

# The Rotunda Hospital Dublin



## Annual Report 2019





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# THE ROTUNDA HOSPITAL DUBLIN

## ANNUAL REPORT 2019



## ABOUT THE ROTUNDA

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 263 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.

IN 2019

**10,200**  
MOTHERS CARED FOR



**8,410**  
BABIES DELIVERED



**1,009**  
EMPLOYEES



**480**  
MEDICAL AND  
NURSING STUDENTS



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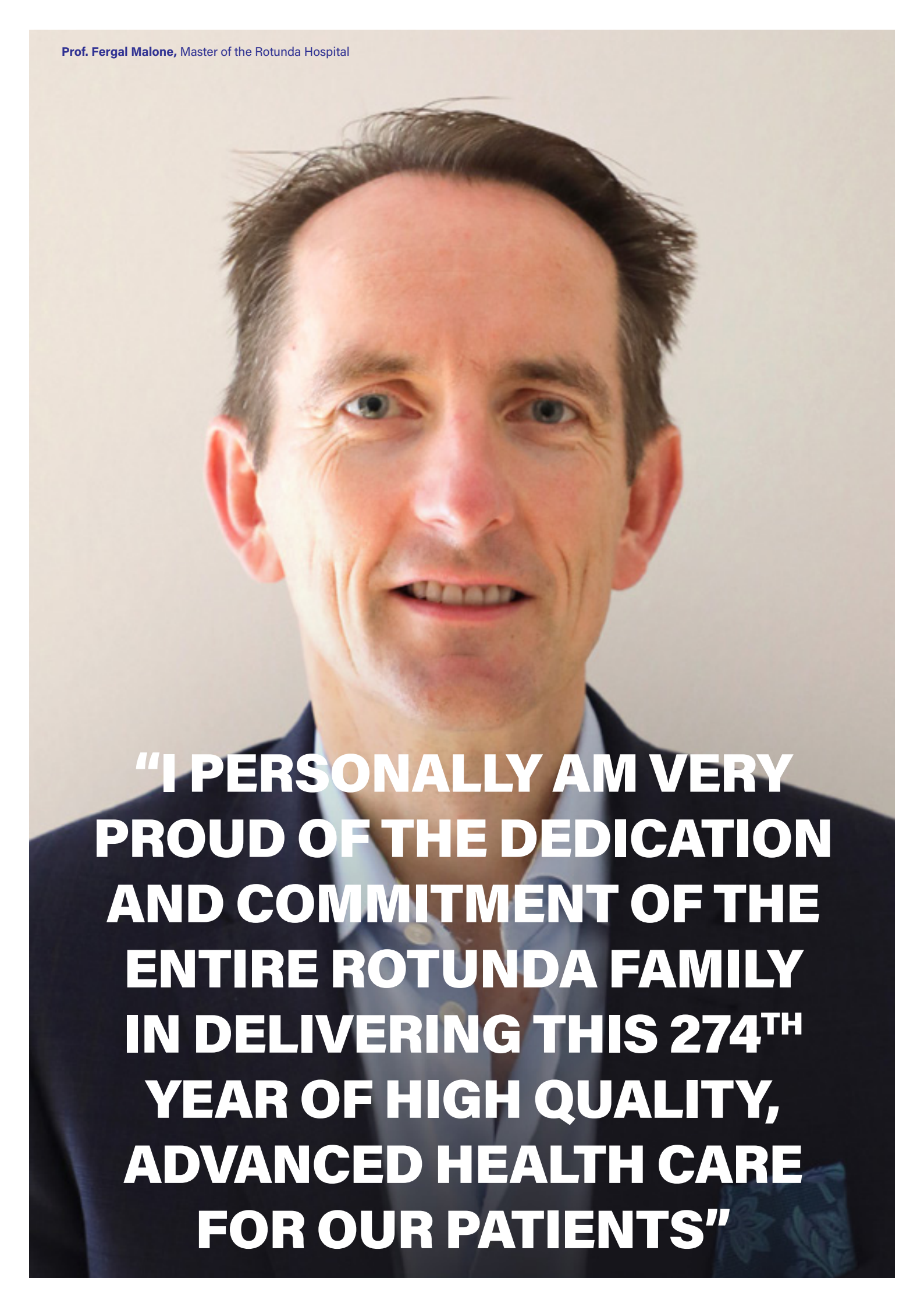


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# INTRODUCTION

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A close-up portrait of Prof. Fergal Malone, a middle-aged man with short brown hair and blue eyes, wearing a dark blue suit jacket over a light blue shirt. He is smiling slightly and looking directly at the camera. The background is a plain, light-colored wall.

**“I PERSONALLY AM VERY PROUD OF THE DEDICATION AND COMMITMENT OF THE ENTIRE ROTUNDA FAMILY IN DELIVERING THIS 274<sup>TH</sup> YEAR OF HIGH QUALITY, ADVANCED HEALTH CARE FOR OUR PATIENTS”**

## INTRODUCTION BY THE MASTER

**As the 274<sup>th</sup> year of consecutive service to the women and children of Dublin and Ireland, 2019 was another very busy but very successful time for the Rotunda Hospital on its Parnell Square campus. Each and every one of our 1,009 staff were instrumental in the delivery of 8,410 babies to 10,200 mothers. The Rotunda remains the busiest maternity hospital in Ireland, and one of the busiest in all of Europe, while delivering care from the oldest maternity hospital in the world. Founded in 1745, and built in 1757, the Rotunda is by far the oldest continuously operating maternity hospital in the world – a history of which we are proud and which underpins our commitment to our patients. I personally am very proud of the dedication and commitment of the entire Rotunda family in delivering this 274<sup>th</sup> year of high quality, advanced health care for our patients.**

### CLINICAL ACTIVITY

In 2019, the Rotunda remained extremely busy, with very similar numbers of mothers cared for and babies delivered as occurred in 2018. A 1% decrease in births to 8,410 babies did not materially impact on the workload of our Labour and Delivery Suite or Neonatal Intensive Care Unit staff due to the continued infrastructural challenges of our Parnell Square campus. The continued significant decline in birth rates seen throughout Ireland was not evident at the Rotunda, as our catchment areas include those areas with highest population growth for young families.

