12	79
1,301-1,400	10	10	100	1	1	100	11	11	100	6	6	100
1,401-1500	14	12	86	-	-	-	14	12	86	21	21	100
Total	**89**	**68**	**76**	**13**	**10**	**77**	**102**	**78**	**76**	**97**	**81**	**84**

Table 2.4: Morbidity Data (Including Babies with Congenital Anomalies)

	Rotunda 2018 (n=112)			Vermont Oxford Network 2018 Birth Year Comparison Data		Rotunda 2013-2017 Aggregate		
	n	**Cases**	**%**	**n**	**%**	**n**	**Cases**	**%**
Inborn	112	99	88	60,979	88	639	580	91
Male	112	57	51	60,942	51	639	342	54
Antenatal Steroids: All Infants	108	86	80	60,593	85	608	520	86
Multiple Gestation	111	26	23	60,961	25	639	236	37
Antenatal Magnesium Sulphate	110	74	67	60,220	61	585	354	61
Caesarean Delivery	112	74	69	60,932	72	637	454	71
Any Major Birth Defect	111	10	9	60,931	6	636	107	17
Small for Gestational Age	112	20	18	60,865	25	637	141	22
Surfactant Administered in Delivery Room	110	55	50	60,807	21	629	377	60
Surfactant Administered at Any Time	110	72	66	60,836	56	628	413	66
Any Ventilation	58	103	56	58,993	56	594	331	56
Ventilation After Early CPAP	47	22	47	31,930	38	161	85	53
Conventional Ventilation	103	57	55	59,005	54	594	324	55
High Frequency Ventilation	103	8	8	58,972	20	591	91	15
Nasal IMV/SIMV	103	0	0	57,899	0.7	228	1	0
Nasal Continuous Positive Airway Pressure (CPAP)	101	80	79	58,976	77	596	499	84
CPAP Before or Without Intubation and/or Ventilation	85	47	55	49,377	65	521	191	37
High Flow Nasal Cannula	33	12	36	41,124	16	595	192	32
Inhaled Nitric Oxide	102	10	10	58,822	5	597	77	13
Respiratory Distress Syndrome	99	91	92	59,001	72	594	532	90
Pneumothorax	71	5	7	51,108	3	596	49	8
Chronic Lung Disease	71	15	21	51,109	23	479	82	17
Chronic Lung Disease in Infants < 33 Weeks	67	15	22	46,504	25	446	80	18
Corticosteroids for Chronic Lung Disease	99	3	3	58,912	11	596	36	6
Early Bacterial Infection	103	2	2	58,985	1	592	15	3
Late Bacterial Infection	71	7	10	51,109	6	570	33	6
Coagulase Negative Staphylococcus Infection	71	4	6	51,109	4	570	49	9
Nosocomial Bacterial Infection	71	9	13	51,108	9	572	74	13
Fungal Infection	71	0	0	51,109	1	571	1	0
Any Late Infection	71	9	13	51,108	9	570	74	13
Necrotizing Enterocolitis (NEC)	71	4	6	51,109	4	595	56	9
NEC requiring Surgery	102	9	9	59,015	5	597	13	2
Focal Gastrointestinal Perforation	100	0	0	58,967	2	596	4	0
Probiotics	98	82	84	58,975	17	585	435	74
Patent Ductus Arterious (PDA)	101	34	34	58,898	25	597	225	38
Ibuprofen for PDA	100	4	4	58,832	6	597	75	13
PDA ligation	103	0	0	59,011	3	597	11	2
Retinopathy of Prematurity (ROP)	71	20	28	51,109	24	493	134	27
Severe ROP (Stage 3 or greater)	71	1	1	51,109	5	457	26	6
Anti-VEGF treatment for ROP	101	0	0	58,598	2	481	117	24
Intraventricular haemorrhage (IVH):	71	17	24	51,079	20	569	174	31

Table 2.4: Morbidity Data (Including Babies with Congenital Anomalies) CONTINUED

	Rotunda 2018 (n=112)			Vermont Oxford Network 2018 Birth Year Comparison Data		Rotunda 2013-2017 Aggregate		
	n	Cases	%	n	%	n	Cases	%
Severe IVH (Grade 3 or 4)	71	3	4	51,109	5	569	60	11
Cystic Periventricular Leucomalacia (PVL)	71	3	4	51,109	3	580	11	2
Mortality	100	29	29	60,038	15	626	117	19
Mortality excluding Early Deaths	91	20	22	57,416	11	578	69	12
Survival	100	71	71	60,038	85	626	509	81
Survival without specified morbidities	100	40	40	59,837	57	626	342	55

Nosocomial Infection: defined as late bacterial infection or coagulase negative staphylococcus infection.
Any late infection: defined as any late bacterial, coagulase negative staphylococcus infection or fungal infection after Day 3.
Mortality: defined as death at any time prior to discharge home or prior to first birthday. It is applicable to all infants in whom survival status is known. In this table it only includes infants 501-1,500g and it includes infants with major congenital anomalies.
Survival: Indicates whether the infant survived to discharge home or first birthday.
Survival without Specified Morbidities: Indicates whether the infant survived with none of the following key morbidities: Severe IVH, CLD<33 weeks, NEC, pneumothorax, any late infection or PVL.

Table 2.5: Shrunken Standardised Mortality and Morbidity Rates

	Rotunda 2018				Rotunda 2015-2017			
Measure	n	SMR*	Lower 95%	Upper 95%	n	SMR	Lower 95%	Upper 96%
Mortality	92	1.2	0.8	1.7	340	1.1	0.8	1.4
Mortality Excluding Early Deaths	88	1.3	0.8	1.9	322	1.0	0.7	1.4
Death or Morbidity	92	1.1	0.9	1.4	340	1.0	0.8	1.1
Chronic Lung Disease (CLD)	72	1.0	0.6	1.4	273	0.8	0.6	1.0
CLD: Infants < 33 Weeks	67	1.0	0.6	1.4	258	0.8	0.6	1.0
Necrotizing enterocolitis	98	1.4	0.8	2.3	335	1.8	1.2	2.4
Late Bacterial Infection	92	1.2	0.6	1.9	323	0.8	0.5	1.1
Coagulase Negative Staphylococcus	92	1.6	0.7	2.8	323	1.6	1.1	2.2
Nosocomial Infection	92	1.2	0.7	1.9	323	1.1	0.8	1.5
Fungal Infection	92	0.2	0.0	1.4	324	0.1	0.0	0.7
Any Late Infection	92	1.2	0.7	1.8	323	1.1	0.8	1.4
Any Intraventricular Haemorrhage (IVH)	88	1.1	0.8	1.5	323	1.6	1.3	1.9
Severe IVH (Grade 3 or 4)	88	0.9	0.6	1.4	323	1.6	1.2	2.0
Pneumothorax	99	1.2	0.7	1.9	336	1.5	1.1	2.1
Cystic Periventricular Leucomalacia (PVL)	87	1.3	0.5	2.6	330	0.6	0.3	1.2
Retinopathy of Prematurity (ROP)	49	1.2	0.8	1.6	256	0.6	0.5	0.8
Severe ROP (Stage 3 or greater)	49	0.6	0.2	1.4	256	1.3	0.8	1.9

*Shrunken standardised morbidity/mortality ratio (SMR) and its 95% confidence intervals indicate whether the center has more or fewer infants with the outcome than would be expected given the characteristics of infants treated.
If the upper 95% confidence interval is <1, the center has fewer infants with the outcome than expected.
If the lower 95% confidence interval is >1, the center has more infants with the outcome than expected.
If the lower and upper 95% intervals include 1, then the number of infants with the outcome is not significantly different from the number of infants expected, after adjusting for the characteristics of the infants treated.
The model is adjusted for gestation, gender, 1 minute Apgar score, mode of delivery, presence of congenital malformations, and whether baby is inborn or outborn.

Table 3: Neonatal Mortality Data*

Birth Weight (grams)	Gestation	Delivery	Apgars (1 and 5 minutes)	Age at Death	Principal Cause of Death
No Congenital Anomalies					
390	24+4	Caesarean Section	1; 2	DRD	Maternal Pre- Eclampsia. Severe Intrauterine Growth Restriction and Extreme Prematurity. Decision for comfort care only
480	23+1	Spontaneous Vaginal Delivery	1; 7	Day 9	Extreme Prematurity. Recurrent pneumothoraces. Large interventricular hemorrhages associated with an intraparenchymal hemorrhage
500	23+0	Spontaneous Vaginal Delivery	Not Documented	5 hours	Extreme Prematurity. Out of hospital Delivery. Respiratory Failure
520	29+1	Caesarean Section	5; 9	Day 14	Severe Intrauterine Growth Restriction. Respiratory failure secondary to Ventilator Associated Pneumonia (MRSA)
530	23+2	Induced Vaginal Delivery	1; 0	DRD.	Extreme Prematurity and E-coli Sepsis. Decision for comfort care measures only
535	23+2	Spontaneous Vaginal Delivery	3; 2	Day 6	E coli Sepsis and Necrotizing Enterocolitis with Refractory Hypotension
555	23+1	Spontaneous Vaginal Delivery	9; 10	Day 2	Necrotizing Enterocolitis
580	23+2	Spontaneous Vaginal Breech Delivery	3; 5 minute Apgar not documented	Day 6	Necrotizing Enterocolitis and E coli Sepsis with Refractory Hypotension
590	23+5	Spontaneous Vaginal Delivery	5; 7	Day 2	Extreme prematurity. Large interventricular hemorrhages associated with an intraparenchymal hemorrhage
650	26+2	Caesarean Section	5; 5	Day 2	Respiratory Failure secondary to Pulmonary Hypoplasia with persistent pulmonary hypertension
655	23+5	Caesarean Section	4; 8	Day 10	Sepsis (E Coli and MRSA)
680	23+2	Induced Assisted Breech vaginal Delivery	4; 1	DRD	Extreme Prematurity and E-coli Sepsis. Decision for comfort care measures only
695	23+4	Spontaneous Vaginal Breech Delivery	4; 8	Day 8	Extreme Prematurity. Bilateral Chylothoraces with Cardiorespiratory Arrest
700	24+0	Spontaneous Vaginal Delivery	1; 3	Day 9	Klebsiella/Staphylococcus Epidermis Sepsis
750	24+2	Spontaneous Vaginal Delivery	5; 7	Day 31	Perforated Necrotizing Enterocolitis. Large interventricular hemorrhages associated with a Left Porencephalic Cyst. Patent Ductus Arteriosus
990	25+6	Spontaneous Vaginal Delivery	7; 7	Day 42	Necrotizing Enterocolitis
1,020	29+0	Spontaneous Vaginal Delivery	Not Documented	Unknown	Born out of Hospital. No signs of Life on arrival to Emergency Room
1,190	26+6	Spontaneous Vaginal Delivery	6; 7	Day 57	Conjugated Hyperbilirubinaemia. Massive hemorrhage post liver biopsy
1,360	29+0	Spontaneous Vaginal Delivery	Not Documented	Unknown	Born out of Hospital. No signs of Life on arrival to Emergency Room
1,460	31+0	Caesarean Section	9; 9	Day 10	Bilateral Large Interventricular hemorrhages associated with an intraparenchymal hemorrhage and post Hemorrhagic Hydrocephalus
1,640	29+5	Caesarean Section	0; 0	Day 3	Rhesus Immunization. Multiple Intrauterine transfusions (IUT) with acute hemorrhage mid IUT necessitating emergency delivery. Intraparenchymal Cerebral Hemorrhage; Renal Failure
1,860	30+4	Caesarean Section	5; 1	DRD	Rhesus Hemolytic Disease associated with Fetal Intracranial Hemorrhage and Fetal Hydrops
3,890	41+3	Caesarean Section	5; 1	DRD	Respiratory Failure secondary to Congenital Pneumonia

Table 3: Neonatal Mortality Data* CONTINUED

Birth Weight (grams)	Gestation	Delivery	Apgars (1 and 5 minutes)	Age at Death	Principal Cause of Death
Congenital Anomalies					
715	24+3	Caesarean Section	4; 4	Day 2	Extreme Prematurity. Congenital Pulmonary Airway Malformation. Pulmonary Hemorrhage with Cardiorespiratory Arrest
870	26+2	Spontaneous Vaginal Delivery	Not Documented	2 Hours	Patau Syndrome. Respiratory Failure
970	27+3	Caesarean Section	4; 7	Day 5	Congenital Diaphragmatic Hernia associated with Pulmonary Hypertension and respiratory Failure
1,250	29+5	Operative Vaginal Delivery	1; 5	Day 17	Congenital Myotonic Dystrophy associated with respiratory Failure and Gastrointestinal Dysmotility
1,450	27+0	Spontaneous Vaginal Delivery	Not Documented	DRD	Decision for comfort care measures only. Multiple congenital Anomalies consistent with VACTERL Association: ▪ ASD,VSD, Persistent left superior Vena Cava ▪ Subglottic Laryngeal/Tracheal Atresia ▪ Unilateral Multicystic Dysplastic Renal Dysplasia ▪ Meckels Diverticulum ▪ Anal Atresia
1,600	33+1	Caesarean Section	4; 5	Day 10	Unbalanced chromosomal Translocation, Refractory Chylothoraces.
1,620	36+3	Caesarean Section	7; 9	Day 2	Chromosomal Duplication , Neonatal Encephalopathy with Seizures,
1,980	37+0	Spontaneous Vaginal Delivery	7; 9	Day 18	Edwards Syndrome
2,230	30+2	Caesarean Section	4; 4	2 Hours	Conjoined (Thoraco-omphalo-pyopagus) Twins with Hypoplastic left heart in Twin A
2,430	38+5	Caesarean Section	4; 4	24 hours	Prune Belly Syndrome associated with bilateral multicystic kidneys, anuria and pulmonary hypoplasia
2,520	36+5	Induced Vaginal Delivery	4; 3	1 Hour	Absent Pulmonary Veins with Double Outlet Right Ventricle, Hypoplastic Left Heart .Multicystic Dysplastic Kidney
2,940	37+6	Induced Vaginal Delivery	7; 9	Day 13	Vein of Galen Malformation associated with high output cardiac failure, seizures and Ischaemic Injury on brain MRI
2,965	37+1	Induced Vaginal Delivery	8; 9	Day23	Omphalocele ,VSD and PDA
3,230	32+3	Caesarean Section	3; 3	Day 10	Fetal Hydrops, VSD

DRD - Delivery Room Death

VSD - Ventricular Septal Defect

* Stillbirths and babies delivered <23+0 weeks gestation are not included. Table includes babies born in 2017 who died in 2018.

Table 4.1: Hypoxic-Ischaemic Encephalopathy (HIE)

	2014		2015		2016		2017		2018	
	Inborn	**Outborn**	**Inborn**	**Outborn**	**Inborn**	**Outborn**	**Inborn**	**Outborn**	**Inborn**	**Outborn**
Total	21	9	15	11	7	9	22	9	13	1
Mild (Grade1)	13	-	9	2	4	-	12	-	5	-
Moderate (Grade 2)	5	4	6	6	2	8	8	6*	5	1
Severe (Grade 3)	3	5	1	3	1	1	2	3**	3	-
Therapeutic Hypothermia	7	8	7	10	3	8	10	8	8	1

Therapeutic Hypothermia continued in a single outborn infant with mild encephalopathy

One infant admitted outside the time window for initiation of therapeutic hypothermia

Therapeutic hypothermia discontinued early on two infants due to severe pulmonary hypertension.

One infant was not eligible for therapeutic hypothermia due to gestation age.

Table 4.2: Clinical Details of Newborns with signs of moderate to severe HIE

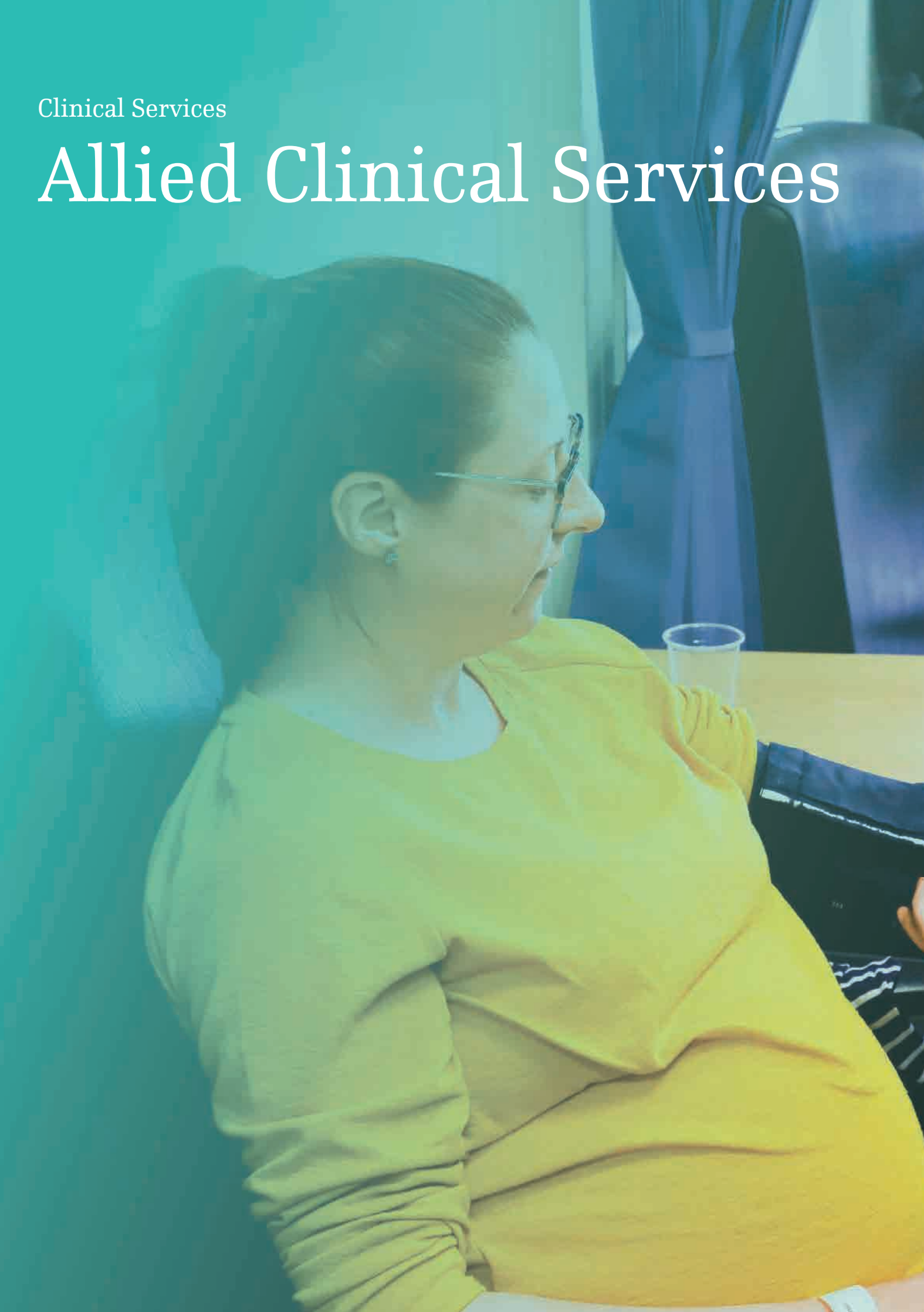
Grade HIE	Inborn/ outborn	Gestation	Mode of delivered	Arterial Cord Gas		Venous Cord Gas		1 Minute Apgar	
				pH	Base Excess	pH	Base Excess		
2	Outborn	40+2	Vacuum	-	-	-	-	2	
2	Inborn	37+5	EMCS	7.02	-13.5	7.05	-11.9	6	
2	Inborn	39+4	EMCS	6.9	-12	-	-	9	
2	Inborn	40+0	EMCS	6.92	-15.9	7.1	-13.6	2	
2	Inborn	41+2	Vacuum	7.05	-8.4	7.28	-	2	
2	Inborn	40+2	Vacuum	7.05	-8.4	7.28	7.05	2	
3	Inborn	40+4	SVD	6.9	-16.3	7.1	-13.2	3	
3	Inborn	41+4	EMCS	7.2	-11.0	-	7.2	4	
3	Inborn	36+0	EMCS	6.79	-20.8	6.85	-19.8	1	

EMCS= Emergency Caesarean Section; SVD= Spontaneous Vaginal Delivery; PLIC= Posterior limb of the Internal Capsule; ND= Not documented
***Further follow up locally**

	5 Minute Apgar	Therapeutic Hypothermia	Seizures	Brain MRI	Neurodevelopmental Progress	
					Outcome at Last Review	Age Assessed (months)
	3	Yes	No	Punctate area of restricted diffusion in PLIC bilaterally	Normal	4*
	6	Yes	Yes	Normal	Normal	6
	10	Yes	Yes	Acute White Matter Injury Right Centrum Semiovale, Corona Radiata bilaterally and bilateral Peritrigonal White Matter	Normal	10.5
	6	Yes	Yes	Diffusion restriction consistent with acute ischaemia in a watershed distribution	Mild Central Hypotonia with early hand preference and mild motor delay	10
	4	Yes	No	Normal	Normal	12
	4	Yes	No	Normal	Normal	12
	5	Yes	No	Normal	Normal	9
	10	Yes	Yes	Global diffuse cortical ischaemia with sparing of basal ganglia, hippocampi, peri-rolandic cortex and anterior thalami	Dyskinetic Cerebral Palsy associated with cortical blindness	12
	5	Yes	No	Normal	Normal	9

Clinical Services

Allied Clinical Services



Laboratory Medicine Service

Head of Service

Dr. Richard Drew, Clinical Director of Laboratory

Staff

Mr. John O Loughlin, Laboratory Manager
Ms. Susan Luke, Laboratory Quality Manager

Service Overview

The laboratory provides a full suite of tests across the disciplines of haematology/transfusion, pathology, microbiology and biochemistry. The laboratory also provides a 24/7 laboratory service, a phlebotomy service, as well as a point-of-care service. The mortuary and post-mortem services also are part of the laboratory services.

The service had another busy year in 2018. We maintained our ISO15189 and ISO22870 accreditation with the Irish National Accreditation Board (INAB). We extended our scope of accreditation to include all new tests and analysers. The introduction of the Maternal and Newborn Clinical Management System (MN-CMS) electronic healthcare record system was a challenge at the end of 2017 and this challenge continued well into 2018. The MN-CMS system resulted in significant changes in the way the department receives samples, orders and also how results are reported.

2018 also saw a relatively high turnover of staff in the department. New starters include Dr. Joanne O Gorman, who joined as a Consultant Microbiologist, Ms. Maria Cloptaru, who joined the phlebotomy team, and Ms. Francoise Coussay, who joined the mortuary staff. Several new medical scientists joined the team to replace outgoing staff. Ms. Lorna Pentony moved into the role of point-of-care coordinator and Mr. Ciaran Mooney took over as Laboratory IT coordinator.

Clinical Activity

The introduction of the MN-CMS initially saw a reduction in the number of tests being received by the laboratory. As the year progressed, and as ward staff became more familiar with the system, the number of tests steadily rose. There was a modest reduction in the number of haematology tests and a modest rise in blood transfusion samples and biochemistry samples. There was no significant change in microbiology sample numbers between 2017 and 2018. Histology saw an increase in workload across all sample types and saw a significant increase in workload from colposcopy and the Rotunda outpatient hysteroscopy service at Connolly Hospital, Blanchardstown.

Figure 1: Laboratory Workload — Summary Statistics

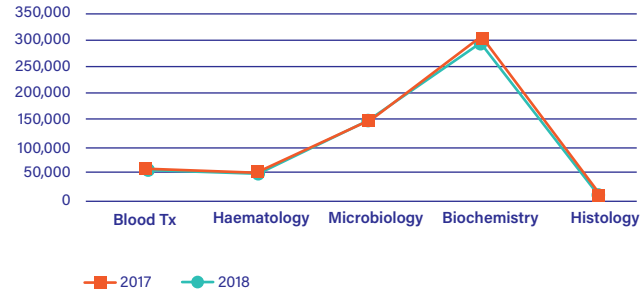
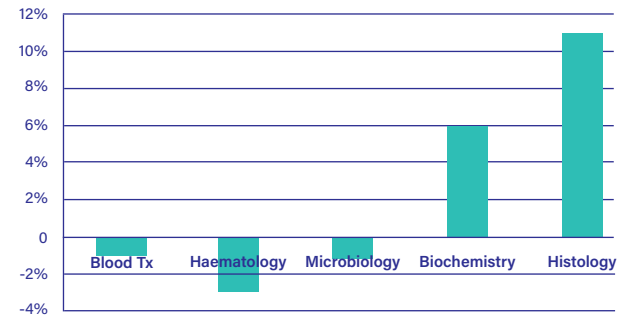


Figure 2: Change in workload(%) 2018 v 2017



Successes and Achievements 2018

The department continued to expand its scope of accreditation to ISO15189 standards. All new tests and equipment were added to the scope to ensure that a fully accredited service is being delivered for patients and users. Other significant achievements centred on the introduction and 'bedding-in' of the MN-CMS system.

Challenges 2018

The main challenge for the department in 2018 was the on-going provision of the 24/7 on-call service, in particular as the workload and repertoire of tests has been increasing steadily. The laboratory will review the 'on call' service and implement improvements in 2019. Staffing continues to be a challenge as the laboratory saw an increase in turnover of staff and several senior staff members went on maternity leave. The planned introduction of the Termination of Pregnancy service will be a challenge for the blood transfusion laboratory with significant work expected to ensure that we can provide an appropriate service for in-patients and GP patients when the service is implemented in January 2019. The laboratory infrastructure, both in terms of size and condition, continues to be a major challenge for the department. This has resulted in great difficulty in getting in new equipment for validation due to size constraints.

Plans for 2019

The major plans for 2019 are focussed on new and improved services.

- Blood Transfusion will be introducing major new pieces of equipment that should help with work-flow and turn-around-times.
- A plan is also being developed to implement the cell-free fetal DNA service with the Irish Blood Transfusion Service (IBTS) to prenatally confirm fetal blood type in Rhesus negative mothers. This will require significant planning and validation prior to full implementation.
- It is also planned to upgrade the APEX laboratory information system (LIS) server which is at its end-of-life.
- Plans are at an advanced stage for the interfacing of point-of-care testing (POCT) devices to the APEX laboratory information system and ultimately to the MN-CMS system.
- There is also a plan to comply with the Falsified Medical Directive in 2019 and to implement a robust system for supporting the Termination of Pregnancy service.
- There are several plans in place for improving the IT infrastructure and also to expand the POCT service. Histology will be replacing several of their key pieces of equipment such as their immuno-stainer in 2019.

Division of Biochemistry and Endocrinology

Head of Division

Dr. Ingrid Borovickova, Consultant Chemical Pathologist

Staff

Ms. Grainne Kelleher, Chief Medical Scientist
Ms. Sharon Campbell, Senior Medical Scientist
Ms. Ava Brazier, Medical Scientist
Ms. Aiveen O'Malley, Biochemist
Mr. Paul Reilly, Laboratory Aide
Ms. Lorna Pentony, Point-of-Care (POC) Coordinator

Service Overview

The Division of Biochemistry and Endocrinology provides an extensive range of routine and specialised biochemistry and endocrinology testing for the hospital and external organisations.

Clinical Activity

Table 1: Clinical Activity

	2017	2018	% Difference
Biochemistry and Endocrinology	282,601	299,238	+6%
Blood gas	15,374	14,835	-4%
Glucose Point of care (POC)	32,726	29,384	-10%
Haemoglobin Point of Care (POC)	3,961	5,325	+34%

Highlights for clinical activity in 2018 included:

- A continuing significant decrease in numbers of samples analysed for lactate (32%)
- A significant increase in urinary Protein Creatinine Ratio (PCR) testing (41%)
- Increased requests for Vitamin D (47%) due to its inclusion from infertility clinics
- A significant increase in HbA1c testing (21%)

Successes and Achievements 2018

In 2018, the Division had several notable achievements:

- Retention of INAB accreditation for laboratory testing for Biochemistry and Endocrinology
- Lorna Pentony took on the full-time role as point-of-care (POC) coordinator
- Introduction of serum indices on samples for endocrinology
- Changes to the reportable limit for glucose, from <1.0mmol/L to < 0.114mmol/L

Enhancing Patient Care

The validation commenced of a new method for direct bilirubin assay which will reduce the number of samples rejected due to haemolysis.

New glucometers were introduced which require less blood and give a result in a quicker time with significant cost savings.

Due to changes in the maternal sepsis powerplans, lactates are now run as point-of-care (POC) tests. A new blood gas analyser was set up between the Gynaecology ward and the Postnatal Wards to facilitate this. This explains the large reduction in laboratory-based lactate levels.

Education & Training

- Association of Clinical Biochemists Ireland (ACBI) Annual Conference
- Irish External Quality Assessment Scheme (IEQAS) Annual Conference
- Regular Journal Clubs held within the department, each presented by different staff members
- Roche User Group Meeting
- Lecture given by the Chief Medical Scientist to Trinity College Dublin MSc Clinical Chemistry students on Neonatal Biochemistry

Research

The Epidural Related Maternal Fever Study which is being led by consultant anaesthetist Dr. Anne Doherty commenced in July. This study aims to assess if there is a corresponding increase in Interleukin 6 levels in women who develop a fever during labour and who undergo epidural analgesia.

The biochemistry laboratory will be responsible for analysing the samples for Interleukin 6, both baseline and at intervals both during and after labour, as well as the septic workup if required.

Innovation

- New generation Free T4 assay was introduced, which is less susceptible to interference from biotin
- Introduction of new Glucometers which require less blood and provide results in faster time. Switching providers has resulted in cost savings and ensures an ample supply of Glucometers throughout the hospital, with one Glucometer to each incubator in the NICU

Challenges 2018

We are unable to expand the endocrinology service as we are running at maximum capacity on our analyser.

Delivery Suite had only one blood gas analyser, which resulted in two clinical risks being raised in 2018 because the analyser was either out of order or calibrating, forcing staff to walk to an alternative location to process urgent fetal scalp pH samples. A second analyser has now been implemented in the Delivery Suite.

Plans for 2019

- To introduce a new method for direct bilirubin which is not as susceptible to interference from haemolysis as the current method
- Introduce new carrier tubes for paediatric samples to reduce the interference from light on direct bilirubin results
- Begin the tendering process to replace the current main analyser

"Everyone here has truly shown the best of humanity not just in knowledge and professionalism but in genuine caring for all of their patients."

Division of Clinical Microbiology

Head of Division

Dr. Richard Drew, Consultant Microbiologist

Staff

Dr. Joanne O'Gorman, Consultant Microbiologist
Mr. David Le Blanc, Chief Scientist
Ms. Niamh Cahill, Senior Medical Scientist
Mr. Haydn Hammerton, Senior Medical Scientist
Ms. Ellen Lennon, Senior Medical Scientist
Ms. Patricia Baynes, Medical scientist
Ms. Ita Cahill, Medical Scientist
Ms. Gemma Tyrrell, Medical Scientist
Ms. Grainne McDonald, Laboratory Aide
Mr. Tom Murphy, Medical Scientist
Ms. Kavneet Kaur Kainth, Medical Scientist
Ms. Caroline Doherty, Locum Medical Scientist

Service Overview

The Division of Clinical Microbiology provides serology, molecular and routine bacteriology testing to the hospital. The andrology laboratory provides initial semen analysis as part of subfertility investigations.

Clinical Activity

Table 1: Clinical Activity

Location	2017	2018	% Difference
Serology	57,028	55,753	-2%
Andrology	5,048	4,792	-5%
Sexually Transmitted Infection PCR	6,183	4,904	-21%
Microbiology	66,113	66,570	+1%
Referral	12,271	12,825	+5%
Total	**146,643**	**144,844**	**-1%**

Successes and Achievements 2018

In 2018, the Division had several notable achievements:

- Avoidance of screening for Rubella IgG on patients who had previous confirmed immunity
- ISO:15189 Accreditation awarded for Trichomonas vaginalis/ Mycoplasma genitalium PCR testing
- Introduction of rapid Group B Streptococcus testing 24/7 on the GeneXpert automated real-time PCR testing platform and interface of same for faster turnaround times
- Implementation of FilmArray for Identification of organisms in positive blood cultures
- Respiratory Syncytial Virus (RSV) added to Influenza testing on the GeneXpert platform and provided on a 24/7 basis
- Addition of Chlamydia trachomatis/Gonorrhoea PCR testing on the Genexpert platform for confirmation and for urgent samples

Education & Training

- Continued staff training in the use of mass spectrometry
- Training in the use of alternative molecular assays such as Seegene

Research

- Unexpected increase in invasive maternal Group B Streptococcus bacteraemia (Journal of Infection 2018)
- Epidemiological changes in rubella IgG antibody levels detected in antenatal women from a Retrospective Rubella seroprevalence study (Irish Journal of Medical Science 2018)
- Impact on clinical management of a rapid molecular test for positive blood cultures from neonatal intensive care patients (Irish Journal of Medical Science 2018)

Innovation

- Introduction of rapid molecular testing for Group B Streptococcus for women with pre-labour rupture of the membranes

Challenges 2018

With the growing needs of both patients and users, and the implementation of new and specialised equipment and analysers, space has become an increasing challenge.

Replacement of highly trained and experienced staff as they either retire or resign has proved a particular challenge to the division.

With the growing complexity of specialised testing out of hours, training of non-microbiology staff to provide an effective on-call service has proved difficult.

Plans for 2019

The Division's plans for 2019 include:

- Introduction of a new molecular test for bacterial vaginosis and successful award of ISO:15189 accreditation
- Streamline Sexually Transmitted Infection (STI) molecular testing for Chlamydia, Gonorrohoea, Mycoplasma Trichomonas, and Bacterial Vaginosis onto one platform
- An overhaul of Andrology service to allow all patients to use on-site facilities and introduce text message reminders
- The investigation of the possibility of providing a direct link (Healthlink) with Well Woman Centres and Children's University Hospital Temple Street

Division of Haematology and Transfusion

Head of Division

Dr. Fionnuala Ní Áinle, Consultant Adult Haematologist

Staff

Ms. Deirdre Murphy, Chief Medical Scientist
Ms. Emily Forde, Senior Medical Scientist
Mr. Ciaran Mooney, Senior Medical Scientist
Ms. Deirdre O'Neill, Senior Medical Scientist
Ms. Siobhan Enright, Haemovigilance Officer
Ms. Aileen Carr, Medical Scientist
Ms. Christine Clifford, Medical Scientist
Ms. Deirdre Corcoran, Medical Scientist
Ms. Edel Cussen, Medical Scientist
Ms. Meabh Hourihan, Medical Scientist
Ms. Elaine O'Leary, Medical Scientist
Ms. Lilliana Rasidovic, Medical Scientist
Ms. Suzanne Barrow, Medical Scientist
Ms. Karen Fennelly, Laboratory Aide
Ms. Catherine Conran, Laboratory Aide

Service Overview

Haematology as a speciality deals with investigations of blood disorders. Samples are investigated for general haematological abnormalities, coagulation disorders, haemoglobinopathies, and some blood borne infections such as malaria.

Blood Transfusion covers the investigations and protocols required to ensure that the correct compatible blood products are transfused to the right patients when clinically required.

Other areas of the Division deal with antibody titrations to allow early diagnosis of haemolytic disease of the fetus and newborn and estimation of postnatal feto-maternal haemorrhage using flow cytometry to prevent the development of rhesus isoimmunisation. This includes issuing RAADP (Routine Antenatal Anti D Prophylaxis) to all rhesus negative women at 28 weeks gestation.

Table 1: Blood Transfusion Activity

Activity	2017	2018	% Difference
Group and Save	6,470	6,913	+7%
Total Blood group tests	54872	54,319	-1%
Direct anti-globulin tests	3,881	3.398	-12%
FMH estimation by flow cytometry	563	708	+25%

In blood transfusion taking in account total test numbers for workload there was an overall 1% reduction.

Table 2: Haematology Activity

Activity	2017	2018	% Difference
Coagulation screens	2,718	2.329	-14%
Full Blood Count	40,031	38,753	-3%
Thrombophilia screens	53	47	-11%
Cord Blood electrophoresis	1,733	1,755	+1%
Manual differentials	1,995	1,632	-18%
Total Haematology referral tests	50,461	48541	-4%

In Haematology and referral samples taking in account total test numbers there was an overall 3.8% reduction in workload.

Success and Achievements 2018

The Division of Haematology validated the new CELL-DYN Ruby system for INAB accreditation, which is a new multi-parameter automated haematology analyser. To reduce clerical input of results, the Division of Haematology also introduced an interface with the Laboratory Information Management System (LIMS) for the new Capillarys 2Flex Piercing instrument for haemoglobinopathy screening. Additionally, tendering for a new blood grouping analyser was completed, which will be validated and accredited for use in 2019.

Challenges 2018

The current laboratory space available for haematology is very restricted, with significant repairs required to its flooring. To accomplish this, the area in question must be vacated, but unfortunately temporary transitional space is not available at the hospital. In the last quarter of 2018, changes to the laboratory layout were reviewed by a multidisciplinary laboratory team, including the laboratory office, histology/microbiology shared areas, and wash room. A decision was made to relocate specimen referral to the Biochemistry Division to free up more space, which was utilised by the new blood grouping analyser during its validation.

In February 2018, the National Centre for Herditary Coagulation Disorders (NCHCD) at St. James' Hospital, introduced a new requirement for a consent form to be included as part of thrombophilia screen requests. This increased clinicians' workload when ordering tests, and also added additional clerical workload uploading these consent forms to the MN-CMS electronic healthcare record.

Plans for 2019

The Division will evaluate the requirement for a HbF analysis by flow cytometry for Feto-Maternal Haemorrhage (FMH) estimation.

In an attempt to reduce the need for Anti-D immunoglobulin administration, the commencement of cell-free fetal DNA testing of fetal blood type has been requested by the Executive Management team.

As part of the roll out of the national Termination of Pregnancy services, maternal blood group testing, and the issuing of Anti-D immunoglobulin, will be provided for local GP's providing pregnancy termination services.

The implementation of the new EU Falsified Medicine Directive in 2019 for batch blood products including anti-D, will increase the workload in Blood Transfusion. This will require training and additional software as part of a national roll out.

A review of new technology available for full blood count and coagulation testing will be carried out.

Division of Histopathology

Head of Division

Dr. Eibhlis O'Donovan, Consultant Histopathologist

Staff

Dr. Deirdre Devaney, Consultant Histopathologist
Dr. Emma Doyle, Consultant Histopathologist
Dr. Noel McEntagart, Consultant Histopathologist
Dr. Sarah Mullins, Specialist Registrar
Dr. Brianan McGovern, Specialist Registrar
Ms. Colma Barnes, Chief Medical Scientist
Ms. Phil Bateson, Senior Medical Scientist
Ms. Miriam Hurley, Medical Scientist
Ms. Tokiko Kumasaka, Medical Scientist
Ms. Aderanti Morenigbade, Medical Scientist
Ms. Sarah Morris, Medical Scientist
Mr. Michael Smith, Medical Scientist
Ms. Lorna Thomas, Medical Scientist
Ms. Karen Barber, Laboratory Aide

Service Overview

The Division of Histopathology provides diagnostic interpretation and reporting of human tissue specimens. These include routine surgical specimens, placentas and perinatal pathology cases (autopsies). The department also provides a diagnostic cytopathology service for non-gynaecological specimens.

Clinical Activity

Table 1: Clinical Activity

	2016	2017	2018	% Diff. 2016 to 2018	% Diff. 2017 to 2018
Surgical Blocks	13,029	11,266	13,072	+0.3%	+16%
Placental Blocks	5,343	5,551	5,751	+8%	+ 4%
Surgical Cases	4,782	4,692	5,125	+7%	+9%
Placental Cases	1,388	1,367	1,495	+8%	+9%
Full Autopsy Blocks	522	490	462	-11%	- 6%
Full Autopsy Cases	58	53	65	+12%	+23%
Limited Autopsy Cases (No Blocks)	7	12	11	+57%	-8%
Fluid Cases	99	83	58	+41%	-30%
Fluid Blocks/ Preps	108	84	64	-41%	-24%
Total Blocks	19,002	17,391	19,349	+2%	+11%

Key Performance Indicators (KPIs)

The Division of Histopathology routinely monitors turnaround times on surgical cases and autopsy cases each month. The Division also participates in the National Quality Assurance Intelligence System - Histopathology (NQAIS) scheme which monitors many KPIs in laboratories across Ireland. The Rotunda's Division of Histopathology meets the national designated targets in all areas such as turnaround times, and focused real-time review, and in addition is consistently above the national average in many of these targets.

Quality Objectives 2018

- Implementation of the electronic healthcare record (MN-CMS) for pathology services
- Reduce handling and use of Formalin, to keep exposure of staff to this Class 2 carcinogen to a minimum
- Investigate safer reagents for tissue processing and staining
- Library of digital images for ICC and special stains

Successes and Achievements 2018:

- Establishment of the Irish Northeast regional perinatal service
- Verification and validation of the Donatello processor
- Retention of INAB accreditation

Enhancing Patient Care

The Rotunda Gynaecologic outpatient hysteroscopy service was opened on the Connolly Hospital campus in February 2016 to reduce waiting lists. There was a 31% increase in specimens from this clinic in 2018 from the previous year. The turnaround times for these samples were the same as those for samples taken in-house.

Additional Colposcopy clinics were also introduced, and turnaround times were maintained despite additional workload.

Education & Training

Staff were encouraged to participate in the Department Journal Club and Multi-Disciplinary Team (MDT) meetings such as the Colposcopy MDT and Perinatal Mortality meetings.

Continuous Professional Development (CPD) was also encouraged with the histopathology staff attending a variety of both in-house and external meetings.

Two members of staff, Michael Smith and Lorna Thomas, undertook and successfully completed the RCSI Leadership Development Programme.

Challenges 2018

The Division of Histopathology faced several challenges during the year.

Aging equipment have increasing number of failures and do not work as efficiently as contemporary instruments. Although we have maintained our turnaround times, it becomes increasingly more difficult to do so as the number of instrument failures continues to increase.

Continued increase in workload due to expansion of the Rotunda outpatient hysteroscopy service at the Connolly Campus.

Marked increase in the demand for colposcopy referrals especially for suspicious cervix due to nationally-experienced challenges in the cervical screening service.

Persistent vacancy for a Consultant Histopatologist post which is reflective of the national difficulty in Consultant recruitment.

National difficulty in recruiting Medical Scientists.

Plans for 2019

The Division's plans for 2019 include:

- Upgrading of one basic grade medical scientist post to that of senior medical scientist, which will improve efficiencies in work flow
- Additional training in cut-up provided by the histopathologists for medical scientists to put through a wider range of specimens
- Assist in the implementation of Histology laboratory orders as part of the MN-CMS electronic healthcare record for gynaecologic patients

Laboratory Medicine - Quality Management

Head of Service

Ms. Susan Luke, Quality Manager

Staff

Ms. Emily Forde, Deputy Quality Officer
Ms. Lorna Pentony, Point-of-Care Testing coordinator
Ms. Elaine O'Leary, Deputy Point-of-Care Testing coordinator
Ms. Gemma Tyrrell, Deputy Point-of-Care Testing coordinator
Mr. John O'Loughlin, Laboratory Information Management System coordinator
Mr. Phil Bateson, Deputy Laboratory Information Management System coordinator
Mr. Ciaran Mooney, Training Officer, Laboratory Information Management System coordinator
Ms. Niamh Cahill, Deputy Training Officer
Ms. Aiveen O'Malley, Health and Safety Officer
Mr. Michael Smith, Deputy Health and Safety Officer

Clinical Activity

The Department of Laboratory Medicine maintained accreditation in 2018 across all disciplines to ISO 15189 and ISO 22870. In maintaining the right to flexible scope of accreditation the laboratory can provide a continuous accredited service as changes or improvements are introduced.

The Laboratory submits an Annual Report for Blood Transfusion to the Health Protection Regulatory Agency (HPRA). This report documents the activity for the previous year and reports blood usage and wastage, status of accreditation and informs of any planned future changes. The 2018 report was submitted and has been accepted.

Successes and Achievements 2018

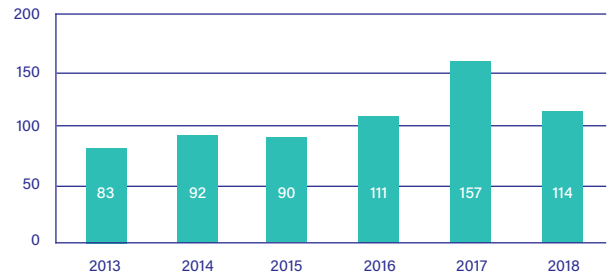
The laboratory was able to add without delay the following improvements/additions and maintain accreditation:

- additional equipment in histology
- additional point-of-care equipment
- improved techniques in Histology, Biochemistry and Microbiology

A number of new senior staff joined the department and comprehensive training in the Quality Management System (QMS) were made available as required.

A decrease in the number of audits performed in 2018 is evident. This was due to a change in management of the audit schedule by revising the audit tools and consolidating the standards and legislation standards relevant to the laboratory.

Figure 1: No. of Audits Carried Out



The QMS promoted the use of four key performance indicators (KPIs) in 2018:

- document review
- document acknowledgment
- adherence to the audit calendar
- completion of incident records.

Reports are produced quarterly and it was agreed at the annual management review for 2018 that the reports for 2019 will provide details on individuals achieving these KPIs.

The laboratory staff are committed to providing a service of the highest quality and shall be aware of, and take consideration of, the needs and requirements of the users which is reflected in our quality policy.

Clinical Nutrition and Dietetics Service

Head of Service

Ms. Laura Kelly, Dietitian Manager

Staff

Ms. Anna-Claire Glynn, Clinical Specialist Dietitian (Neonatology/ Paediatrics)
Ms. Marian Mc Bride, Senior Dietitian (Obstetrics/Gynaecology)
Ms. Alexandra Cunningham, Dietitian

Service Overview

The mission of the Clinical Nutrition and Dietetic Service is to provide the highest quality dietetic service to women and children attending the Rotunda, and to improve clinical and quality of life outcomes.

Adult dietetic services are delivered in both inpatient and outpatient settings. Table 1 outlines reasons for referral.

Table 1: Conditions referred to adult dietetic services

	2017	2018	% Change
Pre-gestational diabetes	44	54	+ 23%
Gestational diabetes (GDM)	913	1,063	+ 16%
High BMI/excess weight gain	268	287	+ 7%
Hyperemesis gravidarum	90	108	+ 20%
Eating disorders	7	13	+ 86%
Weight loss/low BMI	108	73	- 32%
Twins/multiples	54	32	- 41%
Other nutritional concerns (gastrointestinal issues, anaemia, food intolerance, bariatric surgery, wound healing)	48	59	+ 23%
Total referrals	**1,532**	**1,689**	**+10%**

Weekly group education sessions are provided for women with high BMI and those with newly diagnosed GDM. Dietitian-led outpatient clinics are run throughout the week, in addition to dietetic support at the multidisciplinary diabetes clinics. Telephone clinics are available to support patients between hospital visits, if required. The dietitian also contributes to the antenatal classes twice-weekly.

The neonatal/paediatric dietitian completes nutritional assessments and advises on the provision of nutrition support for infants in the NICU and paediatric outpatients setting requiring:

- Parenteral nutrition
- Specialist oral and/or enteral feeding regimens
- Faltering or excessive growth
- Electrolyte/vitamin/mineral abnormalities
- Food allergy/intolerance
- Behaviour related feeding difficulties
- Weaning difficulties

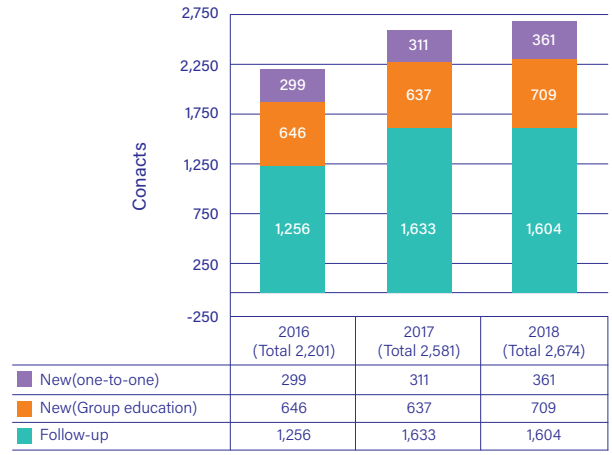
Dietetic services are prioritised to infants admitted to the NICU <32 weeks' gestation or those with birthweight <1.5kg. A limited service is available to other infants referred by the neonatal multidisciplinary team (MDT). Dietetic attendance at daily medical ward rounds is provided to ensure infants are receiving cohesive multi-disciplinary input. A limited outpatient service is provided to high-risk infants referred by neonatal consultants.

Clinical Activity

Adult Services

Total activity within the adult dietetic services in 2018 was 3,268 contacts – which was a 2% decrease on 2017 levels (3,337 contacts). Diabetes activity continues to dominate the service, with a 13% increase seen in new attendances during 2018.

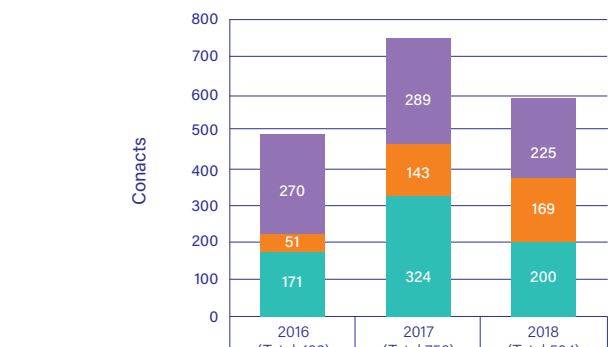
Figure 1: Diabetes service activity 2016-2018



	2016 (Total 2,201)	2017 (Total 2,581)	2018 (Total 2,674)
New(one-to-one)	299	311	361
New(Group education)	646	637	709
Follow-up	1,256	1,633	1,604

Activity within the general obstetrics and gynaecology services decreased slightly, explained by increased demands of the diabetes services and by periods of reduced staffing and clinical services to facilitate training during maternity leave cover.

Figure 2: Obs/Gynae service activity 2016-2018



	2016 (Total 492)	2017 (Total 756)	2018 (Total 594)
New(one-to-one)	270	289	225
New(Group education)	51	143	169
Follow-up	171	324	200

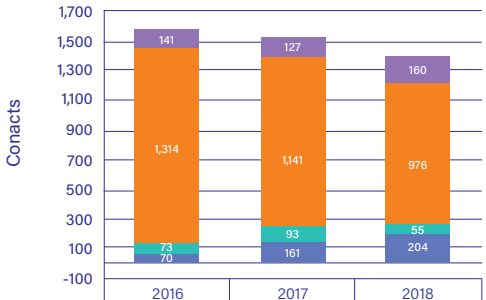
Failure to attend (DNA) rates for the diabetes dietetic services in 2018 were similar to 2017 levels (approximately 7%). DNA rates for the general obstetrics and gynaecology services were higher,

at 32% (versus 23% in 2017). To address this, the dietetics service introduced an "opt-in" letter for patients in the last quarter of 2018, which resulted in a significant reduction in DNA rates to 17% by year-end.

Neotatology/Paediatric Services

Total activity within the neonatal/paediatric services decreased by 8% in 2018. The introduction of the MN-CMS electronic healthcare record, with a more complex ordering system for parenteral nutrition, was initially more time-consuming, requiring ongoing training of new medical staff, thereby reducing time available for patient contact. Increasing numbers of "New" contacts in the NICU, which are more complex and time-consuming, has also reduced time available for patient follow-up.

Figure 3: Neonatal service 2016-2018



	2016 (Total 1598)	2017 (Total 1523)	2018 (Total 1395)
NICU (NEW)	141	127	160
NICU(Follow-up)	1,314	1,142	976
OPD (New)	73	93	55
OPD (Follow-up)	70	161	204

Successes and Achievements 2018

Enhancing Patient Care

- A patient satisfaction survey on antenatal nutrition education was completed
- Satisfaction survey of the "Breakfast Club" care pathway for gestational diabetes was completed
- Reduction in DNA rates in the last quarter of 2018 by introduction of a patient "opt in" letter
- Completion of a new patient information booklet for lifestyle management of gestational diabetes, in conjunction with the diabetes midwives at the Rotunda. This booklet has been peer-reviewed by external dietetic colleagues and will be made available for use nationally
- A new diabetes menu for inpatients was developed with the Catering Department
- A new recipe book for diabetes was developed
- The service worked with the Catering Department to increase the omega-3 content of the hospital menu
- A new vitamin and mineral guideline for infants was implemented in the NICU
- New referral criteria for paediatric outpatients was introduced to prioritise high-risk infants
- An updated infant feeding guide was introduced for infants in the NICU

Continuing Professional Development

- The senior-grade neonatal/paediatric dietitian post was re-graded to a clinical specialist role.
- The department contributed to the revision of the Irish national "Nutrition in Pregnancy" guidelines
- Regular teaching was provided to NCHDs and neonatal nursing staff
- Shadowing opportunities were provided for neonatal dietitians from other units
- The department continues to engage with professional groups, including: Maternity Dietitians Collaborative Group; Hyperemesis Ireland; RCSI Dietitian Managers Group; RCSI Healthy Ireland Group; Neonatal Dietitians Ireland Group; Neonatal Dietitians Interest Group UK & Ireland; Neonatal Nutrition Group (N3); and Paediatric Dietitians Interest Group (PDIG).
- The dietitians attended multiple education and training events in 2018 introducing:

  "Weight management before, during & after pregnancy" study day, "First 1,000 days" symposium, "Diabetes in Pregnancy" study day, Paediatric allergy study evening, "Bertie online course for type 1 diabetes", "IPOKRATES" seminar, preterm nutrition (Romania), N3 meeting, Nottingham (UK), as well as Rotunda NICU and CUH (Temple Street) journal clubs and lectures.

Challenges 2018

The lack of administration support for the dietetic service was a significant challenge in 2018

Current activity does not reflect the true demand for dietetic services. Staffing levels for all dietetic services are below recommended levels. The dietitians endeavour to provide a high quality service, however, opportunities for service expansion, development and research are limited.

Plans for 2019

- Submit business case for additional staffing to optimise service delivery for patients
- Update and implement new enteral feeding guidelines for the NICU
- Explore introduction of new standardised Parenteral Nutrition (PN) bags to optimise patient care and cost-savings

- Implement new HSE/RCPI Parenteral Nutrition guideline
- Partake in FiCare (Family Intregrated Care) project
- Introduce new antenatal nutrition class
- Complete review of hyperemesis care pathway in collaboration with the pharmacy
- Increase use of online resources and social media for antenatal nutrition education
- Audit compliance with SOP for gestational diabetes
- Complete patient satisfaction survey for gestational diabetes lifestyle class
- Carry out an audit of diabetes ward menu
- Develop new patient resources for diabetes in collaboration with midwifery colleagues
- Ongoing teaching and in-service training for nursing/ midwifery/medical colleagues
- Participate in undergraduate dietetic student training

"Pregnancy is a time of change and, like all times of change in our lives, it can rise to certain concerns and worries. The social workers in the Rotunda offer counselling, information and practical assistance to help families respond to issues or difficulties which may arise."

Sinead Devitt
Head Medical Social Worker


SINEAD
LAURA
MPA

Medical Social Work Service

Head of Service

Ms. Sinead Devitt, Head Medical Social Worker

Staff

Ms. Pauline Forster, Senior Medical Social Worker
Ms. Susan Finn, Medical Social Worker
Ms. Clare Naughton, Medical Social Worker
Ms. Louise O'Dwyer, Medical Social Worker
Ms. Ruth Power, Medical Social Worker

Service Overview

The service provides a comprehensive social work service to patients, their partners and their families. It operates from the rationale that addressing problems in a timely manner can prevent their escalation and can serve to minimise the distress experienced by patients. There is a social worker attached to each of the hospital's four obstetric teams and to each of the larger specialist clinics and units.

Clinical Activity

Homelessness

Nationally, the homelessness situation continued to deteriorate during 2018. This had a significant effect on some patients attending the Rotunda Hospital, especially if a patient was not habitually resident or had no residency status in Ireland. For example, in June 2018, senior management staff in the Rotunda wrote to the Minister for Housing, Planning and Local Government highlighting the plight of a homeless pregnant patient accommodated on a night-to-night basis in emergency accommodation. The patient was subsequently offered more suitable accommodation for a period of time on compassionate grounds. Following this decision, other patients in similar circumstances were offered the same arrangement.

Child Protection

In 2018, the medical social work team was involved in 187 child protection cases. This was an increase of 39 from the previous year. The main types of concerns where a referral was made or received from Tusla in 2018 were:

Table 1: Reasons for Tusla Referral

	2016	2017	2018	% change from 2016 to 2018
Drug use	56	53	57	+2%
Underage Pregnancy	38	22	34	-11%
Domestic Violence	22	34	48	+118%
Mental Health	15	9	7	-53%
Previous Children in Care	11	4	9	-18%
Child Welfare	9	16	24	+167%
Alcohol Misuse	6	3	1	-83%
Child Neglect	5	3	3	-40%
Adoption	2	2	0	n/a
Learning Difficulty	2	2	1	-50%
Retrospective Disclosure	0	0	3	n/a
Total	**166**	**148**	**187**	**+13%**

Domestic Violence

Pregnancy does not protect women from domestic violence and abuse can often commence or increase during a pregnancy. The Rotunda Hospital conducted research which found that 1 in 8 women surveyed through an anonymous questionnaire were being abused during their current pregnancy. The role of the medical social workers is to provide immediate support and advice to women disclosing domestic violence and to link women and families to longer-term community based supports. Though not all incidents of domestic violence warrant the involvement of Tusla, there were 48 cases in 2018 where Tusla social workers were involved with families due to domestic violence. This is a marked increase compared to the previous two years. The number of referrals regarding domestic violence highlights the continuing prevalence of domestic abuse, which has a devastating effect on the health and wellbeing of patients, their babies and their families.

Mental Illness

For the management of mental illness in pregnancy, a multidisciplinary approach to assessment and support is adopted within the hospital, where the medical social workers, the mental health support midwives and the perinatal psychiatrist work collaboratively to ensure that patients receive appropriate support.

Teenage Pregnancy Service

The medical social worker attached to the Teenage Pregnancy Service works closely with the service's specialist midwife in order to provide holistic supports to all patients booked into the service. A total of 34 underage pregnancies were referred to Tusla by the medical social workers. Although the age of consent remains 17 years in Ireland, since the commencement of the Children First Act 2015, there are certain exemptions from reporting underage consensual sexual activity. Going forward, if the medical social workers are satisfied that certain criteria are met, they will no longer refer every underage pregnancy to Tusla.

Bereavement Medical Social Worker

The bereavement medical social worker offers a service to parents who experience the loss of a baby at all stages, including miscarriage, ectopic pregnancy, stillbirth or neonatal death. In 2018, she offered information and support to 139 families whose babies required funeral arrangements. She met with 75 of these bereaved families. The medical social worker also offered support to 490 patients who experienced an early pregnancy loss and met with 43 of these patients.

Fetal Medicine Service

The medical social worker attached to the Fetal Medicine Service works closely with the multidisciplinary team to identify patients who may require additional emotional and practical support. The most common reason for a referral to medical social work in this area was a prenatal diagnosis of Trisomy 21 (Down syndrome), Trisomy 18 (Edwards syndrome), or Trisomy 13 (Patau syndrome), followed closely by fetal cardiac malformations. Many patients also receive support as a result of parental anxiety due to a previous abnormal prenatal diagnosis.