Despite the persistent high clinical activity throughout all parts of the hospital, I am proud to report a low adjusted perinatal mortality rate of 1.4 per 1,000 births, which is consistent with our past years' performances and very much on a par with the best maternity hospitals internationally. I am also glad to be able to report a fourth consecutive year without a maternal mortality, again emphasising the very highest calibre of maternal critical care at the Rotunda, in partnership with our colleagues at the Mater Misericordiae University Hospital on whom we depend for back-up in our highest risk cases.

Unfortunately, we experienced yet another serious infectious outbreak in our Neonatal Intensive Care Unit (NICU) during the months of March and April 2019. A total of eight premature babies were affected by a resistant bacteria, ESBL-producing *Klebsiella pneumoniae*, which required closure of a portion of the NICU for a prolonged period of time. The outbreak was tragically associated with both morbidity and mortality. A complete review following the outbreak suggested that the principal underlying factor was overcrowding.

As an immediate risk mitigation measure we placed a cap of 70% on our NICU capacity, which required closing the unit to external admissions whenever 14 of our 19 highest intensity incubators were occupied. However, this is not a practical ongoing solution for preventing recurrent infectious outbreaks, given the constant internal demand for NICU places from our own delivering patients as well as the intolerable pressure that this places on the NICUs of our sister maternity hospitals at the National Maternity Hospital and the Coombe Women and Infants University Hospital. We remain extremely appreciative of our neonatal colleagues at NMH and CWIUH for their assistance during these difficult times.

The Rotunda is the major provider of benign gynaecology services to the Greater North Dublin area and its surrounding counties, with a gynaecology waiting list of 3,500 patients at the end of 2019. We receive almost 500 referrals per month, yet only had capacity to provide approximately 300 first visit appointments per month. In order to improve our gynaecology service provision, we commenced virtual gynaecology clinic appointments, new evening gynaecology clinics and expanded ambulatory hysteroscopy clinics. I am grateful to the leadership of our new Director of Gynaecology, Dr. Vicky O'Dwyer, in driving forward some of these new innovations.

During 2019, the Rotunda was the subject of two HIQA inspections – one in January 2019 which focussed on our responsiveness to obstetric emergencies, and one in November 2019 which focussed on medication safety. As regards responsiveness to obstetric emergencies, HIQA confirmed that the Rotunda was compliant or substantially compliant in all areas, with the exception



of the sub-standard physical environment of some parts of the hospital. As regards medication safety, HIQA not only confirmed that the Rotunda was compliant in almost all areas, but also singled the hospital out for praise in terms of its leadership and exemplar performance in many areas. These independent external reviews of our clinical activity serve to reassure all service users regarding the superb quality of care at the Rotunda.

#### **THE ROTUNDA AS A VOLUNTARY HOSPITAL**

A key defining characteristic of the Rotunda Hospital is its independent voluntary status, as legally underpinned by its Royal Charter. The Board of Governors monitors the performance and strategic direction of the hospital, while the Executive Management Team directs the day-to-day operations of the hospital. It is fitting to acknowledge the effort and commitment of each of the members of the Board who give of their time freely, without any compensation, for the betterment of our hospital and patients, in particular the Chair of the Board of Governors, Dr. Maria Wilson Browne.

## **“The Rotunda’s Strategic Plan 2017-2021 emphasised the development and operation of our Clinical Innovation Unit.”**

The voluntary status of the hospital ensures that the funding received from the Health Service Executive to provide clinical services on its behalf is used to the most efficient extent possible. The hospital is extremely agile in how it responds to the demand-led nature of maternity services, as evidenced by the effective financial break-even performance yet again in 2019. The €82 million budget to manage the hospital is made up of €66 million in allocation from the HSE and a further €16 million provided as income earned separately from the hospital's own ventures. A surplus of €0.4 million was generated by the hospital in 2019, demonstrating the effectiveness of our management team, and is quite unusual in the Irish healthcare sector, particularly for a demand-led specialty in which we never turn away patients. I am most grateful to the effectiveness of our Secretary/General Manager, Mr. Jim Hussey, and our Director of Finance, Mr. Peter Foran, for their impressive administrative performance in ensuring the efficient financial operation of the hospital.

While the hospital operates independently, it is also an effective member of the RCSI Hospitals Group, which is the administrative section of the HSE through which the hospital receives its state financial allocation and with which value-for-money performance reporting is performed. I remain grateful for the assistance and support of the RCSI Hospitals Group Chief Executive Officer, Mr. Ian Carter, in achieving our mutual goals. Like all other Section 38 hospitals, the Rotunda enters into an annual Service Level Agreement (SLA) with the HSE which underpins the reporting relationship and services to be provided. The Rotunda is of the view that it remains significantly under-funded for the level of medical services provided for the public health system and, if an activity based funding model was applied, significant additional financing would be due to the hospital. In 2019, the Independent Review Group chaired by Dr. Catherine Day strongly endorsed the role of voluntary hospitals, with their efficiency and innovation being real assets for the Irish healthcare sector. We look forward to the development of a more mutually agreeable SLA with the HSE, and more realistic state funding to reflect the actual public health services provided by the Rotunda in years to come.

#### **THE ROTUNDA AS AN INNOVATIVE HOSPITAL**

At a practical level, as well as operating efficiently, the other principal hallmark of the Rotunda as a voluntary hospital is its ability to innovate. The Rotunda's Strategic Plan 2017-2021 emphasised the development and operation of our Clinical Innovation Unit. This resulted in award-winning new programmes being developed and implemented, including a project led by Consultant Microbiologist, Dr. Richard Drew, on the use of artificial intelligence to interpret bacterial vaginosis molecular results in obstetric patients, which was awarded first prize at the Irish Health Care Awards for best use of information technology. Other notable innovations in 2019 included:

- Development of the Irish Medicines in Pregnancy Service, funded by the Rotunda Board of Governors, as an educational and information resource for healthcare providers and patients
- Development of a Rotunda Obstetric and Neonatal smart phone App to provide the latest medical information at staff member's fingertips to optimise patient care
- Implementation of a medication safety bundle in the Neonatal Intensive Care Unit, led by Chief Pharmacist, Dr. Brian Cleary, which won first prize at the RCSI Hospitals Group Quality and Patient Safety Conference