Neonatal Intensive Care Unit

The role of the medical social worker attached to the Neonatal Intensive Care Unit is to help families cope with the stressful experience of having a premature or sick baby. The social worker provides emotional support, information and practical assistance to parents while their baby is in the hospital and also after their baby has been discharged home. In addition, bereavement support is offered to parents if their baby dies while in neonatal care.

Substance Misuse

In 2018, the medical social worker attached to the Infectious Diseases clinic provided emotional and practical support to women attending this specialist clinic. Patients attending this clinic are women who have an infectious disease diagnosis and/or substance misuse issues. The social worker liaises closely with the specialist midwives to provide a comprehensive service for women attending this clinic. Where required, the social worker referred patients to Tusla and other community services to ensure that patients and their babies had an appropriate discharge plan in place. In 2018, Tusla held 25 Child Protection Case Conferences in relation to substance misusing Rotunda patients. These are inter agency and interprofessional meetings where a child protection plan is formulated. The conference helps everyone involved in the child's life to find out what the child's needs are and decide whether or not the child is at risk of significant harm or abuse.

Table 2: Social Worker Support to Substance Misuse Cases

	2012	2013	2014	2015	2016	2017	2018
Deliveries to Substance using women	81	73	68	62	59	62	61
Child Protection Referrals to and from Tusla	64	50	52	52	56	53	57
Parent(s) signing baby into voluntary care	6	1	7	3	1	5	5
Babies taken into care under a Court Order	4	12	8	7	4	1	1
Mothers & babies returned home under supervision of non-drug using relative	17	11	7	8	8	7	10

Successes and Achievements 2018

The Medical Social Work Department succeeded in working with their colleagues within the hospital, the RCSI Hospitals Group Children First Steering Committee and the HSE Children First National Office to implement an awareness campaign for Children First in the Rotunda Hospital. The awareness campaign included hospital broadcasts, exhibition banners, staff briefing sessions and individual assistance for staff experiencing difficulty completing the Children First e-learning module or with no access to computer facilities. While in January 2018, only 2% of the staff members had completed the mandatory e-learning module 'An Introduction to Children First', by December 2018, nearly 90% of staff members were compliant.

In December 2017, the Children First Act 2015 was fully commenced and organisations had three months to comply with a number of other provisions within the legislation. This included the requirement for the Rotunda Hospital to develop, and display publically, a Child Safeguarding Statement based on a risk assessment to identify any potential risk of harm to a child while availing of our services. The statement lists details of the various procedures in place to manage these risks. The Medical Social Work Department succeeded in meeting this deadline.

A third full year of data was collected on the number of referrals made and received from Tusla. This is as a result of the introduction of the Child Protection Data collection forms in 2015. These data will be updated on an annual basis to explore emerging patterns and to plan future service delivery.

Education & Training

The medical social work team attended numerous courses and training days during 2018 to enhance their professional development.

They also provided training within the hospital at the Professionals' Bereavement Study Day and at the Specialist Midwifery service sessions for public health nursing students.

Challenges 2018

A significant challenge faced by the Medical Social Work Department in 2018 was the amount of time and resources expended within the service to ensure the hospital's compliance with all sections of the Children First Act 2015. This was during a period where the team experienced an unexpected reduction in staff numbers.

The introduction of the Health (Regulation of Termination of Pregnancy) Act 2018 challenged maternity services to develop new multidisciplinary services within a limited time period. The medical social work team was part of the response to this challenge, contributing to the development of a holistic model of care.

The large number of patients presenting to the Medical Social Work Department with accommodation issues posed an ongoing challenge for the team throughout the year. It is difficult to capture the number of patients attending the Rotunda who are homeless due to the various manifestations of homelessness, with not all homeless patients disclosing their housing status.

Plans for 2019

The HSE's Specialist Perinatal Mental Health Model of Care identifies the Rotunda as the designated hub within the RCSI Hospitals Group, where specialist perinatal mental health services will be delivered to women during the antenatal and postnatal period. The medical social work team plans to work with their colleagues attached to the perinatal mental health team, to provide an integrated perinatal mental health service.

The Medical Social Work Department, in collaboration with their midwifery colleagues and Women's Aid, is exploring the feasibility of co-locating a maternity health domestic abuse worker in the Rotunda Hospital. In addition to being a direct referral route for patients experiencing domestic violence, the worker would provide briefings and on-site training to midwives, doctors and nurses.

Another plan for 2019 is for a separate medical social worker post to be established to work with patients considering or undergoing a termination of pregnancy, as part of her role. This will be consistent with international guidance which supports the availability of impartial and non-directive counselling for women considering termination. The post will also ensure that there are processes in place to identify coercion or issues which make women particularly vulnerable, including child protection issues and domestic violence.

Pharmacy Service

Head of Service

Dr. Brian Cleary, Chief Pharmacist

Staff

Ms. Elena Fernandez, Senior Pharmacist
Ms. Lisa Clooney, Senior Antimicrobial Pharmacist
Ms. Elaine Webb, Pharmacy Technician
Ms. Margaret Donnelly, Pharmacist
Ms. Fiona Gaffney, Senior NICU Clinical Pharmacist
Ms. Claudia Looi, Pharmacist
Mr. Fergal O'Shaughnessy, PhD Scholar/Research Pharmacist
Ms. Kamelia Krysiak, PhD Scholar/Research Pharmacist
Ms. Joan Devin, PhD Scholar/Research Midwife

Service Overview

The Pharmacy Service supports the safe and effective use of medicines for Rotunda patients. The service has ongoing audit and continuous quality improvement projects, together with collaborative research and medicines information initiatives. Themes include Medication Safety, Optimal Medication use in Pregnancy/Lactation, Maternal and Newborn Randomised Controlled Trials, Vaccination in Pregnancy, Clinical Informatics and Venous Thromboembolism Prevention.

Along with ward-based clinical services, the pharmacy team provides specialist medicines supply services, ensuring cost-effective purchasing and supply of medicinal and nutrition products. The pharmacy team collaborates with multidisciplinary colleagues to optimise medication use processes, utilising advances in health information technology to improve patient safety and remove latent system risks.

The annual budget for medications, parenteral nutrition and ready to feed baby milk in 2018 was €1.64 million. Team and ward-based Pharmacists review drug charts and patient records daily on a Monday to Friday basis, providing support to medical and midwifery/nursing colleagues to ensure safe and effective use of medicines. A goodwill on-call service is available out-of-hours to help with clinical or supply queries.

Clinical Activity

The Pharmacy team provides a full pharmacy service to all clinical areas in the Rotunda Hospital, including adult and neonatal pharmacy requirements. Clinical pharmacy services are provided on a team-based model in the NICU and a location-based model in all other clinical areas. Approximately 250,000 medication orders are placed each year for inpatients and outpatients, with over 500,000 inpatient medication administrations per year.

Successes and Achievements 2018

There were a number of achievements in 2018, across several areas, including:

- The Rotunda Hospital was named as a strong performer in terms of medication safety in HIQA's Annual Report of Regulatory Findings: "The overall approach to the strategic planning and implementation of a medication safety programme proved effective in this hospital. Medication safety was prioritised at an organisational level in the Rotunda Hospital and the medication safety programme had developed a number of quality improvement measures over a significant period of time. The hospital had introduced a medication safety bundle using multi-faceted risk-reduction strategies to reduce the risks associated with the use of high-risk continuous infusions in the Neonatal Intensive Care Unit (NICU). Risk-reduction strategies included an electronic dose calculator for high-risk continuous infusions, standard concentration intravenous infusions, electronic prescriptions and syringe labels for high-risk continuous infusions, and smart pump technology"
- Recruitment of a permanent NICU Clinical Pharmacist to continue the development of neonatal clinical pharmacy services
- Collaborative work from the Adult Medication Safety Committee to establish an oxytocin medication safety bundle received support from the Drugs and Therapeutics Committee and the hospital's Executive Management Team to fund the implementation of smart pumps to facilitate safe administration of oxytocin
- Ongoing optimisation of the MN-CMS electronic healthcare record medication processes in collaboration with end users of the system
- Ongoing implementation of the hospital's Medication Safety Strategy
- On-going development and updating of the Rotunda Antimicrobial Guide App, with continued development of antimicrobial consumption surveillance and research on therapeutic drug monitoring in pregnancy, as well as safe neonatal vancomycin administration
- Collaboration on National Antimicrobial Point Prevalence Survey with the European Centre for Disease Prevention and Control
- Supporting our colleagues at the National Maternity Hospital with the implementation of MN-CMS
- MN-CMS team achievements in the context of neonatal medication safety were highlighted at the main stage of a global eHealth conference in Kansas City, Missouri
- Recruiting four MN-CMS Informatics Pharmacists to the National Medications Team under the HSE National Women and Infants Health Programme, converting temporary to permanent posts

Research

- Prestigious PhD Student Fulbright scholarship and RCSI International Secondment Award won by Mr. Fergal O'Shaughnessy to facilitate his US research placement

- Completion of a programme of research assessing influenza vaccination during pregnancy with publications on uptake and the perceptions of women and health professionals on vaccination in pregnancy. One of these articles ("To vaccinate or not to vaccinate? Women's perception of vaccination in pregnancy: a qualitative study") was among the journal's top 10 most read articles in 2018
- The Pharmacy Service is collaborating with, and providing ongoing support to, a range of maternal and newborn randomised controlled trials on conditions including pre-eclampsia, persistent pulmonary hypertension and patent ductus arteriosus
- Successful EU tender for aspirin and placebo, led by Ms.Elena Fernandez to facilitate the IRELAND clinical trial

Enhancing Patient Care

Neonatal and Adult Medication Safety Huddles continue to be implemented, providing feedback to frontline staff and disseminating information on potential risk reduction strategies for medication safety issues identified through the hospital's clinical incident reporting system.

The service coordinated a Medication Safety Week in December 2018 which raised awareness of key medication safety issues for the hospital.

Challenges 2018

The service faced several challenges this year which included:

- Planning for Brexit and dealing with recurrent serious medication shortages which can have significant medication safety and cost implications
- Implementation of the hospital's Medication Safety Strategy and ongoing development of medication safety initiatives
- Expansion of clinical services while minimising costs of medicines
- Development of a fully integrated version of the Thrombocalc App, which will extract risk factors from the patients' electronic record automatically, streamlining the risk assessment process

Plans for 2019

The service's plans for 2019 include:

- Continued development and sharing of Rotunda innovations on thrombosis risk assessment, NICU high risk infusions and medication safety
- Continuing the development of the hospital's role within the European Network of Teratology Information Services with the establishment of the Irish Medicines in Pregnancy Service to provide information on medications in pregnancy, conduct novel research in this context and advocate for safe and effective use of medicines in pregnancy
- Implementation of patient photos in MN-CMS to reduce the risk of wrong patient errors
- Improve the quality of postnatal analgesia and encourage women to play an active role in pain management after delivery
- Updating standard concentration infusions for high risk medicines in the NICU to include concentrated electrolytes
- Continuous Quality Improvement with MN-CMS medications functionality
- Implementation of barcode scanning technology in the Pharmacy Service to meet the requirements of the EU Falsified Medicines Directive
- Expanding the role of parents in the medication use process for neonates so that they are prepared for discharge and Integrating this within the Family Integrated Care programme

Physiotherapy Service

Head of Service

Ms. Cinny Cusack, Physiotherapy Manager

Staff

Ms. Brona Fagan, Senior Physiotherapist (NICU)
Ms. Anna Hamill, Senior Physiotherapist (NICU)
Ms. Niamh Kenny, Senior Physiotherapist
Ms. Sinead Lennon, Physiotherapist
Ms. Grainne Sheil, Physiotherapist
Ms. Paula Donovan, Physiotherapist
Ms. Marie Larkin, Physiotherapist

Service Overview

The mission of the Physiotherapy Service is to provide patient-centred, innovative and evidence-based care in the management and treatment of obstetric (pre and post-natal), gynaecologic and neonatal/paediatric conditions.

Inpatient postnatal care is focused on mothers who are at risk of pelvic floor dysfunction and all mothers are encouraged to attend postnatal classes. All patients who undergo major gynaecologic surgery are reviewed post-operatively.

All urinary retention patients who were previously reviewed by physiotherapy are now managed by a bladder care specialist nurse.

The outpatient service provides assessment and treatment of pregnant women with musculoskeletal conditions including pelvic girdle pain. Management of pelvic floor dysfunction includes treating urinary and faecal incontinence, pelvic floor pain, dyspareunia and prolapse management prior to and after gynaecologic surgery. Physiotherapy is a member of the multidisciplinary team that provides a weekly Promotion of Continence clinic.

The Physiotherapy Service in the Neonatal Intensive Care Unit (NICU) provides assessment of babies who are preterm or at risk of neurodevelopmental deficits. Education is provided on developmental positioning, handling and early neurodevelopmental physiotherapy. Discharge planning with parents facilitates transition to outpatient physiotherapy until ongoing care is provided in the community or the baby is discharged from treatment.

Clinical Activity

Antenatal Classes

Health promotion and antenatal education form key components of the service. Preparation for parenthood classes are run in collaboration with the parent education midwifery team and the community midwifery scheme. Approximately 20% of first-time mothers attend for antenatal classes and three individual classes were held for special circumstances.

Inpatient Physiotherapy

Table 1: Clinical Activity

	2014	2015	2016	2017	2018
Prenatal	92	133	88	92	109
Postnatal	7,378	7,249	7,338	7,442	7,690
Gynaecology	183	204	179	200	199
Urinary Retention	62	47	42	46	24
Babies	74	74	45	51	62

Outpatient Physiotherapy

The majority of referrals are for pelvic girdle or low back pain. These referrals are triaged so that patients can attend either a pelvic girdle class and/or an individual appointment.

The Postnatal Classes include education on pelvic floor muscle recovery and exercises to reduce the risk of incontinence, assessment of diastasis of the rectus abdominus muscle (DRAM) and advice on safe return to exercise and fitness. A total of 259 patients were seen for postnatal classes. Women can self-refer for individualised treatment for pelvic floor dysfunction up to six months post-partum. The number of patients referred as outpatients during 2018 is summarised below:

Table 2: Adult Outpatient Conditions Referred

	2014	2015	2016	2017	2018
Pelvic Girdle Pain	1,206	1,333	1,517	1,566	2,011
Urinary Incontinence	279	359	357	392	460
Obstetric Anal Sphincter Injury	164	167	165	138	114
Previous perineal tear					53
Prolapse	52	76	103	118	115
Carpal Tunnel Syndrome	48	56	77	78	96
Dyspareunia/Pelvic Floor Pain	13	32	53	42	87
Faecal Incontinence	19	11	13	17	26

A total of 4,223 adult outpatient appointments were provided in 2018.

Table 3: Paediatric Outpatient Conditions referred

	2014	2015	2016	2017	2018
Plagiocephaly and Torticollis	112	97	83	75	79
Upper Limb problems	20	17	7	7	5
Talipes and Lower Limb problems	82	94	57	34	52
Down syndrome					10
Developmental Delay	156	66	64	43	38
NICU referrals					110

A total of 756 paediatric outpatient appointments were provided in 2018.

Successes and Achievements 2018

Enhancing Patient Care

A strategic planning meeting was held in August 2018 to update the Physiotherapy Service's strategic plan for 2019 and a SWOT analysis was completed to identify ways of improving patient care and plan for team-based projects.

A successful business case for an additional basic grade physiotherapist enabled patient access key performance indicators to be achieved. In 2018, the "Did Not Attend" (DNA) rate was reduced from 23% to 13% by streamlining the triage and appointment scheduling process and reduced the waiting time for physiotherapy gynaecologic appointments to six weeks.

A new Bladder Care class for patients referred with pregnancy-related urinary incontinence was introduced in November 2018.

The Physiotherapy Service played an active role in the Rotunda Open day in October 2018, which included the provision of an information stand and presentation of talks on the benefits of exercise in pregnancy and pelvic floor exercises.

Continuous Professional Development (CPD)

The service actively engages in regular CPD in the form of a weekly journal club, case presentations and clinical supervision of staff.

Staff continuously update their CPD requirements by attending postgraduate courses. These included:

- CRC Study Day - "Making a difference" - Evidence based management of cerebral palsy and neuromuscular disorders
- RCSI Physiotherapy Study Day
- Assessment and treatment of Urinary Incontinence
- Continence Foundation Ireland Study Day
- Management of Brachial Plexus Injury
- Approaching Sexual issues with patients
- Diastasis Recti Abdominus study evening
- Lacey Assessment of Preterm Infant (LAPI)
- Family and Infant Neurodevelopment Education course (FINE)
- Zero separation of mother and newborn

Professional Working Groups

The following working groups were attended:

- Antenatal Standards Development Workshop
- Voluntary Hospitals Active Risk Management Forum for Minimal Handling Advisory Group
- National Maternity Strategy Steering Group
- Nurture programme

Publications

- Management of urinary retention in pregnancy, postpartum and after gynaecologic surgery. HSE Guideline May 2018

Challenges 2018

A skills mix deficit arose when the one of the senior physiotherapist's covering the specialist NICU role left the Rotunda Hospital. To address this, Mr. Adare Brady, a Neonatal Physiotherapist who had been providing mentorship since 2015, was contracted for 12 hours per week to provide further training on:

- Assessment and analysis of movement patterns and postural dysfunction
- Orthopaedic issues
- Identification of gross motor dysfunction
- Working within the framework of NIDCAP (Neonatal Individualised Development Care and Assessment Program) with respect to assessment of posture, tone and movements, understanding the infant states so that intervention is appropriate and timely.
- Use of LAPI assessments of preterm infants which can predict cerebral palsy

CORU registration became a mandatory requirement for all physiotherapists working in the Rotunda. However, the registration board has not yet completed these applications.

Plans for 2019

- Validation of the Lacey Assessment of Preterm Infant (LAPI) tool by auditing physiotherapy outcomes against NICU neonatal outcomes at the end of first year of data collection
- Updating obstetric brachial plexus injury pathways
- National Study Day for obstetric brachial plexus injury, torticollis, talipes and plagiocephaly
- To develop staff competencies in pessary fitting
- Facilitate advanced training on the management of overactive bladder and bowel for senior physiotherapists
- Collaboration with MAMMI (Maternal Health and Maternal Morbidity in Ireland) study team to produce a free on-line learning course (MOOC) which will provide mothers-to-be with evidence-based information on pelvic girdle pain and urinary incontinence
- The Physiotherapy Service, in collaboration with MAMMI (Maternal health and Maternal Morbidity in Ireland) study team, were awarded several grants to produce a suite of online recourses in 2019. These were

  1. A Science Foundation Ireland grant received to produce online videos called MESSAGES for mothers. Motherhood, Empowerment, Sustainable Self-help – addressing gaps in Education through Science (MESSAGES)

2. A European Institute of Innovation and Technology grant to produce a Massive Open On line course (MOOC) titled: Women's Health After Motherhood.
3. Trinity College Dublin, Faculty of Health Sciences Deans' Research Initiatives Fund grant was awarded to undertake a research project looking at the quality of life in pregnant and postpartum women with urinary incontinence: a systematic review, feasibility study, and mapping of standards of care

- Six undergraduate specialist lectures for RCSI School of Physiotherapy students
- Undergraduate physiotherapy placements for RCSI School of Physiotherapy students
- Postgraduate clinical assessments for Bradford University Continence course

“I have been in the Rotunda Hospital for 16-17 years, since 2002. What I love about this ward is that you’re touching lives, at a point where people are very vulnerable and you get to deliver the best quality care to the patient.”

Helen Enyinnaya
Clinical Midwife Manager

Quality and Safety

Quality and Patient Safety Service

Head of Service

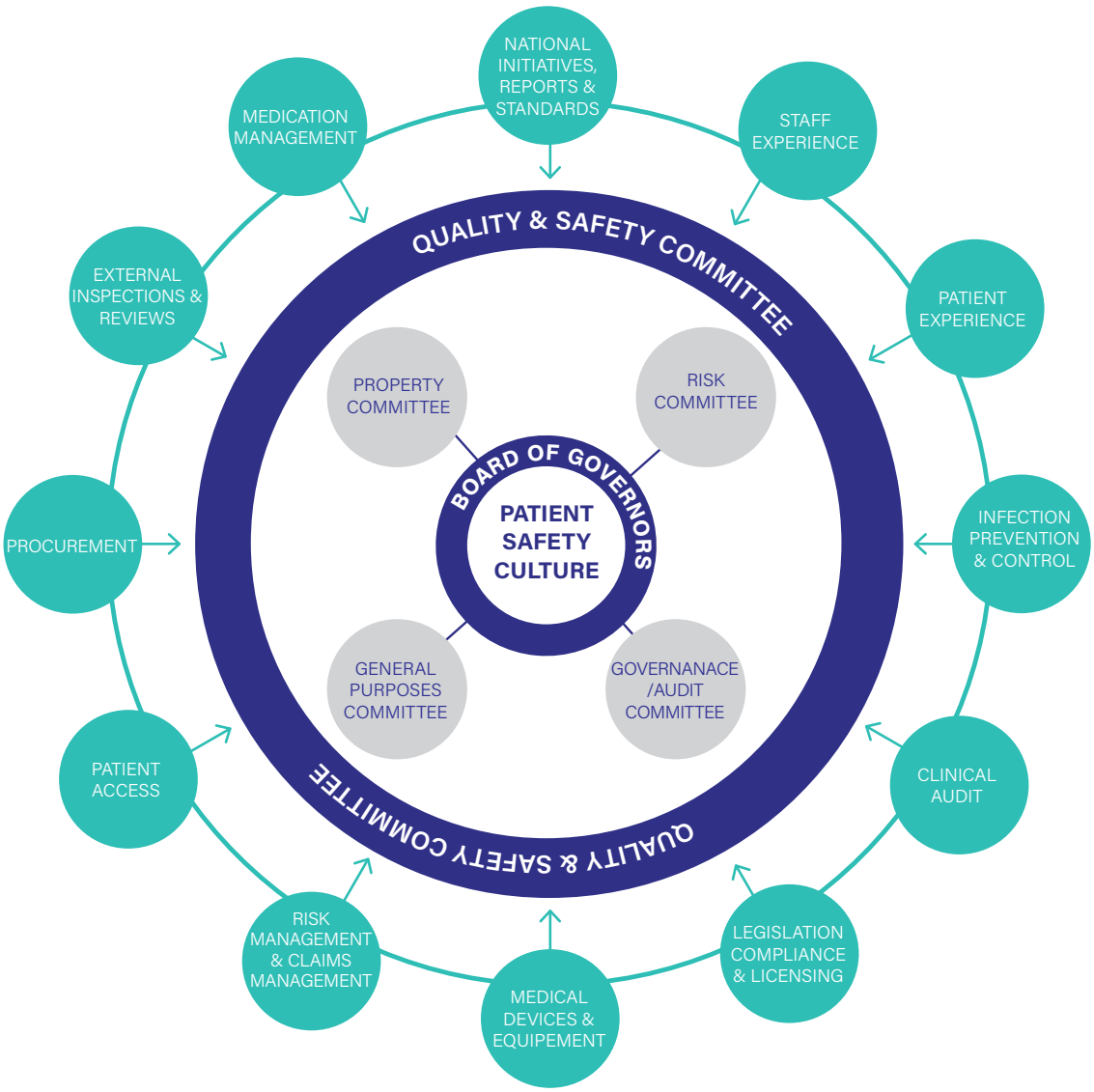
Ms. Sheila Breen, Head of Quality and Patient Safety

Staff

Ms. Sorcha Heaphy, Information Governance Manager
Ms. Anna Mooney, Information Governance Manager and Data Protection Officer
Ms. Orla Brady, Information Administrator
Ms. Leanne Kiernan, Information Administrator
Ms. Emma O'Mahoney, Information Administrator
Ms. Mariam Rachvelishvili, Information Administrator
Ms. Lynn Richardson, Information Administrator

Organisational Structure

Quality & Patient Safety Management



The Rotunda promotes a culture of patient safety and quality of service in all areas. There is constant monitoring, review and development of services and customer interactions. Reports from these reviews and monitoring are presented at the monthly Quality and Safety Committee which is chaired by the Master. The Committee expects to be advised of action plans developed to address any issues identified.

The Head of Quality and Patient Safety ensures a coordinated approach to patient improvement initiatives and the implementation of recommendations emanating internally or agreed nationally. The Rotunda Hospital is the data controller for patient and staff information and all requests for release of such information is managed in compliance with statutory and legislative frameworks.

Customer Feedback

Feedback is an important means by which the hospital gains awareness of the needs of patients and allows the hospital to be held accountable to our patients. The Rotunda Hospital encourages and facilitates patients and service users to provide feedback and comments on the service they receive in all areas of care. A summary of the patient experience is reported monthly to the Quality and Safety Committee. Feedback forms for service users are available throughout the organisation. In addition, a record of letters, emails and 'thank you' cards received are collated and reviewed monthly.

Activity

An inpatient Patient Experience Survey was undertaken over a three-week period commencing in June 2018. Some of the survey findings include:

- 98% would recommend the Rotunda to a family member or friend
- 98% were satisfied with the service they received
- 98% had confidence in the staff providing care
- 98% were always treated with dignity and respect
- 95% agreed that the food was of a high quality

Some opportunities for improvement were identified, which were progressed over the following months.

Successes and Achievements 2018

Of the 1,057 items of feedback logged in 2018, there were 1,023 positive comments and 35 negative comments or opportunities for improvement identified, which is an outstanding reflection on the standard of care provided at the hospital.

There has been a 29% increase in the number of complaints received in comparison to 2017. Complaints are received verbally, in hard copy and electronically. Details regarding these complaints are summarised in the table below.

Table 1: Successes and Achievements

	2017	2018
Complaints received	91	116
— Written	81	99
— Verbal	10	17
Complaints closed	87	119
% closed within 30 days of receipt	(98%)	(100%)

Elements of each complaint are categorised under eight broad headings, as classified by the Health Service Executive. Issues regarding 'communication and information' remain the most frequent theme. A number of initiatives have been progressed to highlight the importance of good clear communication with patients and family members. Thirty one recommendations were identified during the complaints review process; the majority of which were implemented during 2018 or otherwise early in 2019.

All staff receive training on complaints handling at induction, with an emphasis on the local timely resolution of issues or concerns when they are raised by a patient or family member. Training for staff involved in the review of and response to formal complaints was facilitated during the year as part of an RCSI Hospitals Group initiative.

Information Governance

In 2018, the hospital responded to Freedom of information, Routine Access, General and Data Protection Requests as per the following table:

Table 2: Information Governance

FOI Requests received	307
— personal	294
— non-personal	13
Routine Access Requests received	1,178
General Requests received	284
Data Protection Requests received	61

The overall number of Subject Access Requests increased by 25% in 2018, largely due to an increase in public awareness in terms of additional and enhanced rights under new legislation (GDPR) and the abolition of charges for FOI requests.

A decrease in the number of non-personal FOI requests was noted, which could be attributed to the increasing awareness of information accessible via the Freedom of Information Publication Scheme on the website.

Data Protection

The General Data Protection Regulation (GDPR) came into effect in May 2018. Our Internal Auditors undertook a review to assess our preparedness for its introduction and an action plan was developed and implemented. The role of the Data Protection Officer is incorporated into that of the Information Governance Manager.

Table 3	
Data Breaches	2018
Non Conformances	187
Breaches	34
Report to the Data Protection Commissioner	17

Staff training and education was provided in all departments to create awareness of GDPR and reflect their specific areas of responsibility under the new legislation Regular updates and Data Protection Tips were issued reguarly throughout the year.

Information Governance is an agenda item on the monthly Quality and Safety Committee meeting and any issues/concerns are raised.

Successes and Achievements 2018

Irish Healthcare Centre Awards

The Collaborative Group B Streptococcus Research Programme between the Rotunda and the Irish Meningitis and Sepsis Reference Laboratory, Temple Street won the Research Team of the Year award.

The General Hospital and Patient Education/Lifestyle Project award was won by the six SATUs for the introduction of a new care pathway offering collection and storage of evidentially valuable forensic samples when clients have yet to decide if they wish to report the assault to An Garda Síochána.

Other Achievements

Dr Adrienne Foran, Consultant Neonatologist won the Consultant Led Team of the Year 2018 at the Hospital Profession Award.

The Rotunda was the first Irish hospital to commence outpatient midwifery inductions. The project was submitted for the Irish Healthcare Awards and was shortlisted for Outpatient Initiative of the Year.

Seasonal Flu Vaccination

Over 80% of our staff were vaccinated against the Flu for 2018 - 2019 season, which was up from 68% the previous year.

Maternity Open Day

Our inaugural maternity open day was held in October in the Pillar Room for prospective parents to see our diverse range of services and improve the patient experience. It included informative talks as well as "taster" classes for yoga and hypnobirthing.

Charter Day Quality Showcases

All staff had an opportunity to showcase quality initiatives and poster presentations on Charter Day in November. Awards were presented to the top three, based on the impact of the initiative on patient care and benefit to the Hospital.

GP Initiatives

The Rotunda GP Connect E-Zine was published quarterly to keep our GP colleagues informed of service developments, innovations in the Hospital and on topics of particular interest to them. Local GPs were also invited to educational study evenings to further enhance our strong relationships.

Laboratory Accreditation - Irish National Accreditation Board (INAB)

This annual laboratory accreditation inspection took place in April and May 2018. The assessors were again very complimentary of the staff and the service provided. Rotunda Pathology has retained INAB Accreditation.

HIQA Inspections

An unannounced inspection of the Neonatal Unit and Postnatal Ward took place in December 2017. The report was received in early 2018. The report states that there are effective leadership, governance and management arrangements in place. However, the limitations of the current infrastructure and staffing levels were highlighted. A quality improvement plan was developed to address the areas for action identified.

Open Disclosure

The Rotunda remains committed to implementation of the National Open Disclosure Policy, whereby we are open and honest in our communication with service users and their family members when things go wrong. Training for staff continues and it is included in our Corporate Induction Programme.

Plans for 2019

Plans will be developed to participate in the inaugural National Maternity Patient Experience Survey in 2019, which is a joint collaboration between the Health Information and Quality Authority's (HIQA), the Health Service Executive and the Department of Health.