- Development of a midwifery-managed outpatient induction of labour programme, which won another prize at the Irish Health Care Awards for best healthcare initiative
- Implementation of rapid molecular testing for Group B Streptococcus to reduce invasive disease in mothers and babies, which was nominated for project of the year at the Irish Health Care Awards
- Maximised community outreach and education efforts through the “CREATE: Art of Pregnancy, Birth and Beyond” art exhibition, and the “Debunking the Myths: Science Behind Women’s Health” workshop for transition year school students, both of which were also nominated at the Irish Health Care Awards
- Launch of the Rotunda Perinatal Mental Health Hub, which included additional consultant psychiatry staff, as well as additional specialist mental health midwifery, psychology, social work and administrative staff, which will radically expand the depth and range of mental health services provided for our patients
- Introduction of Family Integrated Care to the NICU, which more closely involved parents in the monitoring and care of their premature newborns admitted to the unit
- Implementation of patient photographic identification on the MN-CMS electronic healthcare record, to reduce wrong patient errors
- Extending our community midwifery services to two new clinical sites, at Balbriggan and Rush, Co Dublin
- Introduction of the SERVVAL electronic meal-ordering service for patients
- Development of the Umbifunnel and Umbistand umbilical cord blood collection system, which has been patented, registered with HPRA and selected a manufacturing partner

## HOSPITAL INFRASTRUCTURE

The Rotunda continues to deliver 21<sup>st</sup> century healthcare, to the best of its ability, out of 18<sup>th</sup> century buildings. Since becoming Master in 2016, I have consistently articulated to the HSE, (through the RCSI Hospitals Group, HSE Estates, HSE Acute Hospitals Division, the HSE Chief Clinical Officer, and the HSE Chief Executive Officer) and to the Department of Health (through the Minister and senior administrative staff) the unacceptable state of our existing physical infrastructure at Parnell Square in Dublin’s North inner city. I have confirmed that the risks to patients’ lives and health are so serious that maintaining the status quo, without appropriate investment in our current campus, will inevitably result in more adverse outcomes. Since becoming Master, we have had to deal with a major fire in the NICU, and several infectious outbreaks, as well as multiple “near miss” adverse events, in which our limited physical capacity to care for patients has been the root cause. This was repeated again in March and April 2019, when yet another severe infectious outbreak shut our NICU and was associated with several neonatal adverse outcomes. Repeatedly closing clinical service areas, caring for patients who have sustained adverse outcomes, and repeatedly apologising to patients for the physical limitations of our campus is neither an acceptable nor a realistic way forward.

While Government policy remains that the Rotunda should eventually co-locate on to the site of a major acute adult hospital in the Greater Dublin Area, such a development is at least 15-20 years away. Given the competing capital demands at the moment with other major hospital developments in Ireland, securing over €400 million of new funding for such an ideal development is many years away.

In the interim, as the busiest maternity hospital in the country, we will be required to care for 200,000 pregnant mothers over the next 20 years, as well as the most vulnerable citizens of the state – premature newborn babies. The medico-legal risks associated with this specialty are the highest in the entire field of medicine, with high court awards for compensation after adverse outcomes now frequently exceeding €20 million per case. Additionally, the devastation to families when otherwise healthy mothers and babies sustain potentially avoidable injury, combine to make the current status quo regarding our infrastructure impossible to justify or defend. As well as having a NICU that is chronically overcrowded which leads to infectious outbreaks, we also have postnatal wards that do not provide the dignity and privacy expected by families today. Our outpatients facilities are so over-crowded that they prevent us from seeing patients in a timely manner, thereby contributing

**“The Rotunda continues to deliver 21<sup>st</sup> century healthcare, to the best of its ability, out of 18<sup>th</sup> century buildings.”**

to prolonged waiting lists and potentially missed serious underlying diagnoses. Our core hospital laboratory and central sterile services departments are also not fit-for-purpose for 21<sup>st</sup> century healthcare. These deficiencies have been documented repeatedly, not only by hospital management but also by independent external inspections, including another unannounced inspection in January 2019 by HIQA.

The solution to our severe infrastructural deficiencies is clear: an immediate significant capital investment on our existing Parnell Square campus to make our services safe for the 200,000 mothers expected to be cared for here in the next 20 years, while simultaneously progressing the longer term co-location of the Rotunda with a major acute adult hospital in Dublin. When viewed through the €20 million medico-legal cost of a single adverse outcome in obstetrics, spending €60 million or €80 million to secure the safety of our patients while awaiting longer term co-location appears eminently sensible and logical.

I am happy to report that, in 2019, we engaged extensively with our colleagues in the HSE and the Department of Health on this matter and I am hopeful that in 2020 we will be in a position to present a capital infrastructure solution agreed by all parties that will secure the safety of our patients on our existing Parnell Square campus over the short to medium term. Extensive analyses and validation have been performed of our highest priority clinical risks, as well as detailed options appraisals and costings being completed in line with the Public Spending Code. We hope to be able to secure HSE and Department of Health agreement to such a solution in the near future.

## “A complete internal renovation of the NICU has now finished, and construction has commenced on two new operating theatres as well as expanded emergency assessment facilities and a completely new Labour and Delivery Suite. ”

In the meantime, our management team continues to work to optimise our existing buildings for our current patients’ safety and comfort. A complete internal renovation of the NICU has now finished, and construction has commenced on two new operating theatres as well as expanded emergency assessment

facilities and a completely new Labour and Delivery Suite. We have also renovated bathrooms and shower facilities throughout the hospital, replaced all electrical boards, replaced an elevator, built two new electricity delivery sub-stations, and renovated the Sexual Assault Treatment Unit. It is important to point out however, that the majority of the funding of these works has been provided directly by the Board of Governors of the Rotunda through its own financial reserves, with only €8 million of minor capital funding having been provided by the HSE over the last 15 years. We remain indebted to the Rotunda Board for its generosity in this regard, which further underpins the value of its independent voluntary hospital status.

### TERMINATION OF PREGNANCY

One of the most challenging issues in 2019 was the implementation of a termination of pregnancy service, in response to the successful passage of the 36th Amendment to the Constitution of Ireland (by a 66% to 34% margin) in 2018, which repealed the 8th Amendment prohibiting termination of pregnancy. With only seven months of preparation since the passage of the amendment on May 25, 2018, and only two weeks of preparation since the signing into law of the Health (Regulation of Termination of Pregnancy Act) 2018 on December 20, 2018, the Rotunda successfully commenced termination of pregnancy services on January 2, 2019. This was particularly challenging as significant additional resources needed to be provided by the hospital for this service, with funding only becoming available later in the year. Implementation also involved significant staff training and preparation, including managing some staff concerns regarding conscientious objection in a respectful and tolerant manner. Thanks to the leadership of senior obstetric, anaesthesiology, midwifery, nursing and administrative staff, the Rotunda was able to provide all legal services to our patients as soon as the legislation became active.

There are three general grounds in which pregnancy termination is now legally permissible in Ireland:

- Prior to 12 weeks’ gestation on the mother’s request (Section 12 of the Act)
- After 12 weeks’ gestation in the setting of a lethal fetal malformation (Section 11 of the Act)
- After 12 weeks’ gestation in the setting of serious maternal health challenge (Sections 9 and 10 of the Act)

At a practical level, almost all terminations of pregnancy in Ireland prior to nine weeks’ gestation are managed directly with the patients’ general practitioner. We are grateful to the cooperation of a significant number of

GPs in our catchment area who have stepped forward to ensure that their patients can avail of this service.

Our new Pregnancy Options Service at the Rotunda Hospital provides termination of pregnancy by medical or surgical means for patients in the 9-12 week time period, as well as a number of patients at less than nine weeks' gestation who have special medical challenges or who have failed initial management with their GP. In 2019, the Rotunda provided 178 terminations of pregnancy under Section 12 of the Act. Additionally, our Fetal Medicine Service sees patients from the Rotunda catchment area, from the RCSI Hospitals Group extended catchment area, and from the entire island of Ireland on a specialist referral basis. In 2019, the Rotunda provided 30 terminations under Section 11 of the Act. Finally, our general obstetric and maternal medicine teams provided termination of pregnancy for 5 patients under Sections 9 and 10 of the Act, the majority of which were for previable preterm rupture of the membranes in which chorioamnionitis had developed.

## **“The Rotunda is now a completely paperless hospital, following the successful introduction of the gynaecology module to the MN-CMS electronic healthcare record.”**

While the campaign to amend the constitution was quite fraught and divisive in Ireland, and while much debate surrounded the details of the enabling legislation, at the end of 2019 it has become clear that the so-called “flood gates” did not open and the number of pregnancy terminations was precisely as predicted. There has been no evidence that patients or their doctors are misrepresenting clinical details in order to secure pregnancy termination, and there is already clear evidence of a marked drop in the number of patients from Ireland obtaining pregnancy termination in the United Kingdom. This is clearly a safer situation for patients, and will inevitably be associated with better outcomes – both medically and from a mental health perspective. It is clear that the consensus from political, medical and patient support groups has worked very effectively in bringing this important clinical service to fruition for the benefit of our patients. I am most grateful to all of the staff and leadership team at the Rotunda who played their part in implementing this important clinical service.

### **NOTABLE EVENTS**

In January and February 2019, the Rotunda had to work closely and sensitively with our vital midwifery and nursing colleagues in order to continue clinical services during three days of industrial action taken by the Irish Midwives and Nurses Organisation (INMO). While the Executive Management Team of the hospital was most sympathetic to the concerns and requirements of our nurses and midwives, we were still obligated to continue emergency obstetric, neonatal and gynaecologic services even in the setting of strike action. Thanks to the cooperation of liaison teams between midwifery and nursing leaders at the Rotunda and Rotunda management, we were able to continue all crucial services during those challenging strike days. We are happy that the industrial action was resolved to all parties satisfaction, with the introduction of a higher-paid enhanced nurse practice grade and more widespread distribution of allowances. We will continue to value and support all of our midwives and nurses as the most crucial human resource asset at the Rotunda.

The Rotunda is now a completely paperless hospital, following the successful introduction of the gynaecology module to the MN-CMS electronic healthcare record. This now means that all patients managed at the Rotunda, both inpatient and outpatient, across all specialties are managed on a single electronic system, including medical record-keeping, patient orders, laboratory testing, medication management and patient administration. It is hoped that this will yield further efficiencies for the hospital in terms of data management and analytics, as well as minimising patient error.

The influenza season was marked by a record 81% staff uptake rate for influenza vaccination, which was the second highest staff vaccination rate achieved at all hospitals throughout Ireland. Our Occupational Health and Infection Prevention and Control Teams are to be congratulated for this achievement, which again underpins our staff's commitment to the health and safety of all of our patients.

The second series of “The Rotunda” television documentary was broadcast throughout 2019 on RTE. It received strongly positive feedback, both in Ireland and abroad, with extremely high viewership figures. The unique stories of Rotunda patients, going through both normal delivery experiences and complicated care journeys, truly resonated with the public. The combination of positive pregnancy outcomes together with the sensitive portrayal of pregnancy loss and complicated outcomes, also showed the depth of commitment and compassion of all of the Rotunda staff, ranging from midwives, nurses, doctors, care assistants, household staff, catering staff and administration. We

have already noticed an increase in enquiries from potential new staff, both from within and outside of Ireland, in response to the show. We are most grateful to all of the team at Scratch Films, who produced the show and their well-deserved Best Factual Entertainment Award at the Celtic Media Television Festival.