Preparations will continue in anticipation for HIQA's unannounced inspection relating to the National Standards for Safer Better Maternity Services, focusing on obstetric emergencies. The quality improvement plans developed will be progressed.

Infection Prevention and Control Service

Head of Service

Dr. Joanne O'Gorman, Consultant Microbiologist

Staff

Dr. Richard Drew, Consultant Microbiologist
Ms. Marian Brennan, Infection Control Midwive
Ms. Alva Fitzgibbon, Infection Control Midwive
Ms. Anu Binu, Infection Control Midwive

Service Overview

The Infection Prevention and Control Team (IPCT) works with colleagues across all areas of the hospital to ensure the risk of patients acquiring healthcare-associated infection (HCAI) is minimised.

Service Activity

The team's main workload involves provision of expert advice on infection prevention and control matters. To this end the IPCT undertake daily ward rounds and participate in a weekly antimicrobial stewardship round. The IPCT contributes to hospital committees including Quality & Patient Safety, Drugs & Therapeutics and Outbreak Control Teams as necessary. In 2018, the service provided input to the refurbishment of the neonatal unit and guidance in relation to planned building works.

The IPCT is actively involved in education, training and review of policy, procedures and guidelines. In addition, the service coordinates regular audits of compliance with care bundles for intravascular devices, hand hygiene and decontamination of medical equipment. In conjunction with laboratory colleagues the team provides ongoing surveillance of key infection-related issues including maternal bacteraemia, multidrug resistant organisms and caesarean site infections.

The Infection Prevention and Control Team reports to the Rotunda Hospital's Infection Prevention and Control Committee on a quarterly basis.

Success and Achievements 2018

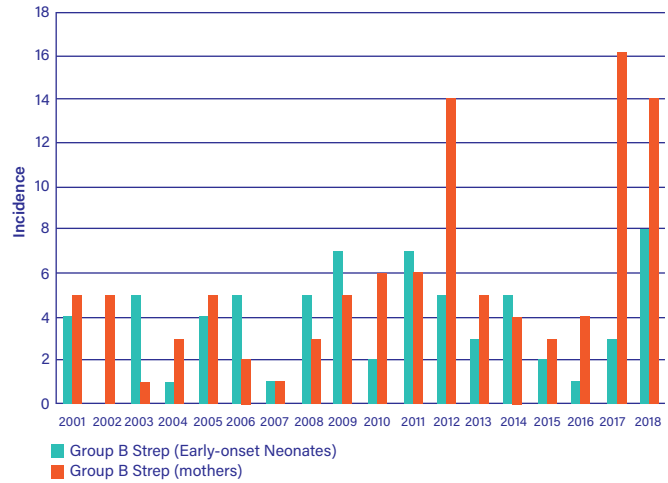
- Implementation of national guidelines for multi-drug resistant organism screening
- High levels of staff engagement with education and training sessions on IPC issues including monthly training days and the annual hand hygiene awareness events
- Achieving >90% hand hygiene compliance in the national hand hygiene audits which took place in May and October 2018
- Involvement in a care pathway initiative to reduce the risk of infection associated with caesarean delivery
- Completing a one year data collection exercise reviewing outcomes in preterm premature rupture of membranes (PPROM) following a change in hospital antimicrobial prescribing guidelines

Challenges in 2018

The major challenges for the service are:

- Ensuring IPC standards are achieved in the setting of an ageing hospital infrastructure, which is particularly challenging when outbreaks of infection occur
- Ongoing high levels of antimicrobial resistance with ~ 30% of Group B Streptococcus isolates resistant to Erythromycin and high rates (~35%) of co-amoxiclav resistance in E coli isolates
- High rates of bacteraemia related to Group B streptococcus (GBS), with fourteen maternal cases and eight early onset neonatal cases identified in 2018. Of these, seven maternal GBS bacteraemia and four neonatal bacteraemia cases were in the setting of induction of labour (Figure 1)

Figure 1: Group B Streptococcus bacteraemia



Plans for 2019

- Support the expansion of Group B Streptococcus molecular testing for all cases of induction of labour
- In 2019, the IPC service will launch the "Spread the Word - Infection Prevention and Control Matters" campaign. This campaign aims to improve understanding of HCAI and antimicrobial resistance with a particular focus on how we deliver information to staff and patients

"I started work in the Rotunda in January 1982 as a student midwife, worked as a staff midwife, clinical manager, Assistant Director and finally as Director of Midwifery and Nursing, taking early retirement in July 2018. A total of 36 plus years! The history and warmth of the Rotunda make it really special. There is nowhere else like it on the planet!"

Margaret Philbin

Former Director of Midwifery and Nursing

Clinical Risk Service

Head of Service

Ms. Louise Cleary, Clinical Risk and Claims Manager

Staff

Ms. Fiona Walsh, Clinical Risk Midwife
Ms. Michelle McTernan, Clinical Risk Advisor
Ms. Lisa Pugh, Clinical Risk and Claims Administrator
Ms. Brid Leahy, Clinical Risk and Claims Administrator

Service Overview

The Clinical Risk service is responsible for the ongoing development of a comprehensive clinical risk management programme across the hospital. This is achieved through the investigation of all reported risks, near misses and incidents in order to identify possible system vulnerabilities, extract the learning, implement changes where indicated and communicate this effectively throughout the multidisciplinary team.

All clinical incidents reported are recorded in the State Claims Agency's National Incident Management System (NIMS). The service is responsible for notifying the Clinical Indemnity Scheme (CIS), our insurers, of reported incidents, producing trend reports and providing feedback to hospital departments and committees in respect of incident trends.

Claims management is also a key function within the service and the team is the key point of contact for the hospital's solicitors. The service also analyses claims data for learning to be implemented within the hospital.

A member of the team provides reports and attends various committee meetings throughout the hospital, including Quality and Safety, Infection Control and Prevention, Medication Safety, Drugs and Therapeutics, Transfusion Committee and Patient Safety departmental meetings.

Service Activity

The service facilitates weekly Initial Incident Review Meetings. The purpose of this meeting is to review Serious Reportable Events and Serious Incidents to find out what happened and why it happened so that lessons can be learned. This is chaired by a Senior Consultant Obstetrician Gynaecologist, and is attended by an Assistant Director of Midwifery/Nursing, the Clinical Risk and Claims Manager and other MDT members relevant to the incident under review, where appropriate. In 2018, 75 incidents were reviewed at these meetings and reports were forwarded for evaluation and review by the Executive Management Team (See figure 1). The report findings are discussed at weekly Executive Management Team meetings where a decision is made if further systems analysis review is required. (See Figure 2)

There are monthly Senior Incident Management Forum (SIMF) meetings with the RCSI Hospitals Group where all identified Serious Reportable Events (SREs) and Serious Incidents (SIs) are discussed. Recommendations and learning from adverse events are also discussed at this forum.

Figure 1: Initial Incident Reviews Completed 2018, 2017

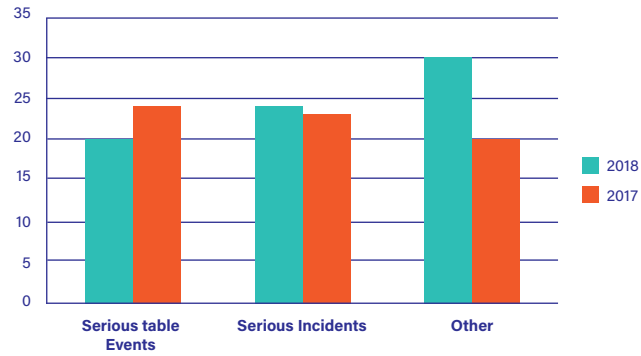
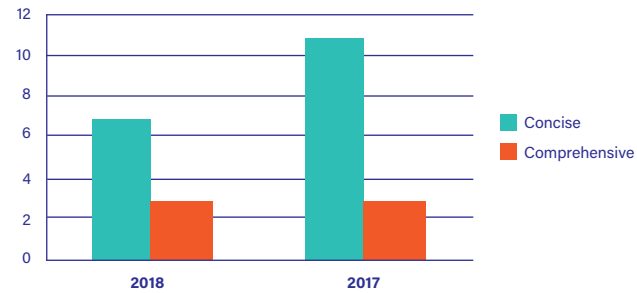


Figure 2: System Analysis Reviews Commissioned 2018, 2017



Education & Training

Learning from clinical cases continued to be shared through the Clinical Risk service staff monthly education sessions and departmental patient safety meetings throughout the year.

Quality Improvement Initiatives for 2019

- Introduction of Patient Safety huddles in clinical areas to promote the principles of patient safety and feedback recommendations from systems analysis reviews
- Improve the electronic system in the Clinical Risk service for collating information relating to clinical Incidents reported
- Improve the service provided by the Clinical Risk team for assisting staff following adverse events and follow-up of reviews, Coroners court cases, court cases in collaboration with our midwifery/nursing colleagues, medical staff and the Executive Management team
- Implementation of the HSE Incident Management Policy published in 2018

Clinical Audit Service

Head of Service

Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

Staff

Ms. Mary Whelan, Clinical Audit Facilitator ADOM
Dr. Valerie Jackson, Clinical Audit & Surveillance Scientist
Mr. Colin Kirkham, Research Officer

Service Overview

The Rotunda Hospital Clinical Audit Service was established in June 2011 and has developed significantly since then to support a structured approach to evaluating care against local, national and international standards.

Departmental Activity

All clinical audit activity within the hospital is monitored and routinely reported. Promoting a high standard of practice among clinical staff and all other healthcare workers undertaking clinical audit is a key objective for the hospital. The department provides a forum for the sharing and dissemination of clinical audit work throughout the hospital, which is facilitated by the use of the clinical audit database, the Biannual Clinical Audit & Research Meetings and Interim Results Meetings.

Successes and Achievements 2018

Enhancing Patient Care

- **Register of Clinical Audit**
  In total, 52 clinical audits were registered in 2018 (37 first time audits, 14 re-audits and 1 continuous audit).
  In the same period 55 clinical audits were completed, a slight increase on the number completed in 2017 (table 1).

Table 1: No. completed clinical audits 2014-8

Audit	2014	2015	2016	2017	2018
First audits	42	34	38	34	41
Re-audits	9	21	13	15	14
Total	**51**	**55**	**52**	**49**	**55**

- **Clinical Audit Group weekly meeting**
  The core group within the Clinical Audit Department continues to meet on a weekly basis to discuss and approve audit applications. All reports and action plans received are also reviewed at this time.
- **Support and Mentoring**
  The team continues to provide advice, guidance and support to Clinical Audit personnel in other hospitals upon request, hosting several on-site visits in 2018
- **HIQA Self-Assessment**
  In June 2018 the Clinical Audit Service played a key role in the HIQA self-assessment performed by the Hospital, providing evidence of audits completed and a list of proposed topics for future audit

Education and Training

The clinical audit team regularly delivers in-house educational sessions on the clinical audit cycle for all disciplines. Ten information sessions were held in 2018. A total of 76 staff members attended, with representatives from all clinical areas. In addition, an education session was delivered to TCD MSc Midwifery students.

Two Biannual Clinical Audit & Research Meetings were held during the year, providing a forum for audit leads to discuss their findings and actions for quality improvement. In addition, two Interim Results Meetings were held providing an opportunity to focus in more detail on selected audits. In total, 33 audits were presented at these events, representing and attended by all disciplines in the hospital.

The clinical audit team attended several external audit meetings and conferences throughout the year including:

- National Office of Clinical Audit (NOCA) National Conference, RCSI, January 2018
- St. James's Multidisciplinary Research, Clinical Audit & Quality Improvement Meeting, May 2018
- Clinical Audit and Quality Improvement Symposium. Tallaght Hospital, April 2018
- 3rd National Patient Safety Conference, Dublin Castle, October 2018
- Does Clinical Audit Improve Patient Care and Outcomes? UCD, October 2018
- 13th Clinical Audit Masterclass, St. Vincent's University Hospital, October 2018
- Inaugural Joint Research Network Conference "Nurturing the Development of Research and Clinical Audit to Enhance Women and Infants Health". National Maternity Hospital, Holles St, December 2018

A number of audits were presented at national meetings in 2018, including:

- The Implementation of Outpatient Midwifery Induction of Labour. Ms. Julie Horgan, International Maternal Health Conference, TCD, October 2018
- Outpatient Midwifery Induction of Labour. Ms. Julie Horgan. Shortlisted for "Outpatient Initiative of the Year" Irish Healthcare Awards, October 2018
- The Implementation of Outpatient Midwifery Induction of Labour. Ms. Julie Horgan, 7th Annual Quality Patient Safety Meeting in Beaumont Hospital, November 2018
- Predicting outcomes in patients with underlying cardiac disease: an Irish perspective. Mr. Alain Fennessy, Poster at the Congress on Cardiac Problems in Pregnancy CPP 2018, Bologna, Italy on February 22-25. 2018

- Audit on risk factors, complications and management of peripartum hysterectomies during 2017 in Rotunda Hospital. Ms. Dana Teodorescu, Ms. Mary Bowen. Obstetric Anaesthesia 2018 Conference, Belfast 24 - 25 May, 2018

Innovation

MN-CMS

The Maternal & Newborn Clinical Management System (MN-CMS) electronic healthcare record was introduced in November 2017. Despite it being such a significant change in practice for staff, it is reassuring to note that clinical audit activity did not decrease in the initial months after its introduction. In fact it seems to be a great benefit to staff in conducting clinical audits, with quicker access to real-time, high quality data.

Challenges 2018

Dissemination of findings

Ensuring clinical audit findings are disseminated throughout the organisation is an ongoing challenge. The Biannual Audit & Research Meetings, the Interim Results Meetings and email are invaluable in this regard. However, we acknowledge there may still be small numbers of staff who cannot attend these meetings or do regularly access their email and so the ongoing commitment of department and ward managers to communicate audit findings is relied upon.

Overcoming barriers to audit

As the busiest maternity hospital in the country, finding the time to conduct a clinical audit can be difficult. To make the process as streamlined as possible, an extensive review of the application processes and required support documentation has been carried out to include more detailed information and guidance regarding Data Protection Legislation and GDPR. The clinical audit team is also available to provide assistance through all stages of the audit process, with an open-door policy for staff.

Clinical Audit Steering Group

The Clinical Audit Steering Group endeavoured to meet on a quarterly basis. However, it was often difficult to select a meeting time to suit all key stakeholders from each clinical area, given the competing clinical demands on staff. A decision was made to place all further Clinical Audit Steering Group meetings on hold and instead to provide a greater clinical audit team presence at departmental Patient Safety Meetings. In general, biannual patient safety meetings are held within each clinical area and clinical audit is a standing agenda item. This enables greater focus on the audits relevant to that particular department. So far this has proven very effective.

GDPR

General Data Protection Regulation (GDPR) is a new EU Regulation that came into operation in May 2018. It strengthens the powers of the Data Protection Commissioner and defines new responsibilities on data controllers. The Clinical Audit Team looks forward to working with the hospital's Data Protection Officer to ensure that all clinical audit processes are compliant with the new regulations and complete any relevant training courses in GDPR so that the best advice is provided to audit leads.

Plans for 2019

- **Networking and Leadership**

  The Clinical Audit Service will continue to forge and develop links with peers on a national and international level through the Irish Clinical Audit Network.

  The Clinical Audit Service will continue to progress plans to develop a national maternity clinical audit hub based at the Rotunda by creating a central repository of audits with a view to identifying regional and national priorities and supporting local audit activity in smaller units.

Clinical Reporting Service

Head of Service

Ms. Kathy Conway, Head of Clinical Reporting

Staff

Ms. Martina Devlin, HIPE Clinical Coder
Ms. Aideen Preston, HIPE Clinical Coder
Ms. Carmen Gabarain, HIPE Clinical Coder
Ms. Mary O'Reilly, HIPE Clinical Coder
Ms. Ruth Ritchie, Clinical Data Validation Officer.
Mr. Colm Kirkham, Data Informatics

Service Overview

The Clinical Reporting Service oversees and validates the production of hospital data reports for internal and external use. Activity is validated between current electronic systems such as the patient management system (iPMS), the maternity and neonatal management system (MN-CMS) and other data support systems. There are routine periodic reports produced for the hospital Executive Management Team, Committee meetings and for Heads of Departments as required. Additionally, reports are exported to the Health Service Executive, RCSI Hospitals Group and other external agencies.

Internal Reports

- A monthly report with a suite of key performance indicators is produced to enable hospital management to analyse and plan for service activity in all areas. This report is also circulated to the General Purposes Committee of the Board of Governors
- Ad hoc reports on specific activity are produced as required
- Reports for the purpose of audit or research

External Reports

- RCSI Hospitals Group Senior Incident Management Forum (SIMF)
- Irish Maternity Indicator System (IMIS) report to HSE
- Patient Activity Statement to RCSI Hospitals Group and to HSE as well as publishing on Rotunda website
- Business Intelligence Unit report to HSE
- Annual submission for Vermont Oxford Network
- Export HIPE data to Hospital Pricing Office (HPO)

Successes and Achievements 2018

There were 9,255 day cases and 14,259 inpatients coded during 2018.

Challenges 2018

There were challenges in meeting coding deadlines due to retirements and resignations of experienced Hospital In-patient Enquiry (HIPE) coders. Skilled and experienced HIPE coders are a scarce resource and are difficult to replace. There is a very small number of staff available in this specialised area across the whole healthcare system. IT Midwifery role has been incorporated into the Clinical Reporting Service to provide data validation across all clinical systems. This supports the delivery of optimum healthcare service provision and service initiatives.

The most substantial challenge in 2018 was delivering substantiated business intelligence from MN-CMS. There have been ongoing challenges in developing and roll-out of reports from MN-CMS. This is being addressed with the National Implementation Team.

Plans for 2019

- To develop business intelligence from MN-CMS and iPIMS
- To ensure that all reports are appropriately validated before issuing internally or externally
- Reports are produced in a timely fashion
- Meet all HIPE deadlines for coding

Academia

Department of Research

Heads of Department

Dr. Joanna Griffin, Director of Research & Clinical Innovation (Rotunda)
Dr. Liz Tully, RCSI/National Clinical Network Manager

Staff

Mr. Cormac McAdam, Communications Manager
Ms. Meadhbh Aine O'Flaherty, Operations Manager
Mr. Colin Kirkham, Research Officer
Ms. Lisa McSweeney, Research Manager
Ms. Fiona Brady, Research Coordinator
Ms. Fiona Cody, Research Sonographer
Dr. Patrick Dicker, Biostatistician
Ms. Andrea Lydon, Research Coordinator
Ms. Alma O'Reilly, Research Manager
Mr. Mark Kerins, Communications Officer
Mr. Luke Heaphy, Research Manager
Ms. Maria Kavanagh, Research Coordinator
Ms. Ruth Ennis, Research Manager
Mr. Oliver Feeney, Research Coordinator
Ms. Lucy Murphy, Research Coordinator

Service Overview

The Department of Research, which is jointly run operationally with our major academic partner, the Royal College of Surgeons in Ireland, continued to grow and develop in 2018. This integrated approach alongside RCSI with shared staffing and resources, has allowed a substantial increase in the Rotunda's academic funding streams and portfolio of research studies and clinical trials.

Figure 1: Percentage Funding by Research Area

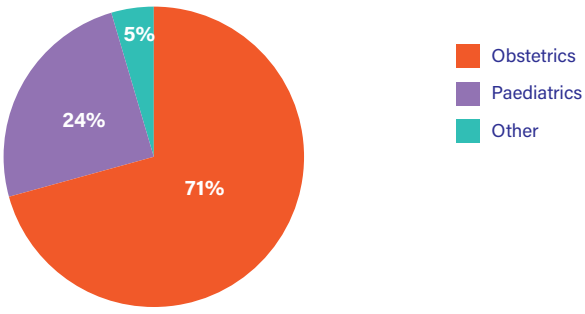
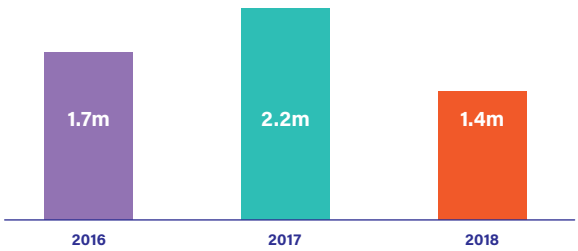


Figure 2: Total Funding (€)



Network Collaborations

Health Research Board (HRB) Mother and Baby Clinical Trial Network Ireland

Headquartered at the Rotunda-RCSI Research Department, the HRB Mother and Baby Clinical Trials Network Ireland (HRB MB-CTNI) is a unique partnership between the two successful perinatal research entities, Perinatal Ireland and the SFI funded INFANT centre in Cork, which further solidifies the existing collaboration and partnership between the seven largest academic obstetrics units on the island. The HRB Mother and Baby CTNI has a well-established track record in collaborative research and in conducting large-scale, multicentre, randomised controlled trials (RCTs), with a core focus on the conduct of clinical trials of novel interventions and diagnostics in pregnancy and neonates.

Portfolio of network trials in 2018

- PARROT - multi-centre stepped wedge RCT of a point-of-care (POC) device to measure plasma PIGF (Placenta Growth Factor) in women who present with suspected pre-eclampsia prior to 37 weeks gestation
- IRELAND – multicenter RCT investigating the role of Aspirin in pregnancy outcomes of women with pre-gestational diabetes
- HIGHLOW – RCT comparing different doses of medication to prevent recurrence of potentially life-threatening blood clots in pregnant women
- MINT – pilot study to assess the feasibility of a multicentre definitive intervention trial of milrinone therapy in newborns with persistent pulmonary hypertension (PPHN)

Perinatal Ireland

Perinatal Ireland is a multi-centre, all-Ireland research consortium focused on carrying out research into women's and children's health. The consortium, which was the first HRB-funded network in the country, links the seven major academic obstetric hospitals across the island of Ireland as well as representatives of all seven medical schools on the island of Ireland. The network is also headquartered at the RCSI Rotunda Research Department and has a well-established international reputation in obstetric and paediatric research. In 2018, its principal research trial was the SMART Study. The Natera-sponsored SMART study (SNP-based Microdeletions and Aneuploidy Registry) aims to further evaluate the performance of a non-invasive prenatal screening test for fetal abnormalities, and was initiated at the Rotunda in June 2016. Recruitment was completed in December 2018, with over 4,500 patients enrolled. Results will become available in 2019.

Clinical Innovation Unit

In 2018, the Business Development Unit was renamed the Clinical Innovation Unit and focussed on some key clinical initiatives including:

- Bartholin's Abscess Management-a new clinical pathway to reduce inpatient admission
- GBS intrapartum testing now available on a 24/7 basis

- Molecular diagnostics for rapid evaluation of mastitis and bacterial vaginosis
- Biomarker evaluation for epidural-related fever
- Rotunda-branded "keep cup" green initiative
- Patent for Rotunda Umbifunnel progressed and manufacturing partnership secured

The Rotunda Clinical Innovation Unit was shortlisted for the HSE Service Excellence Awards 2018

Technology Partnerships

In collaboration with the Royal College of Surgeons in Ireland (RCSI), the Rotunda has been working with leading Information and Communication Technology companies, Philips and Huawei, to collaborate in research and innovation in the area of mobile health (M-Health) opportunities. The department has been working to combine its expertise to identify unmet clinical needs and areas for improvement in maternal and newborn care, which might be addressed using technologies such as ICT, "Big Data", and remote patient monitoring. In 2018, the team attended international meetings in Eindhoven and Rotterdam focusing on the development of wearable technology in the healthcare sector.

Research Communications

In 2018, the Research Department continued the management and development of the Rotunda Hospital website, following the successful redesign in 2017. Rotunda.ie had over 630,000 page views in 2018, and over 174,000 users. 73% of visitors accessed Rotunda.ie on mobile devices.

Based on the high levels of mobile users, development of the Rotunda Maternity Information App was commenced in 2018. Through a strategic partnership with IBM via the Clinical Innovation Unit, work began to translate the current paper-based Maternity Information Pack that patients receive during their booking visit, into a digital format. The 'Rotundapp' is a more accessible and versatile platform for women who want to keep informed during their pregnancies.

In 2018, the Research Department expanded the social media reach of the Rotunda Hospital on Facebook and Twitter. The Rotunda Hospital gained over 1,500 new followers over the course of 2018, and over 1.3 million impressions. The Rotunda Hospital Facebook community grew by over 2,800 to break the 7,000 follower threshold by the end of 2018.

Research Events

CREATE

Sponsored by the Health Reserach Board, "CREATE: The Art of Pregnancy, Birth & Beyond", was a free art exhibition developed by the HRB Mother and Baby CTNI team based at the RCSI-Rotunda Research Department. It was hosted during July 2018 at the Science Gallery Dublin at Trinity College Dublin, and during Culture Night at the Rotunda Hospital. The exhibition spotlighted pregnancy and newborn journeys, the people who make them, and the research that impacts them. The exhibition consisted of 13 works of art, in a diverse range of media, from paintings and photography, to video, digital art, handcrafting and knitting. The artists who contributed their works were an eclectic mix including professional and amateur artists, scientists and clinicians, women telling their own stories, and women telling the stories of others. The 13 pieces touched on topics such as perinatal mental health, bereavement and pregnancy loss, IVF, prematurity, labour and birth experiences, and breastfeeding, as well as exploring how health research helps women and newborns. Through this unique exploration of these topics, CREATE aimed to empower patients through education and promoted increased public interest and awareness of this crucial area of health research. CREATE was visited by over 3,000 people over the course of it's stay at the Science Gallery and the Rotunda Hospital. It was featured on the front page of The Irish Times and was used by local community groups as a breastfeeding space over the course of the exhibition.

Maternity Open Day

The Research Department took part in the first Rotunda Hospital Maternity Open Day. Members of the Research team engaged with expectant parents in The Pillar Room of the Rotunda Hospital, and discussed the current portfolio of clinical trials, how important research is in the life of a Hospital, and how parents can get involved in research being conducted at the Rotunda.

Research Ethics Committee

The department plays an important role in assisting the hospital Research Ethics Committee in both an advisory and administrative capacity. In 2018, a total of 24 applications were reviewed by the hospital's Research Ethics Committee and a further 23 applications, for retrospective chart reviews were reviewed by a subgroup of the committee, the Research Advisory Group.

Funding Success

This year, more than €1.4 million in research funding was secured through a wide variety of funding avenues, both national and international. The Rotunda's communications programme secured more than €130,000 from both the HRB Conference and Events Scheme and the HRB Knowledge Exchange and Dissemination Scheme to enable the continuation of the department's outreach initiatives. Coupled with support from the Rotunda Foundation which continues to assist with funding research equipment and projects throughout the hospital, the department has achieved significant financial and fundraising successes in 2018.

Fundraising

The Soundstart Programme was a fundraising initiative launched in June 2018 by Prof. Fionnuala Breathnach with a charitable fundraising lunch and art auction at the Cliff Townhouse, St. Stephen's Green, Dublin. The event raised €10,000 towards the development of an ultrasound training programme. The programme also received the generous donation of a state-of-the-art Samsung ultrasound machine from MIS Healthcare. The new Soundstart ultrasound suite will be officially opened in 2019 in the RCSI Unit, at the Rotunda Hospital.

The Research Department jointly organised a Christmas fundraiser in the Rotunda with the Rotunda Foundation raising almost €4,000 by selling Rotunda merchandise such as cards, reusable cups and Christmas puddings.

Rotunda Pride raised much needed funds for "Outhouse" on Capel Street, Dublin, an organisation which works with LGBT youth, their families and friends.

Awards & Achievements

Rotunda.ie was nominated for an Eir Spider award in 2018.

Prof. Fergal Malone and his colleagues were awarded Most Highly Cited RCSI Senior Authored Paper for "Optimizing the definition of intrauterine growth restriction: The multicenter prospective PORTO Study".

Challenges 2018

- Ongoing challenge of maintaining and growing diverse funding streams
- Research and office space continues to pose a challenge for a growing department
- Establishing new and effective communication channels with staff, press, industry and the public

Plans for 2019

- Launch of "Debunking the Myths - The Science Behind Women's Health" sexual health workshop series for teenagers
- Launch of Soundstart Training Programme to optimise the education of sonographers and doctors in the field of obstetric ultrasonography
- Launch and roll-out of three new national multicentre clinical trials; HIGHLOW, IRELAND, MINT.
- CREATE exhibition will be displayed in Cork and Galway as part of the nationwide tour
- "Real Talk with Real Mums" podcast will begin, culminating in a live episode in December 2019
- "Rotundapp" will be formally launched

“I know it’s unusual to like hospital food but I honestly couldn’t have had nicer, healthier and tastier meals anywhere.”

Research Ethics

Head of Committee

Prof. Michael Geary, Chairman.

Committee Members

Dr. Mona Abdelrahman
Dr. Sharon Cooley
Dr. David Corcoran
Dr. Deirdre Daly
Dr. Emma Doyle
Dr. Richard Drew
Dr. Maeve Eogan
Dr. Joanna Griffin
Ms. Fiona Hanrahan
Ms. Sorcha Heaphy
Ms. Richard Horgan
Mr. Colin Kirkham
Dr. Cathy Madigan
Prof. Fergal Malone, Master
Ms. Anna Mooney
Dr. Fionnuala Ni Ainle
Dr. Roisin Ni Mhuircheartaigh
Ms. Kristina Odlum
Mr. John O'Loughlin
Ms. Margaret Philbin
Ms. Mary Whelan
Ms. Margaret Woods

Service Overview

The Research Ethics Committee was established in 1995 as a Hospital Committee with overall responsibility to approve any research conducted in the hospital or related to the hospital by employees of the hospital or individuals from outside the hospital.

During the year there were a number of depatures from the Committee, Ms. Sorcha Heaphy resigned on leaving the Rotunda in April 2018; Ms. Margaret Philbin retired from the Rotunda in May 2018; Dr. Maeve Eogan finished her term on the Committee in September 2018; and Dr. Roisin Ni Mhuircheartaigh finished her term on the Committee in September 2018. Their hard work and contribution to the Committee over many years is acknowledged and appreciated.