Finally, it is essential to point out that the Rotunda can only function as the busiest maternity hospital and amongst the most efficient hospitals in Ireland with the dedication and support of all of our staff. While I cannot acknowledge everyone individually, I am lucky to have the support of a superb Secretary/General Manager, Mr. Jim Hussey, and a fabulous Director of Midwifery and Nursing, Ms. Fiona Hanrahan. Additionally, I am most appreciative of the support of our Clinical Director, Prof. Michael Geary, without who's assistance it would not have been possible to generate the superb clinical outcomes as described in this report. I am also very thankful for the ongoing day-to-day support of my administrative team in the Master's office, Mary O'Grady and Margaret Griffin. Finally, I am particularly appreciative of all of the consultant obstetrician-gynaecologists, neonatologists, anaesthesiologists, pathologists and other medical specialists, as well as all of our non-consultant hospital doctors and the assistant masters for their commitment to our patients as well as your constant support in my role. I am looking forward to the fifth year of my Mastership in 2020, during which time we have major plans for further innovation and development in our 275<sup>th</sup> year of service.

**Professor Fergal Malone**

Master of the Rotunda Hospital





## INTRODUCTION BY THE CHAIRPERSON

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 hospital moved to its current location in 1757 where it became known as "The New Lying-In Hospital". This is the hospital campus referred to today as "The Rotunda". The Rotunda is a unique institution in that it has continued to provide an unbroken record of service to women and babies since its foundation in 1745 and has occupied its present premises since 1757. The Rotunda is the oldest working maternity hospital in the world.

### BOARD OF GOVERNORS AND GOVERNANCE

The Rotunda Hospital is governed by a Royal Charter which was granted on the 2<sup>nd</sup> December, 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 of the Rotunda Hospital the Board has a responsibility for promoting a collective vision for the hospital purpose, the 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, as well as for strategic developments. It met on 10 occasions during 2019. The Board is supported by a number of Sub-Committees, which report to and advise the Board. The Committees are primarily advisory with one committee, the General Purposes Committee, having a decision-making function:

### BOARD COMMITTEES

1. General Purposes Committee
2. Risk Committee
3. Property Committee
4. Governance and Audit Committee
5. Capital Funds Committee
6. Performance & Remuneration 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, regarding which they make and provide recommendations to the Board.

The Board continues to pursue a policy of ensuring that the Board and Committees are replenished with a diversity of skill sets in order to meet increasing demand in Board requirements. Continued upskilling is provided with Board education days and induction training for new Governors. Additional skills have been sourced for Committees through recruitment of external members, which adds valuable experience and skills to these Committees in their advisory capacity.

The Board oversees Governors compliance with their statutory requirements under the Ethics in Public Office Act 1995 and the Standards in Public Office Act 2001. A bi-annual self-assessment is provided by all Governors, together with participation at the Annual Away/Education Day.

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

### CHALLENGES

#### ROTUNDA CO-LOCATION AND INTERIM DEVELOPMENT ON THE EXISTING PARNELL SQUARE CAMPUS

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 previously funding a Design Brief Report, Activity and Capacity Model Report and 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 could have a timeframe of a minimum of at least 15 years. This is an unacceptable risk which the Board cannot ignore, and therefore mandates us to develop an interim risk mitigation strategy.

The most substantial risk therefore for the Board is addressing infrastructure and spatial deficits associated with 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 invest and optimise infrastructure on the existing Parnell Square campus, while at the same time engaging with the longer term co-location goal. All options have been comprehensively evaluated and costed, with the results being communicated to all stakeholders including the Department of Health.

#### MATERNAL AND NEW BORN CLINICAL MANAGEMENT SYSTEM (MN-CMS)

The implementation of an electronic health record in obstetrics in November 2017 is 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 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 in optimising intelligence. This culminated with the implementation of the final module, covering gynaecology, in November 2019. This has enabled the hospital to have a full suite of electronic healthcare records by 2020.

### STRATEGIC PLAN 2017 – 2021

The five year Strategic Plan, and its implementation, is the responsibility of the Board.

The Plan advances areas of specific clinical expertise by further developing Women's Health specialities. The Board provides direction and leadership in guiding the Plan's three overarching principles:

1. To advance areas of clinical expertise by further developing women's health specialities
2. To provide the best patient and staff experience as the maternity hospital of choice
3. To be the leader in women's and infant's health within the RCSI Hospitals Group

There has been considerable progress in multiple 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 the RCSI Hospitals Group in development of maternity and gynaecological services

### COMMUNICATIONS AND STAFF ENGAGEMENT

In promoting good communications, Governors attend at "Elevenses" on Charter Day where they meet with staff from all areas of the hospital. On Charter Day 2019, we continued the awarding of long service awards to staff with over 25 years' service to the Rotunda. This continues to be a huge success and was highly valued and appreciated by staff. Congratulations to all of those who received their awards.

A programme of 'Quality Walk Rounds' are undertaken throughout the year by 'Visiting Governors.' The purpose is to review the full range of hospital services and to engage with staff directly, while listening to their observations on services, quality and safety issues. The findings of these 'walk rounds' are reported back to the Board. A Steering Group has been commissioned to progress actions from these walk rounds and provide feedback to the staff involved. These have already led to multiple enhancements in facilities, with

completion of works in the staff restaurant and the NICU, renovation of private rooms on the Gynaecology Ward, new storage for patient belongings in the Operating Theatre, providing small lockers outside the NICU for parents' belongings, and new Braun pumps being purchased.

### 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 the Independent Review Group on the future role of Voluntary Hospitals/Organisations commissioned by the Minister for Health. The IRG report was published in February 2019 and the Rotunda Board is broadly 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 2019 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 this deficiency has been included on the hospital's 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. Treasury management was an issue in 2019 but did not cause any adverse consequences due to proactive management within finance.

The hospital achieved financial break-even in 2019 due to good budgetary management. Additional capital funding for building works and equipping was provided in 2019 as compared to prior years, but due to the aging of the hospital site, it still remains inadequate to address the risks.

### 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
- Operating theatre build to address theatre capacity constraints in a way that meets HIQA requirements
- Delivery Suite refurbishment which will provide more dignified and appropriate accommodation for mothers delivering babies

In addition, the Board continues to utilise its Ancillary Funds for services not funded through the Service Level Arrangement with the HSE and to progress strategic initiatives from the Strategic Plan 2017-2021:

- 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, and the Innovation Hub and Knowledge platform
- Medical equipping costs for the Rotunda Ambulatory Gynaecology service at Connolly Hospital
- Supporting hospital-generated research projects
- Service planning funding
- Service Planning Report for Relocation to Connolly
- Parnell Square Capital Optimisation Report

#### COLLABORATION WITH THE RCSI HOSPITALS GROUP /HSE/NWIHP

The third 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's and Infant's Healthcare Programme (NWIHP) and other programmes within the HSE in developing services 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 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 the following Vice Presidents – Ms. Hilary Prentice, Dr. Melissa Webb, Mr. Michael Wickham Moriarty, Dr. Mary Keenan and Mr. Ian Roberts.