A significant number of new members joined the Committee during the year. Ms. Margaret Woods joined in February 2018; Ms. Fiona Hanrahan joined in July 2018 as the new Director of Midwifery and Nursing; Ms. Mary Whelan joined in July 2018; Dr. Mona Abdelrahman joined in July 2018 as the NCHD representative; Ms. Anna Mooney joined in September 2018 and Dr. Richard Horgan joined in November 2018.

Activity

The Research Ethics Committee met on eleven occasions in 2018. There were 24 REC applications considered during the year, 14 of which were approved to commence. Separately there were 23 Research Advisory applications considered by the Research Advisory Group and 22 of these were approved and brought to the attention of the Research Ethics Committee. In contrast, in 2017 the Committee met on nine occasions and reviewed 35 applications, 31 of which were approved. In 2017, there were 13 Research Advisory applications considered and 12 of these were approved.

Challenges

The biggest challenge in 2018 was the introduction of the General Data Protection Regulations (GDPR). This was adopted by the European Union in April 2016 and became enforceable beginning on May 25 2018. GDPR is a regulation in EU Law on data protection and privacy for all individuals citizens of the European Union. The GDPR aims primarily to give control to individuals over their personal data and to simplify the regulatory environment for international business by unifying regulations within the EU. The interpretation of GDPR has had implications in the area of Health. Almost all countries within the EU have taken a pragmatic approach to the introduction of GDPR. However the department of Health in Ireland has taken a much more rigorous approach to the interpretation. This precludes hospitals from doing retrospective chart reviews without the explicit consent of the patient. Ireland is the only country within the EU that has taken this hard line on restrospective research. The initial pragmatic approach taken by our REC was to approve these studies under the broad approach of "legitimate interest" of quality improvement of patient safety. However futher advice was that explicit consent must be obtained from all patients for any of these types of reviews. Obtaining this type of explicit consent in many cases can be difficult and very time consuming. As such there have been very few of these types of studies approved within the last year. There is an ongoing working group led by RCSI and University College Cork, including the main Medical Schools (Corporate Enabling of Clinical Research) which is looking at the main issues around clinical research in Ireland and the interpretation of GDPR. There will be ongoing talks between this group and the Department of Health and the Health Research Board. We are hopeful that some further clarity in this area will be achieved and that a more pragmatic approach to retrospective chart reviews will be taken.

Plans for 2019

We are hoping to increase membership of the Committee with new members coming from a number of other disciplines. Further discussion around GDPR will hopefully lead to a more pragmatic solution that will facilitate traditional research that has the capacity to improve quality in care and patient safety. We are grateful to all of the Committee Members for their hard work and commitment during the year and to Margaret Griffin for providing secretarial support to the committee.

RCSI Department of Obstetrics and Gynaecology

Head of Department

Professor Fergal Malone, Professor & Chairman

Staff

Prof. Fionnuala Breathnach, Associate Professor
Prof. Paul Byrne, Honorary Clinical Professor
Dr. Karen Flood, Senior Lecturer
Dr. Ronan Gleeson, Senior Lecturer
Prof. Sam Coulter-Smith, Honorary Clinical Professor
Prof. Michael Geary, Honorary Clinical Professor
Dr. Carole Barry, Honorary Senior Lecturer
Dr. Naomi Burke, Honorary Senior Lecturer
Dr. Kushal Chummun, Honorary Senior Lecturer
Dr. Sharon Cooley, Honorary Senior Lecturer
Dr. Jennifer Donnelly, Honorary Senior Lecturer
Dr. Maeve Eogan, Honorary Senior Lecturer
Dr. Mary Holohan, Honorary Senior Lecturer
Dr. Edgar Mocanu, Honorary Senior Lecturer
Dr. Hassan Rajab, Honorary Senior Lecturer
Dr. Rishi Roopnarinesingh, Honorary Senior Lecturer
Dr. Siobhan Corcoran, Maternal Fetal Medicine Subspecialty Fellow
Dr. Sieglinde Mullers, Maternal Fetal Medicine Subspecialty Fellow
Dr. Catherine Finnegan, Specialist Registrar/Tutor
Dr. Ann McHugh, Specialist Registrar/Tutor
Dr. Niamh Murphy, Specialist Registrar/Tutor
Dr. Suzanne Smyth, Specialist Registrar/Tutor
Ms. Claire O'Rourke, Midwife Sonographer
Ms. Ann Fleming, Midwife Sonographer
Ms. Grainne McSorley, Research Nurse
Ms. Michelle Creaven, Administration
Ms. Suzanne Kehoe, Administration
Ms. Suzanne King, Administration

Service Overview

Patient Services

The RCSI Fetal Medicine Centre continues to provide select advanced fetal medicine services for patients of the Rotunda Hospital, as well as those referred from throughout Ireland. During 2018, a total of 4,716 fetal ultrasound examinations were performed at the Centre.

First trimester screening using nuchal translucency with serum markers is now rarely used in our practice due to the increasing popularity of non-invasive prenatal testing (NIPT) risk assessment. Most patients now select NIPT-based screening at 9-10 weeks' gestation, with nuchal translucency provided as a stand-alone separate test at 11-13 weeks' gestation to screen for additional fetal malformations.

Teaching

187 medical students participated in the RCSI Obstetrics and Gynaecology core seven-week clinical teaching rotations. The RCSI Department of Obstetrics and Gynaecology has a leadership role in providing teaching and assessment for undergraduates at the Rotunda Hospital, National Maternity Hospital, Our Lady of Lourdes Hospital Drogheda, Midland Regional Hospital Mullingar, St. Luke's Hospital Kilkenny, Waterford Regional Hospital, and Cavan General Hospital. These students participated as sub-interns on the hospital wards and in clinics, contributing significantly to the mission and function of the hospital, while providing increasingly positive feedback on their learning experiences.

Additionally, the department continued to participate in training Physician Associates, under the direction of the RCSI School of Medicine.

Research

We have enjoyed a strong collaborative relationship with our hospital research partners over the past number of years. This year saw a further integration of our shared research endeavor with the Rotunda Hospital, encompassing perinatal research both at local site and national levels. Please see the section on the Rotunda/RCSI Research Department for further information on the academic research outputs of this joint department.

Successes and Achievements 2018

In 2018, the department published scientific articles in international journals with major scientific impact, and was one of the most prominent international participants at the world's largest obstetric research meeting, the Society for Maternal Fetal Medicine, held in Las Vegas.

Challenges 2018

The main challenge for the department in 2018 was maintaining high standards of clinical teaching for undergraduate medical students despite ever-increasing numbers of students needing to be taught the core specialty of obstetrics and gynaecology. The quality of teaching has been maintained through the recruitment of additional academic staff and dynamic tutor registrars. The department has access to a new, state-of-the-art simulation centre at the RCSI York Street building which has allowed the implementation of new teaching and assessment techniques, which focus on improving communication and clinical skills.

Plans for 2019

In 2019, the department will continue to enhance its research portfolio, with additional PhD and MD candidates conducting a range of randomised and observational clinical trials (see Rotunda/RCSI Research Department for further details). The department will also expand its academic staffing by appointing key new consultant staff at its other affiliated hospitals.

Library and Information Service

Head of Service
Ms. Anne M O Byrne, Head Librarian

Staff
Ms. Noreen McHugh, Senior Library Assistand

Service Overview
The Library and Information Service (LIS) of the Rotunda Hospital provides reference/study facilities, electronic access and computer facilities, to all the staff of the hospital. In addition, it provides facilities for medical students from the Royal College of Surgeons of Ireland who use facilities as part of their residency programmes. TCD Midwifery students may also use facilities during their courses of study.

Facilities include the following services: study facilities (20 study spaces), networked computer access (6 pc's) and Wi-fi, 24 Hour Reading Room facilities, Book Return facilities and integrated print and photocopy services. Electronic facilities include access to electronic journals and medical databases through "Rotunda Discovery Platform" and remote access with ATHENS registration. LIS has qualified library staff to assist in the dissemination of Library and Information Services to users and training on evidence-based resources.

Developments
In 2018, a number of key developments were put in place to aid service development.

Library staff, working in co-operation with the Journal Holdings Committee of the Health Sciences Libraries Group, assisted in the move to a new interlending platform called Health Journals Network of Ireland. This updated platform provides quick and efficient access to the holdings of more than sixty libraries who agree to share in providing document delivery, thereby supporting research and publication.

The Library and Information Service continues to promote the personal development of library staff and all clinical and allied health staff.

Professionally qualified staff have a need for continuing professional development and for networking with their peers. In 2018 Library and Information Service Staff attended two training events: the Annual Health Science Libraries Conference and the Annual Academic and Special Libraries Training Event. These networking initiatives are rewarding professionally and assist in promoting the hospital's profile nationally and internationally.

User training continued throughout the period with good levels of attendance. The library hosted MEDLINE training day in February, which was facilitated by OVID Wolters Kluwer. Feedback from users was quite positive. Prescribed Literature Searching and systematic reviews are provided by request.

Successes and Achievements 2018
In accordance with the Strategic Plan, the Librarian was assigned the remit of creating a Historical Committee and to invite representatives to this Committee. The purpose of this Committee was to co-ordinate planning for all Historical events.

In 2017 the Historical Committee commenced its work in planning events for our 275th Anniversary in 2020. Forward planning and reporting to the Board is essential in creating events to mark another milestone in the Rotunda's history. The work of this Committee has continued in 2018 and two successful events took place as follows:

- **Culture Night September 21 2018**
  This was the first time that the Rotunda Hospital contributed to this Open Night Event and access was given to a series of lectures and Chapel visits. Volunteers from all sections of the Rotunda supported group tours which were well received by the public. As Chair of the Historical Committee the Librarian was responsible for the management of this event.
- **"Centenary of Midwives Act: Historical and Contemporary Perspectives Conference" held on October 1 2018, Pillar Room, Rotunda Hospital.**
  To mark the centenary of The Midwives Act 1918 a conference took place in the Pillar Room of the Rotunda Hospital and was formally opened by the Minister fior Health, Simon Harris, This conference was planned by a sub Committee of the Historical Committee, (Chaired by the Librarian), in line with the Hospitals Strategic Plan and discussed historical and contemporary perspectives in Midwifery. Presentations to this unique event considered the way in which childbirth began to change, and explored popular midwifery practices in pre-Famine Ireland. Contemporary presentations illustrated how Motherhood is supported in the 21st Century. The conference was well attended and closed on the theme "Midwives voices in Irish Maternity care: contemporary developments".

Challenges 2018
As in previous years staffing has been subject to change. The assistance and support of Ms. Noreen McHugh who replaced Ms. Geraldine Walsh as Senior Library Assistant and her contribution to service development is appreciated. We wish Ms. Geraldine Walsh every success in her new career as a freelance writer. Staff access to training continued in 2018 and changes to the Practice Development team has not assisted in releasing staff for training. Space for collections is an ongoing issue.

Plans for 2019
Feeding into the Hospital's Strategic Plan, The Historical Committee, Chaired by the Librarian, is planning a number of events to commemorate the Hospital's 275th Anniversary in March 2020. Submissions for funding to support events will be requested.

The Rotunda Foundation

Head of Foundation
Ms. Sheila Costigan, General Manager

Staff
Mr. Chetan Chauhan, Marketing Executive

Board of Governors
Mr. Andrew Wortley, Chairperson/Director
Mr. Colm Reilly, Secretary/Director
Ms. Sylvia Graham, Director
Ms. Marie Malone, Board Member

Advisors to the Board
Mr. James Clancy, Company Secretary
Mr. Daragh O'Shaughnessy, KSi Taxation Advisor
Mr. Declan Mulhall, Partner, KSi Faulkner Orr Accountants
Ms. Carla Glynn, Communications Research & Corporate Partnerships

Overview
The Rotunda Foundation is the official fundraising arm of the Rotunda Hospital and operates as a registered charity (CHY20091). Established in 1971 under the name of 'Friends of the Rotunda' and incorporated as a Limited Company by Guarantee and Not Having A Share Capital. The Foundation is registered with the Charities Regulatory Authority (CRA).

The Charity has a firm commitment to transparency, accountability and adherence to good governance, best practice and performance. It publishes annual audited accounts approved by KSi Faulkner Orr Accountants which are uploaded onto the Charities Regulatory Authority (CRA) database.

The Foundation relies on revenue it generates annually from fundraising activities, corporate sponsorship and donations.

Successes and Achievements 2018
The Foundation supported a significant number of the Rotunda's Research and Training Programmes by providing seed capital to finance several high-quality research studies and the training of healthcare staff. The Foundation has used donations to support specialist services within the Rotunda and to purchase essential new equipment that would otherwise not be funded by the State:

- **Research: Pilot Study to investigate the role of ultrasound guidance during evacuation of retained products of conception (ERPC)**
  Principal Investigator: Dr. Karen Flood
  Grant Awarded — €33,450
- **Research: Epidural Related Maternal Fever: An epoch study assessing Interleukin 6 and serum levobupivacaine levels in labouring women undergoing epidural analgesia**
  Principal Investigator: Dr. Anne Doherty
  Grant Awarded — €46,351
- **Research: Women's Experiences of the Rotunda Hospital's Next Birth After Caesarean Section (NBAC)**
  Principal Investigator: Dr. Deirdre Daly
  Grant Awarded — €16,984
- **Research: Immune Signatures in Vaginal Mucous: towards a diagnostic test for recurrent miscarriage**
  Principal Investigator: Dr Karen Flood
  Grant Awarded — €15,000
- **Research: Neurocognitive Sequelae of Hypoxic Ischaemic Encephalopathy**
  Principal Investigator: Dr. Breda Hayes
  Research Fellow: Dr. Adam Reynolds
  Grant Awarded — €54,330
- **Research Equipment Funded: Film Array PCR Platform for the Laboratory**
  Principal Investigator: Dr. Richard Drew
  Grant Awarded — €40,590
- **Research Equipment Funded: Portable Echocardiography Machine (NICU)**
  Principal Investigator: Prof. Afif El-Khuffash
  Grant Awarded — €25,000
- **Equipment Funded: Neonatal Intensive Care Unit (NICU)**
  2 x Blanket Warming Cabinets
  Grant Awarded — €7,134

The Foundation has used donations in the best possible way by continuing to fund initiatives within the Rotunda to support improved patient care programmes:

- Beads of Courage Programme in NICU
- Aidan and Donnacha's Wings – Ceramic Hand and Foot-Prints for bereaved parents
- Tentacles for Tinies Initiative in NICU
- The Journey Initiative in the Fetal Assessment Unit
- The Rotunda's Pastoral Care and Bereavement Support Services
- Donation to the Miscarriage Association of Ireland
- The Rotunda's Medical Social Work Services

Fundraising and Events
The Foundation does not receive any State funding and generates revenue each year by actively encouraging Rotunda staff, patients, their families and friends to participate in fundraising activities in support of the Hospital. Initiatives this year have included:

- Rotunda Golf Classic – The Masters' Cup
- Supermarket Bag Packing
- Christening Party Fundraisers
- Coffee Morning Fundraisers

- Birthday Party Fundraisers
- Sponsored Charity 5K, 10K Walks/Runs
- VHI Women's Mini Marathon
- "Hell & Back" Challenge in aid of NICU
- SSE Airtricity Dublin City Marathon
- NY City Marathon
- Sale of Easter Eggs
- Coin Box Collections and Raffles
- Sky Dive
- Sale of Publications gifted to Rotunda Hospital by Artists/ Authors
- Sale of Football Shirts in aid of Rotunda Research Fund
- Sale of Christmas Cards
- Sale of Art illustrating the Rotunda Hospital
- Sale of Designer Silver Jewellery Collection
- Sale of Memorabilia
- Chamber Orchestra Performances in the Pillar Room
- Christmas Swim Fundraisers
- Charity Football Matches
- Online Cosmetic Raffle Draw
- Rotunda Foundation Annual Membership Subscriptions
- Conferences and Training Courses
- Charity Partner Collaborations with Park Rite Parnell Street Car Park, Tesco Community Fund, Bank of Ireland and VHi Healthcare
- Corporate Giving Fundraisers

Merchandising

To increase fundraising opportunities, the Foundation introduced some new branded merchandise:

- Tentacle for Tinies Hand-Crocheted Octopus Keyrings
- Re-usable shopping bags

The Pillar Room

Another substantial source of revenue in aid of the Rotunda Research Fund is generated each year through the hire of the Pillar Room complex as a facility for private and corporate functions. It is also used extensively by the Hospital for conferencing, teaching and examination purposes.

The Rotunda Café

Café Rotunda's annual rental income supports the overall costs of the Rotunda Foundation's administration.

The Rotunda Chapel

The Foundation manages all enquiries from the public for tour visits to the Rotunda Chapel. Weekly admissions are charged at €5 per person as a donation to the Foundation in aid of the Rotunda's Medical Social Work. Reservations are made by appointment only.

Volunteering

The Rotunda Knitters and Crochet Volunteer Group continues to supply the Rotunda Foundation with their hand-crafted knitwear for newborn and premature babies born at the Rotunda. Complimentary gift packs are distributed monthly to new parents in celebration of their baby's birth and other memorable dates throughout the year such as World Prematurity Day, World and National Breastfeeding Weeks, St Valentine's Day, St Patricks Day, Spring Awakening, Summer Joy, Winter Warmth and Merry Christmas campaigns.

Mother & Baby Donations Appeal

The Rotunda's Medical Social Work team constantly needs to provide support to pregnant mothers who find themselves in a crisis situation with little or no money to care for their newborn infants. Our Mother & Baby Donation Appeal is promoted throughout our social media platforms and requests are made for new or nearly new items of clothing, prams, car seats and general overnight toiletries for both mother and her newborn baby.

Plans for 2019

The Rotunda Foundation's remit is to respond to the Hospital's need to champion the wellbeing of women and provide the best possible care to the population it has served so well for so many centuries. It supports best practice across a range of disciplines, provides seed capital for research, especially in areas that sense and respond to change, and is intimately concerned with the need to improve the Hospital's physical infrastructure.

The pressing need to upgrade infrastructure on the Rotunda site demands a significant and immediate fundraising response. Directors with experience in a range of necessary disciplines have been identified and will in due course strengthen the Board.

With regular liaison meetings with the Hospital Executive and working closely with the Hospital Board we look forward to meeting the challenges of increased funding demands with measured confidence.

It remains for us, on behalf of the Rotunda Foundation Board, to thank all of you who have so generously supported the work of the Foundation with valued donations, time and evermore inventive ideas.

Corporate Services

Human Resources Department

Head of Department

Mr. Kieran Slevin, Human Resources Manager

Staff

Ms. Cathy Ryan Hyland, Deputy HR Manager
Ms. Teresa Grace, HR Officer
Mr. Anton Nesterenko, HR Officer
Ms. Anita Smith, HR Officer
Ms. Ursula White, HR Officer
Mr. Ciarán Dunleavy, HR Administrator

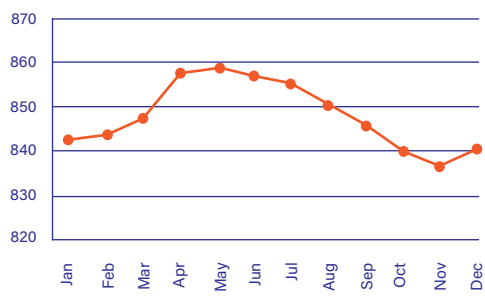
Service Overview

The Human Resources Department continued throughout 2018 to provide HR corporate services across the hospital for Medical, Midwifery/Nursing, Allied Health Professional, Management/ Administrative, and Support Services staff. As part of these services HR has been involved in the development of the pensions function in collaboration with the Finance Department and a number of other corporate initiatives.

Headcount Management

The graph below indicates the number of Whole Time Equivalents (WTE) for the hospital in 2018 including summer locums, special projects and student programmes. As part of these approvals the Hospital received approval and funding for a number of development posts in such specialties as Fetal Medicine, Obstetrics and Gynaecology and Perinatal Mental Health. The RCSI Hospitals Group granted approval for 32 WTE midwives; 5.6 WTE Consultants; and 1 WTE for a mental health post during 2018 and we are working towards filling all these approved posts. It is important when interpreting the graph below to recognize that staffing levels peaked in the period May to July reflecting the number of staff recruited primarily due to summer locums and the intake of midwifery students. Overall, 960 staff worked at the Rotunda.

Figure 1: Rotunda WTE 2018



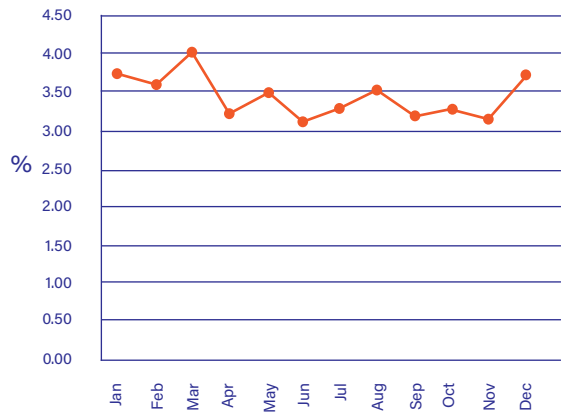
Workforce Planning

In line with Rotunda Hospital Strategic Plan for 2017 – 2021, the Human Resources Department continued to support and contribute to working groups to achieve the hospitals ambition to be the Maternity Hospital of Choice for patients and staff. In particular the department focused on key strategic principle #2 "to provide the best patient and staff experience as the Maternity Hospital of choice" as part of a workforce planning process.

Absenteeism

The average absence rate remained stable in 2018 with an average absenteeism rate of 3.5%. The HSE target for absenteeism within all organisations was set at 3.5% for 2018. This demonstrates the overall commitment of staff and continuous effective management of absence. Throughout 2018 the Rotunda Hospital continually had absence rates lower than the national average for HSE hospitals and also consistently had one of the lowest rates of absence within the RCSI Hospitals Group.

Figure 2: 2018 Absenteeism (%)



Employee Resourcing

One hundred and forty nine recruitment competitions were supported in 2018, with an average recruitment turnaround time of 10 weeks. This level of recruitment demonstrates the volume of work involved in the recruitment process to ensure we consistently fill vacancies as quickly as possible. There were continual challenges throughout 2018 in the recruitment of midwifes/nurses for the Neonatal Intensive Care Unit (NICU) and Operating Theatre primarily driven by a skills gap in NICU/Operating Theatre nursing. These challenges required concentrated recruitment campaigns both nationally and internationally using a variety of mediums to attract staff to the Rotunda.

New Initiatives

Throughout 2018 the HR Department further progressed the rollout of TMS (Time Management System) across a range of disciplines within the Hospital. The feedback from our staff at all stages of this initiative has been extremely positive and directly related to this feedback is the security associated with the use of a fingerprint. TMS is a Time Management System which electronically records employee's attendance. TMS uses a biometric fingerprint to clock in and clock out, with these clocking's linked to pay. The system also has rostering software which enables managers to assign staff by skill mix and availability and also an employee self service which enables employees to take control of their own time management. At this stage of the project over 300 employees are using TMS and this number will increase in 2019 as TMS is rolled out to other departments.

The appointment of a dedicated pensions manager has led to the development and closer integration of the Pensions function between HR and Finance Departments. This new role was part of a

recommendation following an external audit and was a key initiative during 2018. The development of the pension function will continue into 2019 and beyond to ensure all staff continue to receive comprehensive support in terms of their entitlements in this area of their employment from both a Human Resources and Financial perspective.

Employee Development

A wide range of training and development programmes were provided during 2018, to ensure employees and management were equipped with the skills and abilities to achieve the hospital's strategic goals. Below are some of the training and development opportunities offered to employees in 2018:

- Hello My Name Is - The hospital launched Hello My Name Is in Q4 2017. We were pleased to support the initiative throughout 2018 with the rollout of name badges. Briefing sessions were held to educate employees and other tips and mechanisms to remind users to answer the phone with their name, location and other relevant information
- Bespoke Customer Service Training - was developed and delivered for the employees of the Private and Semi Private Clinic to support the clinics business model.
- Improving the Patient Experience – This programme was added as a new module to the Staff Induction Programme so that all new starters will be trained upon their arrival. Further training sessions were run on an on-going basis.
- Policy and Procedure Training - such as Dignity at Work, Attendance Management, Grievance and Disciplinary Management
- Pre-retirement planning courses

Employee/Industrial Relations

Throughout 2018 the HR Manager continually engaged with trade unions and representative bodies in the Hospital on a variety of issues primarily focused on cost efficiency measures and ensuring all parties were compliant with the Public Service Agreements (IHCA, IMO, FORSA, INMO, MLSA, SIPTU, and TEEU). At a local level the HR Manager regularly met with Heads of Department to ensure a continual proactive corporate approach to the resolution of employee and industrial relation issues. The HR Manager also meets with the HR Managers from all of the Voluntary Hospitals throughout Ireland, the Health Services IBEC Industrial Relations Executive and HSE Corporate Employee Relations unit on a monthly basis.

Service Developments

In March 2018 the Rotunda Hospital renewed the contract for our Employee Assistance Programme (EAP) with the VHI. The EAP continued to provide assistance to staff on a confidential basis, which is a core principle of the EAP service. We also undertook a number of health related projects including Employee Wellness events, Step Challenge, Healthy Ireland initiatives including the Flu Vaccination programme and tips on how to have a good day.

The Human Resources Department further supported the implementation of MN-CMS and TMS technologies across the Hospital with the provision of data to enable user set-up for all system users.

The Human Resources Department continues to submit monthly returns to CompSTAT in relation to the European Working Time Directive (EWTD) for Non Consultant Hospital Doctors (NCHD's). We are delighted to consistently report 100% compliance. This is achieved due to ongpoing collaboration between the Clinical Directors Office, the TMS Co-Ordinator, NCHD's and the Human Resources Department. The Human Resources Department continues to liaise with all Heads of Department in relation to sick leave records and real-time deductions.

Challenges for 2018

2018 was a demanding year for the Human Resources Department especially due to retirements and departures from the department and for the hospital in general. The continued high level of hospital activity, within the defined financial allocation and the implementation of the provisions of the Haddington Road Agreement (HRA) and Lansdowne Road Agreement (LRA) was also a challenge.

One of these challenges experienced by the Human Resources Department was the number of audits undertaken by external agencies to ensure the Hospital was fully compliant with regulatory/legislative requirements. HR actively engaged in a number of projects to include full compliance with the National Vetting Bureau (Children's and Vulnerable Persons) Act. The audits and reviews that HR supported included an audit by the HSE of the Consultant 2008 contract compliance, and internal reviews by BDO in relation to workforce capacity and succession planning. The outcomes of the reviews will set the scene for further projects in 2019.

Retirements and Appointments

During 2018 there were a number of retirements at executive management level in addition to staff retirements. Ms. Pauline Treanor retired from the role of Secretary/General Manager and Ms. Margaret Philbin from the role of Directory of Midwifery/ Nursing. We wish them well and many happy years in their retirement and thank them for their long and valued loyal service.

Plans for 2019

In 2019 it is planned to restructure the role of Training and Development Manager and Deputy HR Manager to that of People and Strategic Development Manager to assist in the rollout of a strategic workforce development plan. A quality assessment review by the RCSI Quality Enhancement unit will be undertaken in 2019 to further improve the corporate services provided by the Human Resources Department. The outcome of this review and the recommendations of the BDO audits in 2018 will help shape the direction of HR services provided to our stakeholders over the next 5 years and ensure HR is continually aligned with the Rotunda Hospital Strategic Plan.

Finance Department

Head of Department

Mr. James Hussey, Head of Finance and Procurement until June 2018
Mr. Francis Kehoe, Head of Finance and Procurement, June 2018-Dec 2018

Staff

Mr. Alan Holland, Financial Accountant
Ms. Liz Dunne, Payroll Manager
Mr. Ed Smith, Patients Accounts Manager
Ms. Denise Rogers, Creditors
Ms. Carmel Kennedy, Creditors
Mr. Sean Williamson, Procurement Manager

Service Overview

The Finance Department is responsible for:

- Fiscal Management
- Funding Management and sourcing of additional funding
- Budgetary Management and Service Support
- Cash flow and Treasury management
- Financial Compliance and regulation
- Business Case support and Funding management
- Financial Management of Capital budgets
- Management of External financial audit
- Financial Risk Management
- Income generation and Value for money initiative
- Financial Management of Ancillary Funds
- Financial reporting to Board and to Board sub committees
- Payroll and Pensions - Management, control and process of €62.0m in pay and pensions
- Time Management System support of Project management
- Patient Accounts - Generation, management and collection of €12.0m in income
- Creditors - Control and Management of €16.0m in Creditor payments
- Procurement - Contracts and Stores Management

Departmental Activity

Initial Financial allocation in 2018 was €55.370m (Table 1).

Table 1: Rotunda Initial HSE Financial Allocation 2018

Pay	€54.554m
Non - Pay	€14.263m
Income	(€13.447m)
Total	€55.370m

Healthcare is demand-led and therefore cost drivers are determined by clinical demands and acuity in ensuring that the Hospital is resourced to provide a safe and quality healthcare service. The Rotunda's initial profile of projected expenditure for 2018 to maintain a safe level of service and excluding service developments was as follows (Table 2).

Table 2: Rotunda Projected Funding Requirement 2018

Pay	€56.392m
Non - Pay	€14.825m
Income	(€14.584m)
Total	€56.633m

Initial funding as outlined, indicated a projected shortfall in funding of €1.263 million (-2.2%) in 2018. In addition, there was a cumulative carry forward shortfall from 2014-2017 of (€619,000) which needs to be addressed with our core funders, the RCSI Hospitals Group/HSE.

An initial financial shortfall of this magnitude presents a significant challenge and financial risk in meeting the hospital's statutory and fiduciary responsibilities and in ensuring a quality and safe service. Achieving financial break even through cost containment measures and value for money initiatives only is not achievable and would require supplementary budget. The most significant financial risk of this funding shortfall is its impact on cash flow.