#### GOVERNOR RETIREMENTS

Dr. Mary Henry a long serving Governor of the Board retired in November 2019 after many valued years of service to the Rotunda. Her extensive hard work and commitment, valuable advice and knowledge, as well as her membership of various Board Sub-Committees and Working Groups was commended.

#### NEW GOVERNORS

We continue to supplement Board Committees with the appointment of experienced and enthusiastic external members, bringing increased skillsets and diversity to these Committees. New Governors include

- Governance and Audit Committee - Ms. Jennifer Cullinane, Mr. Barry Holmes and Mr. Bill Collins
- Property – Mr. David Browne
- 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 what is 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 external 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, innovate and be a leader in Irish healthcare services but to also ensure that the primary focus is on providing a safe and quality service for 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 the vision of the hospital, where the prevailing culture is 'patient centred' and always striving to ensure that every patient journey is a good 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 quality service.

As Chairman 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

Chairman





## STRATEGIC PLAN HIGHLIGHTS IN 2019

The third 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 3 Key Strategic Principles that we committed to focusing on over the course of our 5 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.



ENHANCE GYNAECOLOGIC SERVICES AND DEVELOP PRECONCEPTIONAL AND ANTENATAL CARE:

- Introduced new evening gynaecology clinics and expanded the number of ambulatory hysteroscopy clinics.
- Established Gynaecology Virtual Clinic to improve clinical capacity.
- Completed the in-sourcing of gynaecology ultrasound scans.
- Gynaecology-Oncology Consultant recruited for shared post with Mater Hospital.
- Established the Irish Medicines in Pregnancy Service (IMPS), a multidisciplinary collaboration to support the safe and effective use of medicines in pregnancy and lactation through the provision of medicines information services, advocacy and research.
- Expanded the preconceptional counselling service.

# 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.



ESTABLISH A PATIENT AND CUSTOMER SERVICE EXCELLENCE PROGRAMME:

- Call centre for appointment scheduling implemented with upgrades to telephony systems to improve patient access, better communication and facilitate direct messaging to improve appointment scheduling.
- Implemented the Patient Photo Initiative for new maternity and gynaecology care episodes to reduce wrong patient errors.
- The Family Integrated Care (FiCare) programme commenced, involving parents in the monitoring and care of their premature newborns.
- Project group set up to progress wayfinding solution throughout the Rotunda Hospital.
- Inaugural Rotunda Town Halls held.
- Proposals developed for a Birth Reflections Service for antenatal and postnatal patients.



#### DEVELOP A KNOWLEDGE PLATFORM:

- Rotunda Obstetric & Neonatal Information App launched. 'Rotundapp' is the first app of its kind to be launched by an Irish maternity hospital and provides information on all elements of pregnancy care.
- Further improvements to Rotunda website and social media presence developed greatly.
- "Debunking the Myths: Science Behind Women's Health" workshops rolled out for transition year students in the catchment.
- "Hot Topics in Women's Health" study evening for practice and public health nurses.
- "CREATE: Art of Pregnancy, Birth and Beyond" art exhibition.



#### DEVELOP A TECHNOLOGY /INNOVATION CENTRE:

- The Rotunda Clinical Innovation Unit is well established and functioning as a multidisciplinary virtual department within the hospital, responsible for supporting and fostering innovative ideas that can improve patient care and hospital processes.

Some key projects in 2019 included:

- The use of Artificial Intelligence for interpretation of bacterial vaginosis molecular results in maternity patients (1st prize in the 2019 Health Care Awards for best use of IT).
- Reducing invasive Group B Strep (GBS) disease in mothers and their babies using rapid molecular testing on a 24-7 basis and theoretical modelling (Nominated for 2019 Health Care Awards).
- Development of the Rotunda Umbifunnel and Umbistand, now HPRA registered medical devices. The Rotunda Umbifunnel has now been patented and is in production.



#### DEVELOP OUR CURRENT HOSPITAL INFRASTRUCTURE:

- Neonatal Intensive Care Unit (NICU) upgraded.
- Refurbishment of Fetal Assessment Unit (FAU) complete.
- Refurbishment of Outpatients Department complete, inclusive of Paediatric Outpatients.
- Upgrade to Sexual Assault Treatment Unit (SATU) clinical space to enhance privacy and confidentiality for patients.
- Three-Storey Theatre development progressing on time and on budget.
- Nursing accommodation upgraded.

## 3

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



#### LEAD THE DEVELOPMENT OF GROUP MATERNITY AND GYNAECOLOGIC SERVICES WITHIN THE RCSI HOSPITALS GROUP:

- Fully developed Maternal Fetal Medicine Network in RCSI Hospitals Group.
- RCSI Hospitals Group Pathology Service established and working well.
- Additional sonography capacity developed across RCSI Hospitals Group.
- Gynaecology on-call rota developed across the Group.
- Formalisation of inter-hospital transfers within the Group commenced.
- Rotunda facilitating improved knowledge exchange across the RCSI Hospitals Group.
- Guideline Committees established and development of a guideline repository for the Group commenced.

## CLINICAL DIRECTORS OFFICE

### CLINICAL DIRECTOR

**Dr. John Loughrey**, Consultant Anaesthesiologist (to June 2019)

**Prof. Michael Geary**, Consultant Obstetrician/Gynaecologist (from June 2019)

### OVERVIEW

The office of the Clinical Director (CD) at the Rotunda Hospital 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 consultants and non-consultant hospital doctor (NCHD) staff in safe, effective and efficient delivery of care.

### ACTIVITY

The Clinical Directors Office role was supported by Ms. Olga Pearson and Ms. Olivia Boylan in 2019. Active communication with the lead NCHD, Assistant Masters, and the NCHD Committee have been key to driving numerous clinical innovations by medical staff at ground level.

Dr. Sarah Nicholson was the lead NCHD in 2019.

### 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 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 by the CD office. This is performed in conjunction with the specialty training leads. The hospital had a Medical Council Inspection during 2019. The report was extremely positive. The hospital was fully compliant in the majority of the areas reviewed. We had partial compliance in three areas. It was acknowledged that there is an excellent induction programme for new NCHDs, however there was no formal written policy in relation to this induction programme. The recommendation to put a policy in place has since been completed. The second area of partial compliance was that the hospital did not openly promote the Medical Council Ethical Guide. This has since been put in place. Twice a year when the new NCHDs are introduced to the service they receive a copy of the Ethical Guide. There was almost full compliance with EU Working Time Directive. The hospital has worked to implement parameters on shift

start times. The expectation is that there will be full compliance with the EUWT legislation in 2020.

### MATERNAL & NEWBORN CLINICAL MANAGEMENT SYSTEM (MN-CMS)

2019 was the second full year using the MN-CMS national electronic health care record. Our teams have continued to work very well using the programme. Our NCHD Committee continue to provide innovative assistance in the training of incoming staff.

We introduced aspects of the electronic record for gynaecology in September 2019. Our expectation is to go completely electronic for gynaecology during 2020.

### SUCCESSES & ACHIEVEMENTS 2019

The Medical Executive Committee chaired by the Clinical Director with Heads of Clinical Departments as well as Senior Management in attendance continued to meet throughout 2019. This has provided a valuable additional forum to the Hospital Medical Board for communication between hospital management and medical staff leaders.

Improvement in communication and handover was facilitated by the 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 NCHDs with the key provisions of European working time legislation.

### PLANS AND CHALLENGES FOR 2020


The introduction of the MN-CMS electronic healthcare record will continue to be a challenge for the hospital as new medical staff unfamiliar with the system commence bi-annually. Of the 19 maternity units in Ireland only four units are using this system. The expectation was that the electronic health care record would have been rolled out to all 19 units by the end of 2019. The National Committee have put this plan on hold for the present time. As such we will need to continue training new staff who are unfamiliar with the system for the time being. It is hoped that a national online training module will be facilitated in the near future but this has not been actioned yet.

The hospital has continued to recruit at consultant level across a number of specialities. We have been fortunate in having a strong field for all competitions during 2019. However the differential salaries since 2012 for new entrant consultant remains a significant bone of contention. We sincerely hope that this matter will be addressed in the near future which will help to attract the best quality candidates into the future.

We would like to acknowledge and thank the contribution of Ms. Olga Pearson, Ms. Olivia Boylan and the lead NCHD Sarah Nicholson, the Assistant Masters and all members of the NCHD Committees, whose dedication and innovation resulted in another successful year for the hospital.





A portrait of Prof. Michael Geary, Clinical Director, a middle-aged man with short brown hair and blue eyes, wearing a dark suit, light blue shirt, and patterned tie. He is smiling slightly. The background is a plain, light-colored wall.

**“THERE IS A COLLECTIVE  
PRIDE IN CARING FOR  
WOMEN AND BABIES  
AND THEIR FAMILIES  
OVER MANY MANY  
GENERATIONS”**



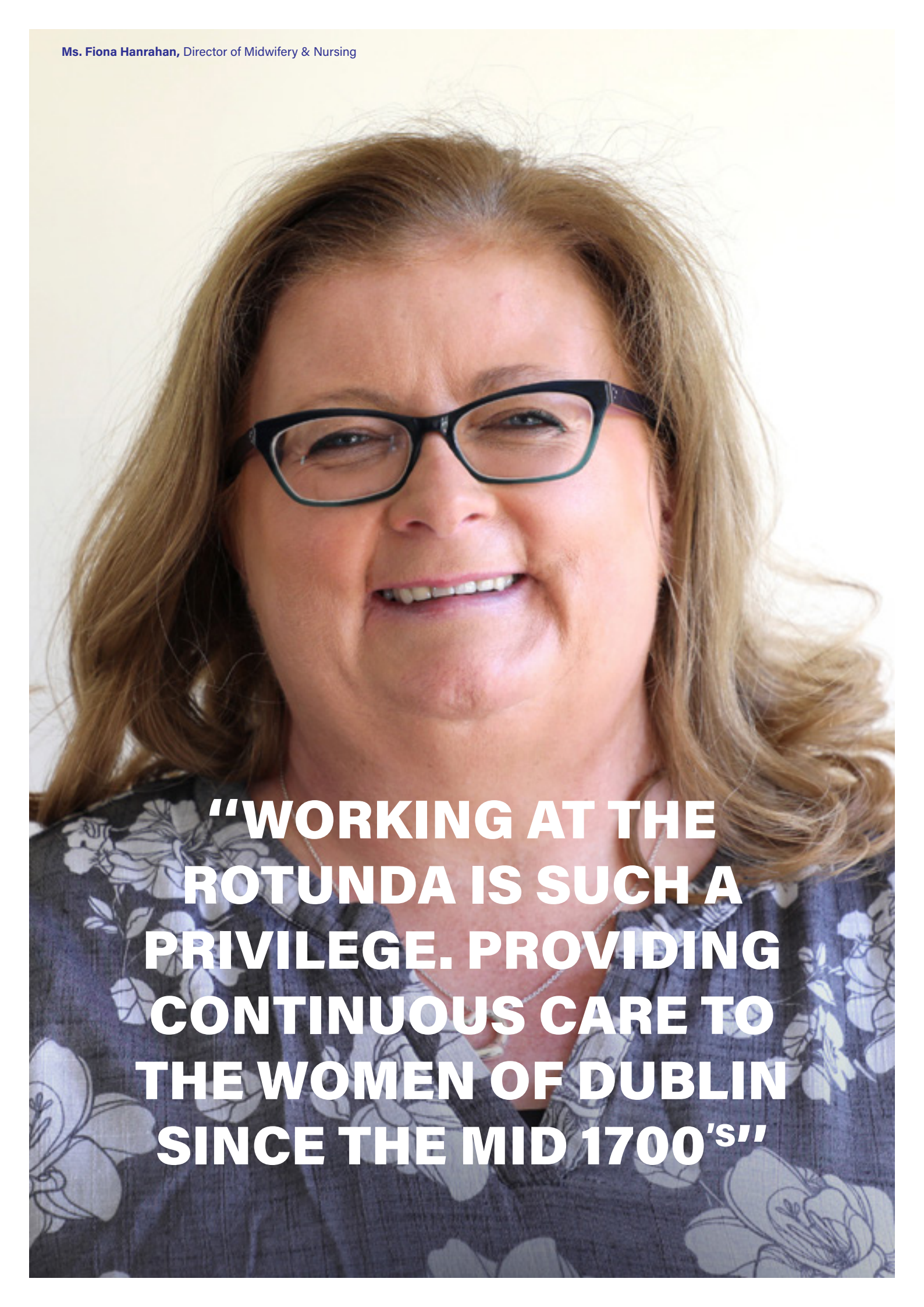
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# CLINICAL SERVICES