Addressing financially major risks such as infrastructure and spatial restrictions on the Parnell Street Campus is also a major challenge. Additionally, a significant challenge is managing cash flow to support the works required to address these risks.

Another significant challenge is sourcing funding to meet HIQA requirements and recommendations for resourcing, infrastructure and medical equipping.

Financial Risks in 2018 were:

- Funding shortfall
- Cash flow management
- Lack of capital funding for essential medical equipment replacement and minor capital works and refurbishments to meet required standards

Successes and Achievements 2018

Budgetary Management

Through prudent financial management, income generation, value for money initiatives and cost containment we achieved financial break-even in 2018 with a (€48k) shortfall (-0.08%). This was only obtainable through working collaboratively with clinical leads, midwifery/nursing management and support departments. Significantly financial break-even was achieved without compromising on quality and safety in patient care. See Table 3.

Table 3: Final Budgetary Out-Turn 2018	
Actual Expenditure (€'000)	€59.526m
Final Budget (€'000)	€59.478m
Variance (€'000)	€0.048m
% Variance	0.08%

Payroll
All pay awards were implemented and some reversals of FEMPI measures were actioned in 2018. Ongoing savings continue to be achieved in variable pay costs such as agency and overtime. All superannuation obligations to hospital employees and pensioners were met in 2018.

Pensions
A new Pension's Function was created and resourced in 2018 in order to improve the staff experience and provide information, advises and services with regard to pension entitlements for all staff. This function will be jointly led with HR.

Creditors
€16m in non-pay expenditure was processed through creditors in 2018. Despite reduced funding and major cash constraints in 2018, the hospital fulfilled all obligations to their suppliers under the Prompt Payments Act in 2018.

Patient Accounts/Cash Office
A continuing challenge still facing Patient Accounts is the continuing pending of charges and part payment of legitimate statutory charges for inpatient or day service activities by Private Medical Insurers (PMIs). It is also a challenge in that many newer health policies provide minimum benefits for maternity care. There is ongoing insistence by PMIs on signing waiver's which is particularly stressful for patients in the Neonatal Intensive Care Unit. A significant achievement in 2018 was getting final agreement to discharge aged maternity levy debt from all health insurers.

Capital Optimisation Programme
The Finance Department has supported a Capital Optimisation programme of works on our Parnell Square campus to address infrastructural risks and deficits. This includes working collaboratively with Project Managers on capital budgeting, cash flow management, and sourcing and optimisation of Board funding for these projects.

Procurement
The Procurement Department has worked with the Health Business Services (HBS), the business division of the HSE, to initiate cost reductions and non-pay savings in 2018. A number of contracts in excess of €25k were renewed and rolled into 2018 without tender with justification provided to the HSE. A number of tender competitions were completed in 2018.

Financial Statements 2018
The external auditors of The Rotunda Hospital are Deloitte. Proper accounting records have been kept which disclose the financial position of the Rotunda Hospital and comply with Accounting Standards for Voluntary Hospitals as laid down by the Minister for Health.

The Financial Statements give a true and fair view of the state of financial affairs of the Hospital at December 31, 2018 and have been certified by external auditors.

Challenges 2018
Cash Flow
Cash flow and the management of cash was the most significant financial risk and challenge facing the Hospital in 2018. This is a high priority financial risk for The Rotunda as a Voluntary Hospital, as the Hospital requires cash funding in order to maintain safe service and meet regulatory and fiduciary obligations to employees and creditors.

Medical Equipment Replacement Programme
There is a significant requirement to replace end-of-life medical equipment but there have been ongoing shortfalls in capital funding from the HSE for replacement.

Infrastructure Risk
Insufficient capital funding to address infrastructure risk, constraints and to meet HIQA requirements is also a significant challenge.

Superannuation
The administration of the Single Service Public Pension Scheme (SSPPS) continues to be an ongoing challenge for the Hospital. Additionally, lack of clarity with regard to responsibility for discharging pension payments and funding of same from Exchequer funds is a major concern.

Finance Department Key Performance Indicators for 2018
- Ensure that The Rotunda is appropriately financially funded and resourced in 2018 in order to continue to provide safe quality services
- Ensure that there is a sufficient cash flow in order to meet our obligations to all stakeholders
- Source funding for essential medical equipment replacement and minor works programme
- Manage major capital budgets including cash flow for major capital works
- Develop finance systems to enable a more responsive and timely service provision
- Develop business intelligence from finance systems to enable devolved budget management
- Integrate feeder systems such as Pharmacy to Financial Systems to produce more timely and relevant information
- Progress Pension function in collaboration with HR to provide more comprehensive and timely information and ad on pensions and payroll requests to all staff
- Ongoing support to organisational roll-out of the Time Management System (TMS) for personnel management

"The Rotunda is an innovative brand leader in maternity services: exceptional staff providing patient centred care where the contribution of all staff is valued."

Jim Hussey
Secretary/Genral Manager

Information Technology Service

Head of Service

Mr. Cathal Keegan, IT Manager

Staff

Mr. Gerard Payne
Mr. Martin Ryan
Mr. Derek Byrne
Ms. Eimear McLoughlin
Ms. Fiona Quill
Mr. Anthony Shannon

Service Overview

The Information Technology Service (IT) supports the development and maintenance of the IT function throughout the Hospital. To facilitate this, the team provides Helpdesk support for over 900 users and manage an estate of over 1,500 connected devices. The team continuously reviews industry best practice to provide optimal service reliability and monitor technological advancements to see how best they can be leveraged to improve service. Data security is essential in a healthcare setting and the team has worked closely with the HSE to strengthen our position from both an administrative and clinical device perspective. All staff employed in the Hospital are reminded of the vital role that they play in IT data security.

Successes and Achievements in 2018

The frenetic nature of 2017, after the implementation of the MN-CMS electronic healthcare record, continued into early 2018 whilst the support function of the MN-CMS system matured. As we were one of the first four sites to go-live with the new obstetric and neonatal electronic healthcare record (MN-CMS), much of the support mechanisms were still in their infancy and were being developed and redefined as issues arose. The implementation of MN-CMS added an additional 300+ devices to our network and required a new collaborative support framework with stakeholders from many different disciplines, both internal and external. A new support workflow was developed in conjunction with the local MN-CMS back office team that aimed to direct users to the correct support channel based on the nature of their issue. As much of the MN-CMS infrastructure is hosted outside of the Rotunda the reliance on our external HSE and Cerner support channels is critical to the successful operation of the system. Additional equipment and enhancements are a recurring theme to the maturing of this system and we look forward to assisting with their introduction.

Much of the work carried out over the previous 18 months was in preparation for the implementation of the MN-CMS system. Whilst these works had a positive effect on the overall IT infrastructure there were still a number of functions that had taken a back seat during this time. Chief among them were the upgrading of systems that were soon to be running on legacy versions of Microsoft SQL server and other such applications. An audit of servers and applications was carried out and a number of applications were identified as in need of an upgrade. Through close collaboration with the relevant departments and vendors an upgrade schedule was put together and completed without issue.

This year also saw the upgrade of our Patient Administration System iPiMs from version 3 to version 5. This upgrade promised a number of new enhancements along with the remediation of bugs encountered in prior versions. Together with our Patient Administrative Services department, a comprehensive User Acceptance Testing phase was completed to ensure that everything from data input to interfacing worked as expected post upgrade. As our MN-CMS system is highly dependent on the interface feeds from iPiMs careful consideration and planning were required to ensure that the downtime was kept to a minimum.

The security and resilience of our systems was again high on our agenda this year. Upgrades to our Firewall, Email Gateway, and Anti-Virus software, together with a virtual local area network (VLAN) segmentation exercise, helped to improve our security posture. A partial replacement programme for network cabinet Univeral Power Sources was also undertaken and will continue into 2019.

Plans for 2019

Funding has been secured for a major upgrade to our Laboratory hardware and software, which will see the system move to a more modern and resilient IBM Power 8 system backed by a fibre channel storage array. A large testing and validation exercise is currently being undertaken by the Laboratory to ensure the system is fit-for-purpose and passed for install.

Preparatory work is also underway on the design and build for a new Gynaecology module for the MN-CMS system. Upon completion this will facilitate the complete electronic recording of notes for all of our patient populations.

The IT team will look to keep improving our security awareness through technological enhancements and end user awareness programmes.

"I cannot thank the staff enough for my care and the dignity and respect I was shown. For an old building which I am sure is not ideal, the hospital is always spotlessly clean. Thank you."

Support Services Department

Head of Department

Mr. Ray Philpott, Support Services Manager

The following functions are under the remit of the Support Services Department:

Capital Projects Office
Catering Department
Clinical Engineering Department
Central Sterile Service Department (CSSD)
Health and Safety
Household Department
Household Linen Department
Non-Clinical Claims Management
Portering Department
Technical Services Department
Telecommunications Systems
Waste Management Services

Introduction

In 2018, Support Services has evolved and developed to meet demand led activities. The following overview of 2018 will give an appraisal of the diverse, varied and critical services that support our clinical colleagues and ensure we provide a quality driven service that ensures the best care possible for our patients. In Support Services, we will continue to drive our philosophy of putting the patient at the core of all we do, to ensure we are providing the best possible service in 2018 and also into the future.

Services Overview

The Support Services Department provides key supports to the clinical needs of the Rotunda Hospital. 2018 proved to be an extremely challenging year as a number of complex infrastructural projects were progressed. Some projects were extremely complex within a 1757 infrastructure and intrusive on clinical areas whilst also impacting directly on support services. Projects required a multi-disciplinary approach from clinical, technical and support service including infection control.

Regular project meetings were held with external and internal personnel. This ensured that all works progressed well and on time for all projects. All works were well communicated with timely engagement critical in ensuring that projects were completed to budgeted timeframes.

Achievements 2018

The following minor capital works projects were commenced and/or completed in 2018:

Outpatients Department

The Outpatients Department was refurbished in 2018. This included a complete re-flooring of the area. All seating was re-upholstered and the area was fully painted. This has resulted in a complete re-vamp of this patient area which has updated and refreshed outpatients. There has been positive feedback from both patients and staff and this is now a much improved modern patient area making it a more pleasant patient experience.

Prenatal Shower Room

This area was updated and improved to help update patient facilities.

Improved Laundry Rooms and Kitchens

This area was re-vamped and updated in the Nurses Home to provide better in-house facilities to our Midwifery and Nursing staff.

Reverse Osmosis Plant Re-Location (CSSD)

This difficult and technically challenging plant was re-located to prepare for the new three storey build due to start in 2019. This required months of planning requiring a multi-disciplinary team both internally and externally in order to have in place all the variant stages to ensure disruption to this critical patient area was kept to a minimum. Due to the extensive preparation meetings, this move happened without any major problems and kept the downtime of this department to a very short time ensuring that there was no patient disruption.

Human Resources Replacement of Flooring

The flooring was replaced in the Human Resources Department.

Occupational Health Department move to Portakabins

The Occupational Health Department moved to larger offices in new portakabins to provide better workflow for improved services.

Plans for 2019

2019 will prove to be another challenging year for the Support Services Department. Major plans this year will concentrate on the build of the 3 storey building adjoining the hospital, improving our existing Theatre capacity, refurbishing Delivery Suites and emergency department areas.

The projected capital works plans for 2019 will be challenging for the Support Services Department. However, as the department has evidenced over many years, we will place our patients at the core of ensuring that Hospital facilities and supports to our clinical colleagues reflect a modern 21st century healthcare environment.

Catering Department

Head of Department
Mr. Yoichi Hoashi

Service Overview
Food Safety and Health and Safety are key operational priorities for the Catering Department which is committed to providing the highest standard of food hygiene and safe working practices.

In 2018, the Catering Department continued to build on the many changes and improvements achieved in the previous year.

Successes and Achievements
- Awarded a Food Safety Assurance Award, by the Food Safety Professionals Association for our Food Safety Management system
- Achieved further measured improvement on the Patient Experience Survey 2018 and increased positive feedback - "The food I received was of a high quality", the percentage of patients indicating that they 'Strongly Agree' or 'Agree' has risen from 91.4% in the last round to 95.4%
- Continued to invest in staff development – four team members achieved L5 HACCP Food Safety Management training
- Continued with improvement in the staff restaurant quality and continued growth in restaurant income and footfall
- Revamped patient diabetic menus in collaboration with the Dietetics service

Challenges in 2018
Staff absences are higher than average but we support our employees through the Employee Assistance Programme, with the aid of HR and Occupational Health.

Gynaecology patient feedback indicates some room for improvement and will be actioned in 2019.

Plans for 2019
Patient electronic food ordering system roll out was delayed until Q1 in 2019. We expect this to bring benefits and improved allergen safety to inpatients, Day care patients and also for Infant Formula.

We hope to continue to reach Irish Heart "Happy Heart" accreditation in our staff restaurant.

Clinical Engineering Department

Head of Department
Mr. Henry Gelera

Service Overview
The Clinical Engineering Department manages and supports medical equipping in the Hospital.

Departmental Activity
There were a number of new medical equipment replacements that were procured in 2018, including Babyleo TN500, Diode Laser Unit, Ultrasound machines and Syringe Pumps. The Medical Device/ Equipment Oversight Management Committee met periodically to review, discuss and prioritise medical equipment replacement and address issues in relation to medical devices. The NICU refurbishment was completed with one of the new features being the new Central Monitoring System for the entire ward.

Successes and Achievements
The National Equipment Replacement three Year Program was updated and funding allocation for the following year will be considered by the HSE. The HSE National Equipment Database Management System will be implemented.

Challenges in 2018
Medical equipment replacement funding in 2018 was again inadequate and challenging. Additionally, a challenge was the upgrading to equipment required due to MN-CMS implementation. Ageing of Colposcopy equipment was a risk that needed to be immediately managed due to increasing demand on service.

Plans for 2019
- To continue to provide efficient and reliable service within our current resources
- To fully implement the web-based work requisition system across the hospital
- To continuously seek more funding from HSE to upgrade or replace critical medical equipment

Central Sterile Service Department

Head of Department
Mr. John Oyedeji

Service Overview
Central Sterile Service Department is a core department within the hospital in which re-usable medical devices, both sterile and non-sterile, are decontaminated.

The staff in CSSD work in the areas of controlling and monitoring medical devices, infection control and the administration of safety practices that benefit healthcare workers and the public at large. They provide cleaning and disinfection, inspection and sterilization of all re-usable medical devices. They influence hospital purchases and healthcare practices by holding responsibility for ensuring that patient equipment is available and sterile for use at all times.

Departmental Activity
The department reprocess Reusable Invasive Medical Devices (RIMDs) from both onsite and outside Rotunda Clinics.

In 2018, 60,302 reusable invasive medical devices were reprocessed. This included 26,590 trays and 33,712 single RIMDs which were reprocessed in the department.

Successes and Achievements
- Reusable cannulated instruments were changed to disposable
- Introduction of single Surgical Instrument marking
- Staff participated in the Quality improvement programme organised by HSE

Challenges in 2018
Marking all surgical instruments is a major challenge as the increase in service makes it very difficult to create or delegate staff in marking our entire surgical instruments. Some single RIMDs have been marked but there is still work to do.

The department space is too small for the volume of RIMDs that need to be reprocessed due to the increase in service volume, and we will work proactively to address these issues now and into the future.

CSSD infrastructure continues to be a major challenge.

Plans for 2019
Our plan in the coming year is to continue providing a quality standard of practice in the decontamination and sterilization of re-usable invasive medical devices and continue to interact with all personnel from various specialty areas.

Health and Safety Department

Head of Department
Mr. Les Corbett

Service Overview
The Rotunda Hospital is committed to ensuring full compliance with the Health, Safety and Welfare Act, 2005 within a busy healthcare environment. The Rotunda Health and Safety Statement is updated annually and is linked to the HSE Corporate Safety Statement. The facilities of the Rotunda Hospital are routinely examined and changes are implemented if necessary. Despite the age of the building, such changes have ensured that stringent health and safety standards are observed while continuing to develop a safer environment for all hospital end-users.

Departmental Activity
Health & Safety Committee
The Health and Safety Committee members meet every six weeks to discuss the hospital's health and safety management systems and to make recommendations for improvement. Three new Health and Safety Committee members were elected.

One unannounced inspection was conducted by Health and Safety Authority Inspectors who met with key hospital management and committee members regarding an elevator.

Work continued on the integration of the Health and Safety Authority (HSA) five-year plan and the HSA Safety & Health Audit for the Healthcare Sector which is being undertaken with selected Health and Safety Committee members and stakeholders.

Fire Prevention
Fire drills were conducted in all hospital areas twice during the year.

Following the hospital wide fire audit/risk assessment (which was conducted by an external fire consultant) a further scoping/specification report was commissioned with recommendations for improvement to the emergency lighting and fire detection system.

Fire alarm testing (to check alarms and fire doors) was conducted on a weekly basis.

Dublin Fire Brigade checked Fire Tender access to the new permanent front Carpark.

Security
Monthly meetings were held with Noonan Security Hospital Group Manager to ensure the provision of a quality service. Panic alarm systems were expanded following incidents in clinical areas.

Additional access control and CCTV were installed following a data protection survey, accident/security incidents and building upgrades.

Incident Investigation
Staff are encouraged to report any incident that has caused, or has the potential to cause, a health and safety problem. During 2018, 63 incidents were investigated, many of which resulted in

improvements to health, safety and security systems in order to prevent or manage hazards identified. All incidents were discussed at the Health and Safety Committee and the Quality and Patient Safety Committee meetings. Five incidents were reported to the Health and Safety Authority.

Chemicals

Two Dangerous Goods Safety Adviser (DGSA) audits were conducted by an external agency, DCM Compliance, which identified some areas requiring corrective action. This was reported to the Health and Safety Committee and the Quality and Patient Safety Committee. The SafeDoc chemical management risk assessment database is continually being updated.

Successes and Achievements 2018

There were several successes/achievements for the Hospital within the area of health and safety in 2018 including:

- 12 scheduled days of Fire Awareness Training
- The hospital's Dangerous Goods Safety Advisor (DGSA) provided four on site training sessions and an external agency, DCM Compliance, provided a further two days of in-house training

Innovation

- Tested Internal Emergency Plan with follow-up actions
- New LED signage was installed for the front and back car parks as part of the upcoming enabling building works
- Bike storage facilities upgraded and expanded to encourage staff to cycle to work
- Modification for access to basement kitchen to allow for delivery of bulk food deliveries in preparation for the upgrade of an elevator
- Introduction of electronic candles in the Chapel to eliminate fire risk from naked flames

Household Department

Head of Department

Ms. Catherine L'Estrange

Service Overview

The Household Services Department plays a key role in ensuring that the Rotunda Hospital achieves the highest possible hygiene standards required of a healthcare environment. A robust auditing programme is in place. The C4C 'Credits for Cleaning' programme is used daily, supervisory audits are undertaken, which ensures that a standard check is performed in all areas on a frequent basis, resulting in a consistently high standard throughout the hospital. The average score achieved was 94% for the year. Any 'action required' reports are circulated to the appropriate household staff members and once completed they are signed, dated and returned to the household supervisor. The patient satisfaction survey results for hygiene came in at 99.6% for the third year running.

The C4C hygiene auditing system was introduced for Emerald Contract Cleaners. One-hundred audits were undertaken by the supervisor. The overall average score was 95% and the completed audit reports were submitted to the household management team.

Staff

The staff complement reduced to below 41.3 whole time equivalents in 2018 and difficulties in the workforce market made it hard to recruit new staff this year, leaving the household department very challenged to meet service demands.

Training and Development Initiatives

In-house staff training was carried out throughout the year by all the supervisors; the household supervisors are certified as instructors.

The topics of manual tasks, method in cleaning all elements, colour coding, the use of equipment, health and safety, infection control, hand hygiene, cleaning of isolation rooms are covered on a rotational weekly basis. Staff also undertook training on detergent usage, manual handling, fire safety training and Children First training.

Conclusion

2018 proved to be another challenging year. We had to restructure household resources to keep in line with service needs, including increased clinics, new service areas, new builds and reconfiguration of services. We are committed to continuous improvement of our service delivery and to keeping abreast of developments in line with best practice recommendations.

Household - Linen Department

Head of Department
Ms. Catherine L'Estrange

Service Overview
The Linen Department plays a key role in ensuring that all linen items are stored, handled and laundered to the highest standards in line with national hygiene standards. The priority for the department is to ensure that the risks of infection are minimized by implementing best practice recommendations in relation to linen services. The service is managed by the Household Services Department.

Quality Assurance
The linen department undertakes a comprehensive schedule of daily and weekly audits, which include the following:

- Linen delivery truck
- Blue linen delivery bins
- Quality and cleanliness of linen deliveries and linen rejects
- Linen trolleys used for the transportation of linen around the hospital
- Linen storage presses and trolleys in the clinical areas

All linen audit tools and checklists were updated. All supervisors were trained in the management of the department, which ensures continuity of linen services.

Conclusion
2018 was an extremely busy year for the Linen Department. We had exceptional severe weather events at the beginning of the year (Storm Emma). The main lift that transports linen to its designated areas was out of order for a time during the year and we had major staff shortages. Despite this, the department consistently ensured that a high quality of service was maintained, which assisted the hospital to achieve its goals in relation to quality initiatives. We will endeavor to ensure ongoing efficiencies and value for money.

Portering Services

Head of Department
Mr. Paul Shields

Service Overview
The Portering Services department provide patient transport services, maintaining our commitment to service quality to our patients.

We have seen a large increase in the demands on the service from other departments as service demands have increased with new clinics opening around the hospital.

Our waste streams have maintained a good level of recycling and composting which is due to the regular training provided annually.

2018 was again another year in which we managed to maintain services within a very challenging service led environment.

Plans for 2019
We will attempt to increase our recycling and compost streams and further reduce our waste that goes to landfill and so reduce the costs that are involved with this. We will continue to hold waste awareness days to refresh all staff about the correct procedures to use for certain waste. We will attempt to acquire extra porters to service departments because of the increase in their workloads which has taken away a pool porter on a daily basis. This is due to the regular collections and deliveries that have increased over the years, and further increases are imminent over the coming months with more clinics and longer hours.

We will endeavor to keep up the service demands of the hospital and meet the challenges that our service expects now and into the future.

Patient Administrative Services

Head of Department
Ms. Niamh Moore, Patient Services Manager

Team Leaders*
Ms. Anna Mooney, Deputy Patient Services Manager
Ms. Lisa Dunne, Deputy Patient Services Manager
Ms. Susan Daly, Colposcopy Unit
Ms. Denise Gleeson, Adult Outpatients
Ms. Kathy Hayes & Ms. Carol Marmion, Paediatric Outpatients
Ms. Julie Mc Evoy, Admissions/Reception
Ms. Jacinta Core, Laboratory Medicine
Ms. Louise O'Hara, Healthcare Records & Ward Clerks
Ms. Noeleen Costello & Ms. Donna O'Connor, Central Appointments & Gynaecology Out-Patient service

*The team leaders oversee administrative assistant staff across the spectrum of clinical services in the Rotunda Hospital.

Service Overview
The Patient Administrative Services Department provides front line receptionist and back office support to ensure the smooth operation of scheduled and non-scheduled patient appointments, admissions of all patients and management of patient records. This includes twenty-four-hour support at the main hospital reception and switchboard, as well as all scheduled clinical appointments and medical typing. The staff from the Patient services department are located in 30 separate locations across the Hospital campus supporting patients and our clinical colleagues.

Successes and Achievements 2018
The Department successfully implemented new outpatient waiting lists for obstetric patients from January 2018. This allowed us to keep an electronic record of when a referral was received, when triaged and provide statistical analysis of obstetric referrals. We were able to report at the monthly Quality & Safety Meeting if and when demand exceeded capacity for obstetric patients. We noted that approximately 30% of our obstetric patients contact the hospital to schedule their first obstetric appointment when they are already in their 2nd trimester. We continue to work with our colleagues to improve on this metric and enhance the patient experience.

The Department continued to report on a weekly basis to the NTPF on gynecology waiting lists. The collation of this data enabled the Department to report to the monthly QSM that approximately 28% of GP referrals received for gynecology were triaged clinically as urgent, thereby increasing waiting time for routine patients. The Department also undertook two audits of patients who Did Not Attend their first gynaecology appointment, even though they are communicated with on four separate occasions prior to their appointment. Our DNA rate remains over 20%. The results of this audit indicated that patients 'forgot' or 'got treatment elsewhere' and did not inform our appointment scheduling team.

The highest rate of patient complaint regarding administration in 2018 was communication and the difficulty in contacting staff regarding scheduling appointments. During 2018 there were only two telephone lines to deal with about 200 calls per week. With the support of the Executive Managment Team a new digital telephony system was implemented in November 2018, which means that when the new Appointment Scheduling Call Centre is fully staffed there will be 14 lines available to the team. We created a 'telephone tree' with our service provider to allow patients to choose between five options and be directed to an operator who is trained in that service.

The Patient Services Manager sourced an external training provider and developed a "Telephone techniques" including "My Name is" and a customer service course which will be rolled out to all administrators in 2019.

Patient photograph ID at first visit was a quality and safety improvement initiative and implemented at the obstetric first visit in 2018. This initiative has been welcomed by our patients and we plan on rolling this out to gynaecology patients in 2019.

Challenges 2018
Retention and motivation of staff is a constant challenge. Corporate training has not been developed for administration for a number of years and the team welcomed the customer service and telephone techniques provided this year. We will continue to work with the HR department to identify training needs for our team and improve this situation.

The department worked closely with the MN-CMS back office team in 2018 to support the roll out of MN-CMS across multiple services. We also developed new administrative processes to support the changing work environment from paper records to electronic.

We also found that front line administrative support requests increased in 2018, rather than decreasing as expected, due to the process changes mentioned above.

Plans for 2019
We plan on transferring the new 'Appointment Scheduling Call Centre' location to the old healthcare records library in 2019, to allow space for the additional resources required to staff the new telephony system.

We are planning that when the Gynecology MN-CMS is implemented in 2019, there will no longer be a need for any 'hard' copy healthcare records on site and this will allow us to convert the smaller 'library' to a central scanning department to assist the smooth & efficient implementation of MN-CMS.

We hope to continue to build on the customer service courses already provided to ensure a uniformity on how each patient is addressed when contacting the hospital either face to face, by telephone or email.

Governance

Board of Governors

The Board of Governors is an independent group established by the Royal Charter of December 1756, and has overall responsibility for the governance of the Rotunda Hospital. The Board meets 10 times per year and it ensures that each Governor has equal responsibility in their respective roles while contributing as a unit to a single voice for the Hospital.

It is the Board's duty to set the tone for the Hospital, both ethically and culturally, and to provide strategic direction for the Executive Management Team. The Board reviews, approves and monitors annual business plans, as well as reviewing financial performance against targets. It also monitors legal risk, ethical risk and environmental compliance. It is within the Board's remit to appoint the Master. The Board approves the appointment of other senior management and consultants and also monitors the performance of the Executive Management Team to ensure that Board policy is implemented. The Board of Governors ensures that financial risks are audited and that an annual report is produced for the Rotunda Hospital.

The Board manages its functions through a number of committees:

- General Purposes Committee
- Risk Committee
- Property Advisory Committee
- Performance and Remuneration Committee
- Governance Audit Committee

Rotunda Hospital Board of Governors 2018

Dr. David Abrahamson
Dr. Cliona Buckley
Dr. Maria Wilson Browne
Lord Mayor of Dublin
Mr. Cedric Christie
Dr. Fredrick Falkiner
Dr. Jimmy Gardiner
Dr. Mary Henry
Most Rev. Dr. Michael Jackson
Councillor Teresa Keegan
Dr. Mary Keenan
Venerable Gordon Linney
Prof. Tom Matthews
Dr. Peter McKenna
Mr. Richard Nesbitt
Mrs. Kristina Odlum
Ms. Hilary Prentice
Mr. Denis Reardon
Mr. Ian Roberts
The Very Reverend William Wright Morton
Dr. Melissa Webb
The Venerable David Pierpoint
Prof. Michael Geary
Mr. Stuart Switzer

Note:

Dr. Michael Darling — RIP February 2018
Mr. Stuart Switzer — commenced May 2018
Dr. Peter McKenna — leave of absence from March 2018

"Fantastic hospital — nothing ever a hassle."

"After a long and varied career in maternity services I started work on the 30th April 2001 as the first Director of Midwifery and Nursing in the Rotunda, a role previously titled The Matron. The Rotunda quickly became my extended family.

The thing I am most proud of across all my time in the Rotunda is the positive and complimentary feedback from the vast majority of patients and their relatives on the care they received, and the hard work of the staff who supported them during their journey."

Pauline Treanor
Retired Secretary-General Manager

Appendices


clinell
PHONE LIST

Appendix 1

Rotunda Hospital Clinical Summary Data 2018

1. Total Mothers Attending	Totals
Mothers who have delivered babies weighing >500 grams	8,359
Mothers who have delivered babies weighing <500 grams {including miscarriages}	1,204
Hydatidiform Moles *	22
Ectopic Pregnancies	175
Total referrals	**9,760**

2. Maternal Deaths	Totals
Maternal Deaths	0

3. Births	Totals
Singletons	8,200
Twins	302 (151 sets)
Triplets	12 (4 sets)
Quadruplets	0
Total Babies delivered weighing 500 grams or more	**8,514**

4. Obstetric Outcome	Totals 2018	%
Spontaneous Vaginal Delivery	4,202	50%
Forceps	316	4%
Ventouse	1,021	12%
Caesarean Section	2,820	34%
Induction of Labour	2,610	31%

5. Perinatal Deaths	Totals
Antepartum Deaths	25
Intrapartum Deaths	1
Stillbirths	26
Early Neonatal Deaths	20
Late Neonatal Deaths	10
Congenital Anomalies	19

6. Perinatal Mortality Rate	Totals
Overall Perinatal Mortality Rate per 1,000 Births	5.4
Perinatal Mortality Rate Corrected For Lethal Congenital Anomalies	3.2
Perinatal Mortality Rate Including Late Neonatal Deaths	6.5
Perinatal Mortality Rate Excluding Unbooked Cases	5.3
Corrected Perinatal Mortality Rate Excluding Unbooked Cases (1)	3.0

Appendix 1

Rotunda Hospital Clinical Summary Data 2018

7. Age of Women	Nulliparous	Multiparous	Total Mothers Delivered >500g
<20 yrs	149	31	180
20-24 yrs	446	259	705
25-29 yrs	782	768	1,550
30-34 yrs	1,218	1,556	2,774
35-39 yrs	755	1716	2,471
40+ yrs	196	483	679
Total	**3,546**	**4,813**	**8,359**

8. Parity	Totals	% from Total Mothers Delivered >500g
Para 0	3,612	43%
Para 1	2,841	34%
Para 2-4	1,804	22%
Para 5+	102	1%
Total	**8,359**	**100%**

9. Country of Birth/Nationality Mothers Delivered ≥ 500grms	2018	%
Irish	4,253	51%
EU	1,506	18%
Non Eu	1,180	14%
Unknown	1,420	17%
Total	**8,359**	**100%**

10. Birth Weight	Totals
< 500 gms	1
500 - 999 gms	52
1,000 - 1,499	57
1,500 - 1,999	116
2,000 - 2,499	327
2,500 - 2,999	1,174
3,000 - 3,499	2,870
3,500 - 3,999	2,858
4,000 - 4,499	925
4,500 - 4,999	121
>5,000	13
Total	**8,514**

Appendix 1

Rotunda Hospital Clinical Summary Data 2018

11. Gestational Age

	Nulliparous	Multiparous	Totals
<26 weeks	14	15	29
26 - 29 weeks + 6 days	23	24	47
30 - 33 weeks + 6 days	62	87	149
34 - 36 weeks + 6 days	188	263	451
37 - 41 weeks + 6 days	3,324	4,446	7,770
42 + weeks	63	5	68
Total	**3,674**	**4,840**	**8,514**

12. Perineal Trauma after Vaginal Deliveries

	Nulliparous	Multiparous	Totals	%
Episiotomy & Extended Episiotomy	1,199	382	1,581	29%
First Degree Laceration	243	529	772	14%
Second Degree Laceration	509	935	1,444	26%
Third Degree Anal Sphincter/Mucosa	72	35	107	2%
Fourth Degree	6	1	7	0%
Other: Includes all Lacerations/Grazes	110	427	537	10%
Intact	128	722	850	15%
Unknown	79	162	241	4%
Totals	**2,346**	**3,193**	**5,539**	**100%**

CS Deliveries not included in the above.Total Vaginal deliveries: 5539

13. Third or Fourth Degree Tears*

	Nulliparous	Multiparous	Totals
Occurring Spontaneously	38	29	67
Associated with Episiotomy	22	6	28
Associated with Forceps	19	4	23
Associated with Vacuum	16	3	19
Associated with Vacuum & Forceps	6	0	6
Associated with Occipito Posterior position	1	1	2
Total 3rd & 4th Degree Tears	**77**	**37**	**114**

* Tears can appear in more than 1 category
Total 3rd & 4th Degrees not listed as some women have a 3rd/4th degree Tear with both Episiotomy & Instrumental Delivery. Table 13 have totals listed.

Appendix 1

Rotunda Hospital Clinical Summary Data 2018

14. Stillbirth in normally formed Infants

	Nulliparous	Multiparous	Totals
Placental Cause	6	4	10
Cord	0	1	1
Fetal Maternal Heaemorhage	1	0	1
Unexplained	1	3	4
Total	**8**	**8**	**16**

15. Perinatal Mortality in Congenitally Malformed Infants

	Nulliparous	Multiparous	Totals
Cardiac Anomaly	2	1	3
Renal Anomaly	0	2	2
Chromosomal Abnormalities	2	6	8
Other	3	3	6
Total	**7**	**12**	**19**

16. Early Neonatal Deaths in Normally Formed Infants

	Nulliparous	Multiparous	Totals
Prematurity	7	1	8
Infection	1	0	1
Other	1	1	2
Total	**9**	**2**	**11**

17. Hypoxia Ischaemic Encephalopathy*

Grades	Grade 1	Grade 2	Grade 3
	5	5	3

* In born babies only

Appendix 1

Rotunda Hospital Clinical Summary Data 2018

18. Severe Maternal Morbidity

	Totals
Massive Obstetric Haemorrhage*	26
Emergency Hysterectomy	6
Transfer To ICU/CCU	12
Uterine Rupture	3
Eclampsia	19
Acute Renal or Liver Dysfunction	3
Pulmonary Oedema/Acute Respiratory Dysfunction	13
Severe Sepsis	1
Status Epilepticus	0
Other	6

*Transfusion >5units or >2.5 litre blood loss

19. Body Mass Index (kg/m²)

	2015	2016	2017	2018
Underweight: <18.5	168 (2%)	175 (2%)	169 (2%)	98 (1%)
Healthy: 18.5 - 24.9	4,454 (53%)	4,407 (52%)	4,224 (51%)	2,674 (32%)
Overweight: 25 - 29.9	2,323 (28%)	2,307 (28%)	2,333 (28%)	1,669 (20%)
Obese class 1: 30 - 34.9	838 (10%)	923 (11%)	989 (12%)	671 (8%)
Obese class 2: 35 - 39.9	294 (4%)	306 (4%)	309 (4%)	259 (3%)
Obese class 3: >40	116 (1%)	129 (2%)	120 (2%)	115 (1%)
Unrecorded	168 (2%)	160 (2%)	82 (1%)	2,873 (34%)
Total Deliveries	**8,361**	**8,405**	**8,226**	**8,359**

Appendix 2

Comparative Summary Results for Ten Years

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Babies born	8,912	8,792	9,319	9,041	8,841	8,980	8,538	8,589	8,409	8,514
Perinatal Deaths	56+5*	69+5*	59+2*	66+2*	63+6*	68+2*	71	54+5*	51+1*	45+1*
Perinatal Mortality Rate	6.8	8.4	6.5	7.5	7.8	7.7	8.3	6.9	6.2	5.4
Corrected Perinatal Mortality Rate	4.7	5.7	3.7	4.9	4.5	4.5	4.8	4.1	3.4	3.0
Mothers Attending	9,709	9,594	10,547	10,397	10,314	10,814	10,078	10,024	9,915	9,760
Maternal Deaths	1	3	3	2	3	2	1	0	0	0
Caesarean Section %	28.5	27.9	29	29	31	31	32	35	34	34
Forceps/Vacuum %	19.8	20.5	19.4	18	17	17	17	16	16	16
Epidural %	49.2	46.6	46	48	47	47	47	45	48	45
Induction %	23.27	27	29	28	29	30	29	29	31	31

* Unbooked

Appendix 3

Perinatal Deaths 2018

Gestational age at Delivery (Weeks)

Stillbirths		
20 0/7 - 23 6/7	3	11.5%
24 0/7 - 27 6/7	3	11.5%
28 0/7 - 31 6/7	5	31%
32 0/7 - 36 6/7	8	31%
37 0/7 - 39 6/7	6	23%
>/= 40 0/7	1	4%
Total	**26**	**100%**

Early Neonatal Deaths		
20 0/7 - 23 6/7	7	35%
24 0/7 - 27 6/7	5	25%
28 0/7 - 31 6/7	3	15%
32 0/7 - 36 6/7	2	10%
37 0/7 - 39 6/7	1	5%
>/= 40 0/7	2	10%
Total	**20**	**100%**

Weight at Delivery (Grams)

Stillbirths		
500 - 999g	8	30%
1000 - 1499g	6	22%
1500 - 1999g	3	11%
2000 - 2499g	5	19%
2500 - 4999g	4	19%
>/= 5000g	0	0%
Total	**26**	**100%**

Early Neonatal Deaths		
500 - 999g	11	55%
1000 - 1499g	1	5%
1500 - 1999g	3	15%
2000 - 2499g	3	15%
2500 - 4999g	2	10%
>/= 5000g	0	0%
Total	**20**	**100%**

Appendix 4

Outpatient Activity Data 2018

Clinic	New Attendences	Return Attendences	Totals
Antenatal & Postnatal	12,192	33,242	45,434
Gynaecology	2,310	5,103	7,413
Colposcopy	1,937	3,438	5,375
Paediatrics	5,103	3,620	8,723
Endocrinology	2,900	2,728	5,628
Gastroenterology	28	24	52
Haematology	223	277	500
Anaesthesiology	1,073	19	1,092
Nephrology	207	639	846
Psychiatry	1,210	224	1,434
Infectious Diseases	141	180	321
Allied Health Clinics	7,771	9,552	17,323
Diagnostic Clinics	3,637	16,829	20,466
Total	**38,732**	**75,875**	**114,607**

Appendix 5

Financial Information

THE ROTUNDA HOSPITAL, DUBLIN

NON CAPITAL INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31 DECEMBER 2018

	2017 €'000	2018 €'000
CUMULATIVE NON-CAPITAL DEFICIT BROUGHT FORWARD FROM PREVIOUS YEAR	389	**619**
PAY		
Salaries	**52,540**	**54,926**
Superannuation and gratuities	**4,467**	**6,043**
	57,007	**60,969**
NON-PAY		
Direct patient care	5,920	**6,193**
Support services	5,624	**5,685**
Financial and administrative	2,981	**3,471**
	14,525	**15,349**
GROSS EXPENDITURE FOR THE YEAR (including prior year deficit)	71,921	**76,937**
INCOME	(17,611)	**(16,794)**
DEFICIT FOR THE YEAR (including prior year deficit)	54,310	**60,143**
Determination – HSE notified for the year	(53,691)	**(59,478)**
CUMULATIVE DEFICIT CARRIED FORWARD TO FOLLOWING YEAR	619	**665**

Appendix 6

Clinical audits completed in 2018

	Title
1	An audit of gestation of first booking visit in the Rotunda OPD
2	Postnatal discharge to Community Midwifery Team of women with a history of hypertension and/or on antihypertensive medication
3	Audit on the management of women diagnosed with pyelonephritis in the postnatal period following the introduction of a care pathway
4	Audit of the Neonatal Examination Checklist
5	Time interval to medical review in the Day Assessment Unit
6	Magnesium sulphate administration for fetal neuroprotection
7	Audit of antenatal anaesthetic review and early epidurals in high BMI pregnant patients
8	Very low birth weight infant nutrition – the first seven days
9	Audit of management of obstetric cholestasis
10	Retrospective audit of the Royal College of Obstetricians and Gynaecologists 2015 indication frequency for antenatal thromboprophylaxis
11	NeoEWS on the postnatal wards
12	Are cranial ultrasounds being performed according to the departmental schedule?
13	Venous thromboembolism risk assessment and prescription of risk-appropriate thromboprophylaxis in postnatal women
14	An audit of postnatal readmissions to the Rotunda Hospital
15	Epidural safety in labour-compliance with international medication safety recommendation.
16	Are we over-diagnosing and thus over-treating necrotising enterocolitis within the neonatal unit?
17	Postnatal Glucose Tolerance Testing in semi-private and private clinics
18	Completion of intake and output record in delivery suite
19	Re-audit of compliance with glucose tolerance testing among pregnant HIV positive women
20	The use of cold coagulation for the treatment of cervical intraepithelial neoplasia
21	Medication reconciliation for babies transferred into the neonatal intensive care unit
22	Audit of crossmatch transfusion ratio
23	Audit on uptake of outpatient medical management of miscarriage in the 1st trimester
24	Adherence to the CTG guideline regarding admission CTGs of low risk women attending the Emergency and Assessment Unit — documentation of care, review, upward referral & outcomes
25	Time spent in theatre after a bleep waiting for caesarean sections of different categories
26	"Back to hospital care" from Community Midwifery Team
27	Audit of the documentation of neonatal seizure in NICU – compliance with current guideline
28	Pre-intervention and post-intervention audit of midwife led inductions using Propess for post-dates, normal-risk women
29	Is blood culture the gold standard for neonatal infection? If not what is?
30	Management of postnatal mastitis
31	Antacid prophylaxis in obstetrics
32	Postpartum Hemorrhage at vaginal delivery of 500-999mls
33	Audit of weight and head circumference changes in preterm babies born under 32 weeks, from birth to 2 years corrected age
34	40% Dextrose gel for the management of neonatal hypoglycaemia
35	A re-audit of the use of methotrexate in the management of ectopic pregnancy
36	PICO dressing use, duration in situ and outcomes
37	Audit on risk factors, complications and treatment of peripartum hysterectomies
38	To measure compliance with medication documentation and reconciliation on admission
39	Perinatal outcomes after laser treatment in Twin to Twin Transfusion Syndrome (TTTS)
40	DCT positive babies: Are we doing the day 10 haemoglobin?
41	Out of hour blood transfusions in NICU and can they be prevented?

Appendix 6

Clinical audits completed in 2018

42	Re-audit of the rate and success of sequential instrumental use at operative vaginal delivery
43	To assess compliance with local and national guidelines regarding vaginal birth after one previous caesarean section
44	Rate of epidural re-siting for labour analgesia
45	Audit on the documentation when assessing for perinatal mental illness
46	A re-audit of thyroid function testing in children with Down Syndrome after the implementation of a Down Syndrome checklist
47	Compliance with MRSA screening for babies transferred to NICU
48	Documentation practices in relation to gastric tube feeding on the neonatal unit
49	Has the quality improved? A quality improvement study of the assessment of prolonged neonatal jaundice in Peadiatric Outpatient Department
50	Are full blood counts to assess haemoglobin level being performed unnecessarily in the neonatal outpatient setting?
51	Pre-employment health questionnaires returned directly to Occupational Health
52	Monitoring oxygen saturation in neonates on supplemental oxygen in NICU
53	How many DCT samples had been taken due to clotted blood or mis-labelling
54	Audit of NEWS in Gynaecology ward
55	Documentation on e-chart of gastric tube feeding practices on the Neonatal Unit

Appendix 7

Staff Research Publications 2018

Babu R, McDermott R, Farooq I, Drew, RJ, Eogan, M et al. Screening for Group B Streptococcus (GBS) at labor onset using PCR: accuracy and potential impact: a pilot study. *Journal of Obstetrics and Gynecology* 38(1): 49-54, 2018.

Barrett T, McEntee, E, Drew R, O Reilly F, O'Carroll A, O'Shea A, Cleary B. Influenza vaccination in pregnancy: vaccine uptake, maternal and healthcare providers knowledge and attitudes. A qualitative study. *British Journal of General Practice* 2(3), 2018.

Barrett T, Drew R, O'Reilly F, O'Carroll A, O'Shea A, McEntee E, Cleary B. Influenza vaccination uptake in an Irish obstetric cohort. *British Journal of General Practice* 68(Suppl 1): bjgp 18x697073, 2018.

Boama V, Guino VT, Sosa CG, Geary M. Contemporary issues in women's health. *International Journal of Gynaecology and Obstetrics* 143(3): 264-266, 2018.

Boama V, Guino VT, Sosa CG, Geary M. Contemporary issues in women's health. *International Journal of Gynaecology and Obstetrics* 143(3): 257-259, 2018.

Boutin A, Skoll A, Bujold E, Burrows J, Crane J, Geary M, Jain V, Lacaze-Masmonteil T, Liauw J, Mundle W, Murphy K, Wong S, Joseph KS. Antenatal Costicosteroid therapy for improving neonatal outcomes: Balancing benefits and risks. *Journal of Obstetrics and Gynaecology of Canada* 40(9): 1193-1197, 2018.

Boutin A, Skoll A, Bujold E, Burrows J, Crane J, Geary M, Jain V, Lacaze-Masmonteil T, Liauw J, Mundle W, Murphy K, Wong S, Joseph KS. Antenatal Costicosteroid therapy for improving neonatal outcomes. *Journal of Obstetrics and Gynaecology of Canada* 40(9); 1219-1239, 2018.

Breatnach CR, Monteith C, McSweeney L, Tully EC, Malone FD, Kent E, Doherty A, Franklin O, El-Khuffash A. The impact of maternal gestational hypertension and the use of anti-hypertensives on neonatal myocardial performance. *Neonatology* 113(1): 21-26. 2018.

Bussmann N, Breatnach C, Levy PT, McCallion N, Franklin O, El-Khuffash A. Early diastolic dysfunction and respiratory morbidity in premature infants: an observational study. *Journal of Perinatology* 38(9): 1205-1211, 2018.

Bussmann N, El-Khuffash A, Breatnach CR, McCallion N, Franklin O, Singh GK, Levy PT. Left ventricular diastolic function influences right ventricular-Pulmonary vascular coupling in premature infants. *Early Human Development* 19;128:35-40, 2018.

Bussmann N, El-Khuffash A. What is the most Efficacious Pharmacological therapy for Patent Ductus Arteriosus closure in Premature Infants? *Irish Medical Journal* 111(9): 816, 2018.

Cafferkey A, Coyle E, Greaney D, Harte S, Hayes N, Langdon M, Straub B, Burlacu C. The College of Anaesthetists of Ireland Simulation Training programme: a descriptive report and analysis of course participants' feedback. *Irish Journal of Medical Science* (4):1051-6, 2018.

Cahill N, Hammerton H, O'Connor C, Brennan M, Eogan M, Drew R. Use of Xpert MRSA/SA BC for direct testing on breast milk from women with mastitis: a diagnostic accuracy study. *Journal of Pregnancy and Reproduction* 2(1): 1-3, 2018.

Carroll M, Downes C, Gill A, Monahan M, Nagle U, Madden D, Higgins A. Knowledge, confidence, skills and practices among midwives in the Republic of Ireland in relation to perinatal mental health care: the mind mothers study. *Midwifery* 64(9): 29-37, 2018.

Clark EAS, Weiner SJ, Rouse DJ, Mercer BM, Reddy UM, Iams JD, Wapner RJ, Sorokin Y, Malone FD, O'Sullivan MJ, Peacemann AM, et al. Genetic variation, magnesium sulphate exposure and adverse neurodevelopmental outcomes following preterm birth. *American Journal of Perinatology* 35(10): 1012-1022, 2018.

Corcoran S, Breen A, Murphy N, McHugh A, Malone F, Kent E. Informing the uncertainty around severe early onset intrauterine growth restriction. *American Journal of Obstetrics and Gynecology* 218(1):S133-S134, 2018.

Corcoran SM, Achamallah N, Loughlin JO, Stafford P, Dicker P, Malone FD, Breathnach F. First trimester serum biomarkers to predict gestational diabetes in a high-risk cohort: striving for clinically useful thresholds. *European Journal of Obstetrics, Gynaecology & Reproductive Biology* 222: 7-12, 2018.

Creaney M, Moriarty RM, Milner M, Murphy C. Dexmedetomidine, high-flow nasal oxygen and sugammadex-reversal of rocuronium: overcoming anaesthetic challenges in a parturient with congenital muscular dystrophy presenting for caesarean section. *International Journal of Obstetric Anesthesia* 1;34:108-12, 2018.

Darcy, D. Gathering Gold: antenatal colostrums COLLECTing with the use of a milk collecting shell. *Practising Midwife* 11: 35-38, 2018.

De Boode WP, Van der Lee R, Eriksen BH, Nestaas E, Dempsey E, Singh Y, Austin T, El-Khuffash A. The role of neonatologist performed echocardiography in the assessment and management of neonatal shock. *Pediatric Research* 84(Suppl.1): 57-67, 2018.

De Boode WP, Roehr CC, El-Khuffash A. Comprehensive state of the art overview of neonatologist performed echocardiography: steps towards standardization of the use of echocardiography in neonatal intensive care. *Pediatric Research* 84(4): 472-473, 2018.

De Boode WP, Singh Y, Molnar Z, Schubert U, Sehgal A, Levy PT, McNamara P, El-Khuffash A. Application of Neonatologist performed echocardiography in the assessment and management of persistent pulmonary hypertension of the newborn. *Pediatric Research* 84 (Suppl 1): 68-77, 2018.

Dempsey FM, and El-Khuffash A. Objective cardiovascular assessment in the neonatal intensive care unit. *Archives of Diseases in Childhood Fetal and Neonatal Edition* 103(1): F72-F77, 2018.

Donlon T, Parsons M, Wynne K, Dillon F, Ni Ainle F, Szklanna P, Maguire P. Proteomic analysis reveals a strong association of B catenin with cadherin adherens junction in resting human platelets. *Proteomics* 18(9): e1700419, 2018.

Drew RJ, Nielsen MJ, O'Mahoney G, McGuiness C, Cunney R. Low yield of positive cerospinal fluid (CSF) culture and bacterial PCR tests in paediatric patients with a normal CSF white cell count. *Irish Medical Journal* 111(12); 693, 2018.

Drew RJ, LeBlanc L, Kent E, and Eogan M. Relationship between absence of lactobacilli in the vagina of pregnant women and preterm birth: a retrospective pilot study. *Obstetric & Gynecology Reports* 2(2): 1-4, 2018.

Drew T, Khan W, O'Flaherty D, & McCaul C. Do supraglottic airways increase the accuracy of cricothyroid membrane identification in female patients? A prospective observational study. *British Journal of Anaesthesia* 120(1), e3, 2018.

Drew T and McCaul C. Cricothyroidotomy lateral error: reassurance with a handshake? *Acta Anaesthesiology Scandinavica* 62 (10): 1485, 2018.

Drew T and McCaul CL. Laryngeal handshake technique in locating the cricothyroid membrane: a non-randomised comparative study. *British Journal of Anaesthesia* 121(5): 1173-1178, 2018.

Dwyer L, Smith A, McDermott R, Breatnach C, El-Khuffash A, Corcoran JD. Staff attitudes towards patient safety culture and working conditions in an Irish Tertiary Neonatal unit. *Irish Medical Journal* 11(7): 786, 2018.

El-Khuffash A, Schubert U, Levy PT, Nestaas E, de Boode WP. Deformation imaging and rotational mechanics in neonates: image acquisition, measurement, interpretation, reference values. *Pediatric Research* 84(Suppl 1): 30-45, 2018.

El-Khuffash A, McNamara PJ, Breatnach C, Bussmann N, Smith A, Feeney O, Tully E, Griffin J, de Boode WP, Cleary B, Franklin O, Dempsey E. The use of milrinone in neonates with persistent pulmonary hypertension of the newborn, a randomised controlled pilot study (MINT 1): study protocol and review of literature. *Maternal Health, Neonatology and Perinatology* 4:24, 2018.

Fennessy P, Aslani A, Campbell M, Husarova V, Duggan M and McCaul CL. Theoretical optimal cricothyroidotomy incision length in female subjects following identification of the cricothyroid membrane by digital palpation. *International Journal of Obstetric Anesthesia* 36(11): 42-48, 2018.

Fennessy P, Drew T, Husarova V, McCaul C. Ultrasound guided mapping of the cricothyroid membrane in relation to the suprasternal notch. *Mesentery and Peritoneum* 2(2), 2018

Fink D, El-Khuffash A, McNamara PJ, Nitzan I, Hammerman C. Tale of two Patent Ductus Arteriosus severity scores: similarities and differences. *American Journal of Perinatology* 35(1): 55-58, 2018.

Geary M, Abdool Y, Ruiter J. Examining the effects of an obstetrics interprofessional programme on reductions to reportable events and their related costs. *Journal of Interprofessional Care* E Pub. No. 8th, 2018.

Groves AM, Singh Y, Dempsey E, Molnar Z, Austin T, El-Khuffash A, de Boode WF. Introduction to neonatologist-performed echocardiography. *Pediatric Research* 84(Suppl 1): 1-12, 2018.

Hayes BC, Doherty E, Grehan A, Madigan C, McGarvey C, Mulvany S, Matthews TG, King MD. Neurodevelopmental outcome in survivors of hypoxic ischemic encephalopathy without cerebral palsy. *European Journal of Pediatrics* 177(1):19-32, 2018

Hakak S, McCaul CL, and Crowley J. Ultrasonographic evaluation of gastric contents in term pregnant women fasted for six hours. *International Journal of Obstetric Anesthesia* 34(5): 15-20, 2018.

Halling C, and Corcoran JD. Little and Large: the effects of twin growth discordance. *Archives of Diseases of Childhood Fetal & Neonatal Edition* 103(6): F502-F503, 2018.

Hehir MP, Rubeo Z, Flood K, Mardy AH, O'Herlihy C, Boylan PC, Dalton ME. Anal sphincter injury in vaginal deliveries complicated by shoulder dystocia. *International Urogynaecological Journal* 29(3): 377-381, 2018.

Hehir MP, Anath CV, Siddin Z, Flood K, Friedman AM, Dalton ME. Cesarean delivery in the United States 2005 through 2014: a population-based analysis using Robson-10 Group Classification System. *American Journal of Obstetrics & Gynecology* 219(1) :1-105 e, 2018.

Hiersch L, Berger H, Okby R, Ray JG, Geary M, McDonald S, Murray-Davis B, Hasan H, et al. Incidence and risk factors in twin versus singleton pregnancies. *Archives of Gynecology and Obstetrics* 298(3): E Pub. 579-587, 2018.

Howlett MM, Butler E, Lavelle KM, Cleary BJ, and Breatnach. The Impact of the introduction of health information technology on medication errors in a paediatric intensive care unit. *European Journal of Hospital Pharmacy* 25 (Suppl. 1): A249, 2018.

Howlett M, Cleary B, and Breatnach CV. Health Information Technology and the changing nature of medication errors in a paediatric intensive care unit: a care modified Delphi Process. *Archives of Diseases in Childhood* 103 (2): e2, 2018.

Jain A, Mohamed A, Kavanagh B, Shah PS, Kulpers BCW, El-Khuffash A, Mortens L, Jankov RP, McNamara PJ. Cardiopulmonary adaption during first day of life in human neonates. *Journal of Pediatrics* 200: 50-57, 2018.

Jairaj C, Fitzsimons CM, McAuliffe FM, O'Leary N, Joyce N, McCarthy A, Cassidy E, Donnelly J, Tully E, et al. A population survey of prevalence rates of antenatal depression in the Irish obstetric services using the Edinburgh Postnatal Depression Scale (EPDS). *Archives of Women's Mental Health* E Pub, Aug 1, 2018.

Joyce MN, Tully E, Kirkham C, Dicker P, Breathnach FM. Perinatal mortality or severe neonatal encephalopathy among normally formed singleton pregnancies according to obstetric risk status: "is low risk the new high risk?"A population –based cohort study. *European Journal of Obstetrics, Gynaecology and Reproductive Biology* 228: 71-75, 2018.

Katz R and McCaul CL. Anaesthetic management for caesarean section of a parturient with a known difficult airway and closed spinal dysraphism. *International Journal of Obstetric Anesthesia* 38 (5): 137-142, 2018.

Katz R, McCaul C, El Kaniny N and Quinn J. 2018. Anaesthetic management of a parturient with cyclical thrombocytopenia. *Anaesthesia Cases* dx.doi.org/10.21466, 2018.

Kearsley R, Caulfield K, Hayes N, Decision-making in obstetric anaesthesia: an assessment of variation in risk tolerance. *International Journal of Obstetric Anesthesia* 35: S38, 2018.

Kearsley R and McCaul C. Spinal Subdural Haematoma following extradural Blood patch. *Anaesthesia Cases* (Online): http://dx.doi.org/10.21466/ac.SSHFAEB, 2018.

Kevane B, Allen S, Walsh K, Maguire PB, Galligan MC, Kenny D, Savage R, Doran E, Lennon A, Neary E, Ni Ainle F. Dual endothelial -1 receptor antagonism attenuates platelet mediated derangements of blood coagulation in Eisenmenger Syndrome. *Journal of Thrombosis and Haemostasis* E Pub. May 26, 2018.

Khokhar H, Loughman E, McCaul C, O'Shea D, Cahill RA. AB027. 172. Illuminating neoplasia with systemic indocyanine green and near-infrared endoscopic system—clinical experience. *Mesentery and Peritoneum* 28; 2(2), 2018

Koh LL, O Rourke S, Brennan M, Clooney L, Cafferkey M, McCallion N, and Drew RJ. Impact of rapid molecular test for positive blood cultures from neonatal intensive care patients on clinical management: a retrospective audit. *Irish Journal of Medical Science* 187(2): 423-427, 2018.

Levy P, Tissot C, Horsberg-Eriksen B, Nestaas E, Rogerson S, McNamara PJ, El-Khuffash A, de Boode WP. Application of Neonatologist Performed Echocardiography in the Assessment and management of Neonatal Heart Failure unrelated to Congenital Heart Disease. *Pediatric Research* 84 (Suppl. 1): 78-88, 2018.

Levy PT, El-Khuffash A, Woo KV, Singh GK. Right ventricular pulmonary vascular interactions: an emerging role for pulmonary artery acceleration time by Echocardiography in adults and children. *Journal of the American Society of Echocardiography* 31(8): 962-964, 2018.

Levy PT, El-Khuffash A, Woo KV, Hauck A, Hamvas A, Singh GK. A Novel non-invasive Index to characterize right ventricle pulmonary arterial vascular coupling in children. *Journal of American College of Cardiology Cardiovascular Imaging* E Pub. Dec 8, 2018.

Linehan E, Brennan M, O'Rourke S, Eogan M, Drew RJ. The impact of the introduction of Xpert Flu Assay for influenza PCR testing on Obstetric patients: a quality improvement project. *Journal of Maternal Fetal and Neonatal Medicine* 31 (8): 1016-1020, 2018.

Loughrey JP, Bowen MP, Thornton PC. Early Inhalational Obstetric Anaesthesia in Ireland. *Journal of Anesthesia History* 1;4(1):69, 2018.

Maguire PB, Donlon T, Parsons M, Wynne K, Dillon E, Ni Ainle F, Szklanna PB. Proteomic analysis reveals a strong association of b-catenin with cadherin adherens junctions in resting human platelet. *Proteomics* 18 (9): e1700419, 2018.

Martin T, Smith A, Breatnach CR, Kent E, Boyle M, Levy PT, Franklin O, El-Khuffash A. Infants born with Down Syndrome: burden of disease in the early neonatal period. *Journal of Pediatrics* 193: 21-26, 2018.

Mashally S, Nield LE, McNamara PJ, Martins FF, El-Khuffash A, Jain A, and Weisz DE. Late oral acetaminophen versus immediate surgical ligation in preterm infants with persistent large patent ductus arteriosus. *Journal of Thoracic Cardiovascular Surgery* 156 (5): 1937-1944, 2018.

Massouh F, Martin R, Chan B, Ma J, McCartney C, Geary M, Laffey J, Wijeysundera D, Abdallah F. Is activity tracker-measured ambulation an accurate and reliable determinant of quality of recovery after regional anesthesia interventions? A prospective cohort validation study. *Anaesthesia and Analgesia* E Pub, 2018.

McCaul C, Comi A, Juhasz C. Anaesthesia recommendations for patients suffering From: Sturge-Weber syndrome. *Anasthesiologie und Intensivmedizin* S596-604, 2018.

McHugh A, Dwyer L, Breathnach C, Tully E, Franklin O, El-Khuffash A, Breathnach F. Hyperoxygenation therapy in the third trimester leads to hemodynamic changes in maternal circulation. *American Journal of Obstetrics and Gynecology* 218(1) S70, 2018.

McHugh A, Breathnach C, Dwyer L, Tully E , Franklin O, El-Khuffash A, Breathnach F. The effect of maternal hyperoxygenation on fetal pulmonary vasoreactivity and on blood flow patterns in the umbilical artery and middle cerebral artery in pregnancy. *American Journal of Obstetrics and Gynecology* 218(1) S158, 2018

McHugh A, Dwyer L, Breatnach C, El-Khuffash A, Franklin O, Breathnach F. Changes in fetal pulmonary vasoreactivity in response to maternal hyperoxygenation. *British Journal of Obstetrics and Gynecology* 125(2):4-5, 2018.

McHugh A, Dwyer L, Breatnach C, Franklin O, El-Khuffash A, Breathnach F. Changes in maternal haemodynamics in response to hyperoxygenation in the third trimester. *British Journal of Obstetrics and Gynecology* 125(2):1-114, 2018.

McHugh A, O'Gorman C, Cooley S, McEntee G, Burke N. Littoral cell angioma with splenic rupture in pregnancy. *Official Journal of the World Association of Perinatal Medicine; Case Reports in Perinatal Medicine* 7(1):20170064, 2018.

Meehan M, Murchan S, Gavin PJ, Drew RJ, Cunney R. Epidemiology of an upsurge of invasive Group A Streptococcal infections in Ireland: 2012-2015. *Journal of Infection* 76(4):426-428, 2018.

Meehan M, Cunney R, Eogan M, Drew R. Unexpected increase in invasive Group B Streptococcus bacteraemia in a Maternity Hospital in Dublin, Ireland. (May to September 2017) associated with subtle signs of sepsis and unreliable sepsis biomarkers. *Journal of Infection* 77(3): 183-190, 2018.

Mone F, McAuliffe FM, Malone FD. Application of a preeclampsia screening algorithm in a low-risk nulliparous population. *American Journal of Obstetrics and Gynecology* 219 (5): 506, 2018.

Mone F, Mulcahy C, McParland E, Breathnach F, Downey P, McCormack D, Culliton M, Stanton A, Cody F, Morrison JJ, Daly S, Higgins J, Cotter A, Hunter A, Tully EC, Dicker P, Malone FD, Alfirevic Z, McAuliffe FM. Trial of the feasibility and acceptability of routine low-dose aspirin versus Early Screening Test indicated aspirin for pre-eclampsia prevention (TEST study): a multicentre randomised controlled trial. *Btitish Medical Journal* (7): e022056, 2018.

Mone F, O'Mahony JF, Tyrrell E, Mulcahy C, McParland P, Breatnach F, Morrison JJ, Higgins J, Daly S, Cotter A, Hunter A, Dicker P, Malone FD, Normand C, McAuliffe FM. Pre-eclampsia prevention using routine versus Screening-test indicated aspirin in low risk women. *Hypertension* 72(6): 1391-1396, 2018.

Monteith C, Jadauji J, Abu H, McHugh AM, Donnelly JC, Mooney C, Enright S, Hayes N, Malone FD. Can a point-of-care hemoglobin device replace complete blood count for fetal blood sampling during intrauterine transfusion? *American Journal of Obstetrics & Gynecology* 218(1):S207-8, 2018

Monteith C, Egan K, O'Connor H, Maguire P, Kevane P, Szklanna PB, Cooley S, Malone F, Ni Ainle F. Early onset preeclampsia is associated with an elevated mean platelet volume (MPV) and a greater rise in MPV from time of booking compared with pregnant controls: results of the CAPE study. *Journal of Perinatal Medicine* 46(9): 1010-1015, 2018.

Monteith C, Malone FD, El-Khuffash A, Kent E. Reply to letter to the editor entitled "Non-invasive cardiac output monitoring (NICOM) can predict the evolution of uteroplacental disease: results of the prospective HANDEL study". *European Journal of Obstetrics, Gynecology and Reproductive Biology* 223: 139, 2018.

Mulcahy C, Mone F, McParland P, Breathnach F, Cody F, Morrisson JJ, Higgins J, Daly S, Dornan S, Cotter A, Dicker P, Tully E, Malone FD, McAuliffe FM. The impact of aspirin on ultrasound markers of uteroplacental flow in low-risk pregnancy: secondary analysis of a multicenter RCT. *American Journal of Perinatology* E Pub, 2018.

Murphy J, O'Rourke S, Corcoran M, Cunney R, Drew RJ. Evaluation of the clinical utility of a real-time PCR assay for the diagnosis of streptococcus pnuemoniae bacteremia in children: a retrospective diagnostic accuracy study. *Pediatric Infectious Diseases Journal* 37(2): 153-156, 2018.

Nagle, U. Early screening for postnatal depression: an innovative project in early intervention. *World of Irish Nursing* 26(5): 60-61, 2018.

Nagle U and Farrelly M. Women's views and experiences of having their mental health needs considered in the perinatal period. *Midwifery* 66: 79-87, 2018.

Nestaas E, Schubert U, de Boode WP, El-Khuffash A. Tissue Doppler velocity imaging and event timings in neonates: a guide to image acquisition, measurement, interpretation and reference values. *Pediatric Research* 84(Suppl1): 18-29, 2018.

Norman J, Heazell AEP, Rodriguez A, Weir CJ, Stock SJe, Calderwood CJ, Cunningham Burley S, Froen JE, Geary M, Breathnach F, Hunter A, McAuliffe FM, Higgins MF, Murdoch E, et al. Awareness of fetal movements and care package to reduce fetal mortality (AFFIRM): a stepped wedge, cluster-randomised trial. *Lancet* 392(10158): 1629-1638, 2018.

O'Connor C, Le Blanc D, and Drew RJ. Epidemiological changes in rubella IgG antibody levels detected in antenatal women from retrospective rubella seroprevalence study. *Irish Journal of Medical Science* 187(3): 689-692, 2018.

O'Connor C, Drew RJ et al. How can your microbiologist help you manage paediatric infections. *Paediatrics & Child Health (UK)* 28 (6): 254-262, 2018.

O'Connor C, Meehan M, Cunney R, Eogan M, Drew RJ, et al. Unexpected increase in invasive maternal Group B Streptococcus bacteraemia in a Maternity Hospital in Dublin, Ireland: May to September 2017. *Journal of Infection* 16(4): 426-428, 2018.

O'Shaughnessy F, Donnelly J, Cooley S, Bennett K, Ni Ainle F, Cleary B. Initiating postpartum pharmacological thromboprophylaxis: a comparison of international recommendations. *American Journal of Obstetrics and Gynaecology* 218(1): S493-S494, 2018.

O'Shea A, Cleary B, McEntee E, Barrett T, O'Carroll A, Drew RJ, and O'Reilly F. To vaccinate or not to vaccinate? Women's perception of vaccination in pregnancy: a qualitative study. *British Journal of General Practice* bjp open 18x101457, 2018.

Papadhima I, Louis D, Purna J, Deshpande P, Diambomba Y, Lee S, Shah P, Weisz D, El-Khuffash A, McNamara PJ, Mertens L, Jain A. Targeted neonatal echocardiography (TNE) consult service in a large tertiary perinatal center in Canada. *Journal of Perinatology* 38(8): 1039-1045, 2018.

Parsons MEM, Szklanna PB, Guerrero JA, Wynne K, Devlin F, O'Connell K, Allen S, Egan K, Bennett C, McGuigan C, Gheveart C, Ni Ainle F, Maguire PB. Platelet releasate proteome profiling reveals a core set of proteins with low variance between healthy adults. *Proteomics* 18(15), 2018.

Payne BA, Ryan H, Bone J, Magee LA, Aarvold AB, Ansermino J, Bhutta ZA, Bowen M, Guilherme CJ, Chazonne C, Crozier T, de Pont AJM, Demirkiran O, Duan T, Kallen M, Ganzevoort W, Geary M, Goffman D et al. CIPHER Group: development and internal validation of the multivariable CIPHER (Collaborative Integrated Pregnancy High-Dependency Estimate of Risk) clinical trials prediction model. *Critical Care* 22(1): 278, 2018.

Ram M, Berger H, Geary M, McDonald SD, Murray-Davis B, Riddell C, Hasan H, Barrett J, Melamed N. Timing of Delivery in women with chronic hypertension. *Obstetrical Gynecology* 132(3): 669-677, 2018

Royds J, Buckley Ma, Campbell MD, Donnelly GM, James MFM, Mhuircheartaigh RN, and McCaul CL. Achieving proficiency in rigid bronchoscopy: a study in manikins. *Irish Journal of Medical Science* E Pub, 2018.

Shanmuganathan M, Sival DA, Eastwood KA, Malone F, Morris K, Cartmill J, et al. Prenatal surgery for spina bifida: a therapeutic dilemma. Proceedings of the SHINE Conference, Belfast. *Irish Journal of Medical Science* 187(3): 713-718, 2018.

Singh Y, Roehr CC, Tissot C, Rogerson S, Gupta S, Bohlin K, Breindahl M, El-Khuffash A. Education, training, and accreditation of Neonatologist performed Echocardiography in Europe-framework for practice. *Pediatric Research* 84(Suppl1): 13-17, 2018.

Szklanna PB, Parsons ME, Wynne K, O'Connor H, Egan K, Allen S, Ni Ainle F, Maguire PB. The platelet releasate is altered in human pregnancy. *Proteomics Clinical Applications* E Pub, Oct 4, 2018

Skol A, Boutin A, Bujold E, Crane J, Geary M, Jain V, Lacaze-Masmonteil T, Liauw J, Mundle W, Murphy K, Wong S, Joseph KS. Antenatal Costicosteroid therapy for improving neonatal outcomes. *Journal of Obstetrics and Gynaecology of Canada* 40(9): 1219-1239, 2018.

Smith A, Breatnach CR, James AT, Franklin O, El-Khuffash A. Incidental findings on routine targeted neonatal echocardiography performed in preterm neonates younger than 29 weeks gestation. *Journal of Ultrasonography* 37(4): 843-849, 2018.

Smith A, McNamara PJ, El -Khuffash A. Non-pharmacological management of a haemodynamically significant patent ductus arteriosus. *Seminars in Fetal Neonatal Medicine* 23(4): 245-249, 2018.

Smith A, Tamgumus S, Lawless S, Penrose P, El-Khuffash A, Boyle MA. Tentacles for tinies: the many arms of the crocheted octopus. *Irish Medical Journal* 111(8): 812, 2018.

Smith M, Drew T, Reidy B, McCaul C, MacMahon P, & Jones JFX. Three-dimensional printed laryngeal model for training in emergency airway access. *British Journal of Anaesthesia* 121(1), e8-e9, 2018.

Sugimoto K, Ito T, Tully E, Sato K, et al. Prognostic impact of Phosphorylated discoidin domain receptor-1 in Eosphageal Cancer. *Journal of Surgical Research* 335(3): 479-486, 2018.

Tills O, Spicer JI, Grimmer A, Tully E et al. A high throughput and open-source platform for embryo phenomics. *PLos Biology* 16(12): e3000074, 2018.

Van Laere D, Van Overmeier B, Gupta S, El-Khuffash A, Savola M, McNamara PJ, Schwarz CE, de Boode WP. Application of NPE in the assessment of a patent ductus arteriosus. *Pediatric Research* 34(Suppl.1): 46-56, 2018.

Walsh N, Breatnach C, El-Khuffash A, Franklin O, Corcoran, JD. The utility of routine echocardiography in newborn infants with a persistent oxygen requirement. *Irish Medical Journal* 11(5): 755, 2018.

Yandle Z, Murchan S, Gavin PJ, Drew RJ, and CunneyR. Diagnosis of rotavirus infection in a vaccinated population: is a less sensitive immunochromatographic method more suitable for detecting wild-type rotavirus than real-time RT-PCR?. *Journal of Clinical Virology* 109 (12): 19-21, 2018.

Appendix 8

Staff List

Master
Prof. Fergal Malone

Clinical Director
Dr. John Loughrey

Secretary/General Manager
Ms. Pauline Treanor
Mr. Jim Hussey

Director of Midwifery/Nursing
Ms. Fiona Hanrahan
Ms. Margaret Philbin

Consultant Obstetrician & Gynaecologist
Dr. Sahar Ahmed
Dr. Carole Barry
Dr. William Boyd
Prof. Fionnuala Breathnach
Dr. Naomi Burke
Prof. Paul Byrne
Dr. Kushal Chummun
Dr. Gerdaline Connolly
Dr. Sharon Cooley
Dr. Sam Coulter-Smith
Dr. Jennifer Donnelly
Dr. Maeve Eogan
Dr. Karen Flood
Dr. Eve Gaughan
Prof. Michael Geary
Dr. Ronan Gleeson
Dr. Conor Harrity
Dr. Mary Holohan
Dr. Richard Horgan
Dr. Yahya Kamal
Dr. Etaoin Kent
Prof. Fergal Malone
Dr. Edgar Mocanu
Dr. Rishi Roopnarinesingh
Dr. Hassan Rajab
Dr. Tom Walsh

Consultant Neonatologist
Dr. Karina Butler
Dr. David Corcoran
Dr. Afif El-Khuffash
Dr. Adrienne Foran
Dr. Jan Franta
Dr. Hana Fucikova
Dr. Breda Hayes
Dr. Mary King
Prof. Naomi McCallion

Consultant Pathologist
Dr. Deirdre Devaney
Dr. Emma Doyle
Dr. Noel McEntaggart
Dr. Eibhlis O'Donovan

Consultant Anaesthetist
Dr. Mary Bowen
Dr. Anne Doherty
Dr. Niamh Hayes
Dr. John Loughrey
Dr. Conan McCaul
Dr. Caitriona Murphy
Dr. Ciara Jean Murphy
Dr. Róisín Ní Mhuircheartaigh
Dr. Patrick Thornton

Consultant Cardiologist
Dr. Niall Mahon

Consultant Haematologist
Dr. Fionnuala Ní Áinle

Consultant Paediatric Haematologist
Dr. Melanie Cotter

Consultant Microbiologist
Dr. Richard Drew

Consultant Medical Pathologist
Dr. Ingrid Borovickova

Consultant in Infectious Diseases
Dr. Wendy Ferguson
Dr. Patrick Gavin
Dr. Jack Lambert

Consultant Paediatric Cardiologist
Dr. Orla Franklin

Consultant Endocrinologist
Dr. Maria Byrne
Dr. Brendan Kinsley

Consultant Radiologist
Dr. Neil Hickey

Consultant Paediatric Radiologist
Dr. Stephanie Ryan
Dr. Áilbhe Tarrant

Consultant Psychiatrist
Prof. John Sheehan

Occupational Health Consultant
Dr. Dominick Natin

Consultant General Surgeon
Ms. Ann Brannigan

Consultant Nephrologist
Dr. Colm Magee
Dr. Conall O'Seaghdha

Consultant Gastroenterologist
Dr. Barry Kelleher
Dr. Padraic MacMathuna

Consultant Orthopaedic Surgeon
Dr. Paul Connolly

Consultant Ophthalmologist
Dr. Stephen Farrell
Prof. Michael O'Keeffe

Occasional Consultant
Mr. Tom Creagh
Dr. Tony Geoghegan
Prof. Tom Gorey
Dr. Leo Lawlor
Dr. Hugh McCann
Mr. Kevin O'Malley
Dr. Declan Sugrue

Specialist Registrar/Registrar in Obstetrics and Gynaecology
Dr. Mona Abdelrahman
Dr. Hala Abu Subeih
Dr. Khadeeja Ahmad Alnasser
Dr. Aliyah Al Sudani
Dr. Katie Beauchamp
Dr. Tariq Bholah
Dr. Niamh Daly
Dr. Nikita Deegan
Dr. Dylan Deleau
Dr. Andrew Downey
Dr. Mohamed El Shaikh
Dr. Caitriona Fahy
Dr. Mark Hehir (Assistant Master)
Dr. Elzahra Ibrahim
Dr. Amina Javaid
Dr. Tamara Kalisse
Dr. Niamh Keating
Dr. Rupak Kumar Sarkar (Assistant Master)
Dr. Joan Lennon
Dr. Cathy Monteith
Dr. Sarah Nicholson
Dr. Sorca O'Brien
Dr. Yvonne O'Brien (Assistant Master)
Dr. Amy O'Higgins (Assistant Master)
Dr. Bobby O'Leary
Dr. Catherine O'Regan
Dr. Claire O'Reilly
Dr. Grace Ryan
Dr. Ita Shanahan
Dr. Yegappan Shanmugam
Dr. Orla Smith
Dr. Workineh Tadesse (Assistant Master)
Dr. Sumaira Tariq
Dr. Catalina Ursache
Dr. Davor Zibar

Registrar Tutor/Lecturer in Obstetrics and Gynaecology
Dr. Catherine Finnegan
Dr. Ann McHugh
Dr. Niamh Murphy
Dr. Suzanne Smyth

Fellow in Maternal Fetal Medicine
Dr. Siobhan Corcoran
Dr. Sieglinde Mullers

Senior House Officer in Obstetrics and Gynaecology
Dr. Mohamed Abdelrahman
Dr. Laura Armstrong
Dr. Sarah Kate Brady
Dr. Ciara Carroll
Dr. Aimee Cooper
Dr. Orla Cotter
Dr. Alice Cummins
Dr. Phillip Dowling
Dr. Hannah Dunne
Dr. Mona Hersi Farah
Dr. Helen Fitzpatrick
Dr. Kenneth Fitzpatrick
Dr. Daniel Kane
Dr. Nicholas Kruseman
Dr. Yvonne Lillis
Dr. Yvonne McNamara
Dr. Jill Mitchell
Dr. Caoimhe Moffatt
Dr. Aodhnait O'Neill
Dr. Alkhalil Rehman
Dr. Catherine Rowland
Dr. Orla Smith
Dr. Jennifer Stokes
Dr. Neil Thompson
Dr. Niamh Wheeler
Dr. Sarah Wrafter
Dr. Adrianne Wyse

Specialist Registrar/Registrar in Paediatrics
Dr. Sean Armstrong
Dr. Jennifer Finnegan
Dr. Aine Fox
Dr. Sheiniz Giva
Dr. Angharad Griffiths
Dr. Susan Harvey
Dr. John Joyce
Dr. Abhidhamma Kaninde
Dr. Robert McGrath
Dr. Li Yen Ng
Dr. Niamh O'Brien
Dr. Jurate Panaviene
Dr. Fazal Subhani E Rabi
Dr. Birendra Rai
Dr. Gergana Semova
Dr. Roy Stone
Dr. Danielle Vincent
Dr. Zaheera Yusuf
Dr. Lyudmyla Zakharchenko

Research Tutor/Lecturer in Paediatrics
Dr. Nurul Aminudin
Dr. Neidin Bussman
Dr. Adam Reynolds
Dr. Aisling Smith

Senior House Officer in Paediatrics
Dr. Orla Banks
Dr. Mahmoud Belnur
Dr. Rynagh Cummins
Dr. Ahmed Daoud
Dr. Roisin Egan
Dr. Aisling Fitzsimons
Dr. Moazzam Gulzar
Dr. Susan Keogh
Dr. Doina OLteanu
Dr. Kaushik Mangroo
Dr. Donnchadh O'Sullivan
Dr. Tamoor Raza
Dr. Deirdre Ryan
Dr. Hannah Ryan
Dr. Engy Shehata
Dr. Miriam Smyth
Dr. Sean Tamgumus
Dr. Ciara Terry

Specialist Registrar/Registrar in Anaesthesia
Dr. David Devlin
Dr. Amy Donnelly
Dr. Alain Fennessy
Dr. Margaret McLoughlin
Dr. Sinead O'Shaughnessy
Dr. Mohamad Radwan
Dr. Fiona Roberts
Dr. Jacques Rousseau
Dr. Marcel Rujan
Dr. Cillian Suiter
Dr. Dana Teodorescu
Dr. Vincent Wall
Dr. Vanitha Zutshi

Senior House Officer in Anaesthesia
Dr. Agatha Cristina Albetel-Biculescu
Dr. Sorcha McCauge
Dr. Joe O'Dowd
Dr. Parvan Parvanov

Fellow in Obstetric Anaesthesia
Dr. Sunil Chauhan
Dr. Tomasz Iwan
Dr. Richard Katz
Dr. Patrick Kennelly

Specialist Registrar/Registrar in Pathology
Dr. Karl Ewins
Dr. Barry Kevane
Dr. Brianan McGovern
Dr. Sarah Mullins

Midwifery – Assistant Director
Ms. Marian Brennan
Ms. Catherine Halloran
Ms. Fiona Hanrahan
Ms. Marie Keane
Ms. Aideen Keenan
Ms. Geraldine Gannon
Ms. Janice MacFarlane
Ms. Anne O'Byrne
Ms. Mary O'Reilly
Ms. Mary Whelan
Ms. Patricia Williamson

Advanced Neonatal Nurse Practitioner
Mr. Mark Hollywood
Ms. Christine McDermott
Ms. Edna Woolhead

Advanced Midwife Practitioner
Ms. Debra England
Ms. Bernadette Gregg

Clinical Midwife Manager III
Ms. Catriona Cannon
Ms. Mary Deering
Ms. Jane Hickey
Ms. Ciara Roche

Clinical Skills Facilitator
Mr. Trevor Barrett
Ms. Linda Chiles
Ms. Niamh Hegarty
Ms. Felicity Kalu
Ms. Charmaine Scallan

Clinical Practice Co-Ordinator
Ms. Sinead Landy
Ms. Marie Longworth
Ms. Jean Rooney

Clinical Midwife Manager II
Ms. Virginie Aubert Bolger
Ms. Marian Barron
Ms. Anu Binu
Ms. Mary Brady
Ms. Patricia Butler
Ms. Sinead Corbett
Ms. Christine Corogan
Ms. Emer Croke
Ms. Marina Cullen
Ms. Liz Doran
Ms. Jackie Edwards
Ms. Helen Enyinnaya
Ms. Noelle Farrell
Ms. Margaret Merrigan Feenan
Ms. Marguerite Fitzgibbon
Ms. Alva Fitzgibbon
Ms. Aileen Fleming
Ms. Mary Fogarty
Ms. Louise Hanrahan
Ms. Susan Hogan
Ms. Monica Kavanagh
Ms. Claire Kearney
Ms. Nollaig Kelliher
Ms. Bridget Kerrigan
Ms. Gillian Lane
Ms. Mairead Lawless
Ms. Helen Lonergan
Ms. Jeanne Masterson
Ms. Lisa McMahon
Ms. Jacqueline Murrin
Ms. Fionnuala Nugent
Ms. Joan O'Beirnes
Ms. Annette O'Connor
Ms. Finola O'Neill
Ms. Chanelle Porter
Ms. Louise Rafferty
Ms. Ajita Rajendra Raman
Ms. Ciara Roche
Ms. Paula Scully
Ms. Janice Short
Ms. Elizabeth Tobin
Ms. Fiona Walsh
Ms. Norena Walsh
Ms. Deirdre Ward

Clinical Nurse Manager III
Ms. Orla O'Byrne

Clinical Nurse Manager II
Ms. Bernice Breslin
Ms. Deirdre Coghlan
Ms. Hazel Cooke
Ms. Anu Garg
Ms. Caroline Heindricken
Ms. Julie Heslin
Ms. Rasamma Joseph
Ms. Ruth McLoughlin
Ms. Jennifer O'Neill
Ms. Susan Matthew
Ms. Tara Moore
Ms. Jeyanthi Sukumaran
Ms. Derval Toomey Dickson

Colposcopy Nurse Co-ordinator
Ms. Selena Igoe
Ms. Carol O'Rourke
Ms. Rose Thorne

Clinical Midwife Specialist
Ms. Aisling Bhreathnach
Ms. Deborah Browne
Ms. Heather Cruise
Ms. Jane Dalrymple
Ms. Anne Gallagher
Ms. Maura Lavery
Ms. Alison Lawless
Ms. Lizbeth Lehane
Ms. Ursula Nagle
Ms. Deirdre Nolan
Ms. Mary O'Mahoney
Ms. Gemma Owens
Ms. Deirdra Richardson
Ms. Catherine Irene Twomey

Clinical Nurse Specialist
Ms. Siobhan Mulvany

MN-CMS Project Lead
Ms. Rhona Drummond

GP Liaison/Hospital Relationship Manager
Ms. Eleanor Power

Paramedical Heads of Department

Mr. Brian Cleary (Chief Pharmacist)
Ms. Cinny Cusack (Senior Physiotherapist)
Ms. Sinead Devitt (Head Medical Social Worker)
Ms. Laura Kelly (Head of Clinical Nutrition)
Mr. John O'Loughlin (Laboratory Manager)

Administrative Heads of Department

Ms. Sheila Breen (Quality and Patient Safety Manager)
Ms. Louise Cleary (Clinical Risk Manager)
Ms. Kathy Conway (Clinical Reporting)
Mr. James Hussey (Financial Controller)/Mr. Francis Keogh
Mr. Cathal Keegan (IT Manager)
Ms. Niamh Moore (Patient Services Manager)
Ms. Anne O'Byrne (Head Librarian)
Mr. Kieran Slevin (Human Resources Manager)
Mr. Sean Williamson (Materials Manager)

Support Department Heads

Mr. Les Corbett (Health and Safety Manager)
Mr. Henry Gelera (Clinical Engineering Manager)
Mr. Yoichi Hoashi (Catering Manager)
Ms. Catherine L'Estrange (Household Manager)
Mr. Brendan Memery (Technical Services Manager)
Mr. Ray Philpott (Support Services Manager)
Mr. Paul Shields (Head Porter)

Chaplain

Rev Alan Boal
Ms. Ann Charlton
Ms. Susan Dawson
Rev. David Gillespie
Rev. Dr. Laurence Graham
Very Rev. Kieran Mc Dermott
Fr. John Walsh O.P.

Appendix 9

Organisational Structure

BOARD OF GOVERNORS

- General Purposes Committee
- Property Committee
- Governance/Audit Committee
- Risk Committee

Executive Management Team

MASTER

Director of Midwifery and Nursing

Secretary/General Manager

CLINICAL MIDWIFERY & NURSING
- Maternity
- Gynaecologic
- Neonatal

MIDWIFERY & NURSING EDUCATION
- Undergraduate Training
- Postgraduate Training

PRACTICE DEVELOPMENT
- Ongoing Education & Training
- Clinical Practice Development

BEREAVEMENT SUPPORT
- Inpatient Support
- Outpatient Follow Up

OBSTETRIC & GYNAECOLOGIC CARE
- Outpatient Services
- Emergency Services
- Operating Theatres
- Inpatient Services

LABORATORY MEDICINE
- Haematology & Transfusion
- Biochemistry
- Microbiology
- Histopatholgy
- Virology/Serology

ANAESTHESIOLOGY
- Pre-Anaesthetic Assessment
- Anaesthetics/Recovery
- High Dependency Unit

NEONATAL SERVICES
- Inpatient Neonatal Care
- Outpatient Care
- Neonatal Transport

DIAGNOSTIC IMAGING
- Radiology
- Ultrasound
- Fetal Medicine

SEXUAL ASSAULT TREATMENT
- Forensic Examination & Follow-Up

COLPOSCOPY
- National Cervical Screening Service

ACADEMICS
- Undergraduate & Postgraduate Training
- Research Projects, Initiatives & Ethics
- Innovation Hub

FINANCE
- Financial Control & Management
- External Audit
- Procurement
- Insurance
- Asset Register

SUPPORT SERVICES
- Household
- Portering
- Technical
- CSSD
- Clinical Engineering
- Catering

HUMAN RESOURCES
- Employee Selection & Recruitment
- Training & Development
- Occupational Health

INFORMATION TECHNOLOGY
- System Support & Administration
- Systems Development

PATIENT SERVICES
- Administration & Support
- Healthcare Records

LIBRARY & INFORMATION SERVICE
- Information Provision, Promotion & Dissemination

CLINICAL ACTIVITY REPORTING
- Clinical Management Information
- Internal & External Reports

QUALITY, SAFETY & RISK
- Clinical Risk
- Infection Prevention & Control
- Health & Safety
- Quality Improvement
- Clinical Audit
- Health Promotion
- Information Governance
- Patient Experience

ALLIED HEALTH & SOCIAL CARE PROFESSIONALS
- Medical Social Work
- Clinical Nutrition
- Physiotherapy
- Pharmacy
- Perinatal Mental Health
- Chaplaincy

The Rotunda Hospital,
Parnell Square,
Dublin 1,
DO1 P5W9

Tel: 01 817 1700
www.rotunda.ie
@RotundaHospital

The Rotunda Hospital,
Parnell Square,
Dublin 1,
DO1 P5W9

Tel: 01 817 1700
www.rotunda.ie
@RotundaHospital

THE ROTUNDA HOSPITAL DUBLIN

Caring for Generations
Since 1745