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A portrait of Ms. Fiona Hanrahan, a woman with long, wavy blonde hair, wearing black-rimmed glasses and a blue floral patterned top. She is smiling slightly. The background is a plain, light-colored wall.

**“WORKING AT THE  
ROTUNDA IS SUCH A  
PRIVILEGE. PROVIDING  
CONTINUOUS CARE TO  
THE WOMEN OF DUBLIN  
SINCE THE MID 1700’S”**



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# MATERNITY

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MRN: P0401002  
Sunshine and Smiles  
10/10/2019

## DEPARTMENT OF MIDWIFERY AND NURSING

### HEAD OF DEPARTMENT

**Ms. Fiona Hanrahan**, Director of Midwifery & Nursing

### SENIOR STAFF

**Ms. Patricia Williamson**, Assistant Director of Midwifery & Nursing

**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 Deering**, Assistant Director of Midwifery & Nursing

**Ms. Annmarie Sliney**, Assistant Director of Midwifery & Nursing

**Ms. Anne O'Byrne**, Practice Development Co-ordinator

**Ms. Marian Brennan**, Assistant Director of Midwifery & Nursing-  
Infection Prevention & Control

**Ms. Janice MacFarlane**, Assistant Director of Midwifery & Nursing

**Ms. Aideen Keenan**, Assistant Director of Midwifery & Nursing

**Ms. Mary Whelan**, Assistant Director of Midwifery & Nursing,  
Clinical Audit Facilitator

\*Supported by committed Midwives, Nurses, Student Midwives & Maternity Care Assistants (MCA's)

### SERVICE OVERVIEW

This was my first full year as the Director of Midwifery & Nursing at the Rotunda Hospital. I want to thank all staff that report to my office.

The hard work, level of professionalism and 'can do' attitude of staff makes my role a lot easier. I want to particularly acknowledge the work of the Assistant Directors of Midwifery & Nursing (ADOMs).

There is an ADOM on duty 24/7 365 days per year, providing expert guidance and day-to-day operational management of the hospital.

In addition, the ADOMs are active in managing their designated departments and participating in key committees and strategic projects. Throughout 2019, midwifery and nursing professionals continued to provide safe high quality service and care within all clinical departments at the Rotunda Hospital and across our catchment area of North Dublin City and County. The Rotunda Hospital is the busiest maternity hospital in Ireland and our staff work as a vital part of a multi-disciplinary team to ensure that our results and outcomes are comparable with, and indeed exceed, other Irish maternity providers and international centres.

2019 was an historical year in Ireland as legislation was enacted to make the provision of termination of pregnancy legal under strict criteria. There are three general scenarios in which patients can now access termination of pregnancy – in the setting of fatal fetal abnormality, in the setting of maternal health compromise, and at less than 12 weeks' gestation. The Rotunda Hospital responded to this change in the law by establishing a Pregnancy Options Service with the first clinic taking place on January 7, 2019. The Pregnancy Options Service at the Rotunda meets the needs of women opting for abortion under the legislation who are between 9 and 12 weeks' gestation. Referrals were initially accepted from women living within the Rotunda's catchment area and from local GP's. Pregnancy terminations performed prior to 9 weeks' gestation are generally provided directly by the patient's GP. The Rotunda Pregnancy Options Service also supports local GPs in managing complicated

pregnancy termination cases due to underlying maternal illness or arising from the procedure. There was a wide group of professionals involved in setting up and running this service and it is a great source of pride to me that this service requirement was embraced and introduced with compassion and understanding by all staff of the hospital. Throughout 2019, abortion was provided at the Rotunda under all aspects of the legislation.

As ever, staffing was a challenge in 2019. Optimal staffing is a cornerstone to safe and high quality care. This year, we focused on optimising staffing in the Neonatal Intensive Care Unit (NICU) to achieve the optimal nurse-to-neonate ratios as outlined by the British Association of Perinatal Medicine. Many reports, both internal and external, have highlighted the importance of appropriate staffing in the NICU to mitigate against the risk of infection outbreaks. Our recruitment campaign was successful with the WTE of the NICU being increased by 12 at the end of 2019. We also targeted the recruitment of suitably qualified operating theatre nurses to prepare the hospital for the opening of new operating theatres in 2020/2021. We were fortunate to be able to offer our midwifery graduates from both the BSc and HDip programmes positions at the hospital. Recruitment and retention of suitably qualified and experienced staff remains a key and active strategic goal of the Department of Midwifery & Nursing.

I want to highlight the work and commitment of our cohort of Maternity Care Assistants (MCA). We are very fortunate to have a team of committed and dedicated MCAs here at the Rotunda Hospital. The role of the MCA is crucial to the smooth running of each ward and department. MCAs work under the supervision and guidance of midwives and nurses but have a very distinct and vital role in providing comfort and care to patients while ensuring that the clinical environment is maintained to the highest standards of hygiene and infection control. The deficits in capacity and spacing within our NICU have been highlighted on multiple occasions at multiple forums. Skilled MCAs play a crucial role in ensuring that the clinical environment and patient equipment in the NICU is clean and maintained to the strictest standards thereby protecting our smallest and most fragile infants from being exposed to infection.

### COMMUNITY MIDWIFERY SERVICES 2019

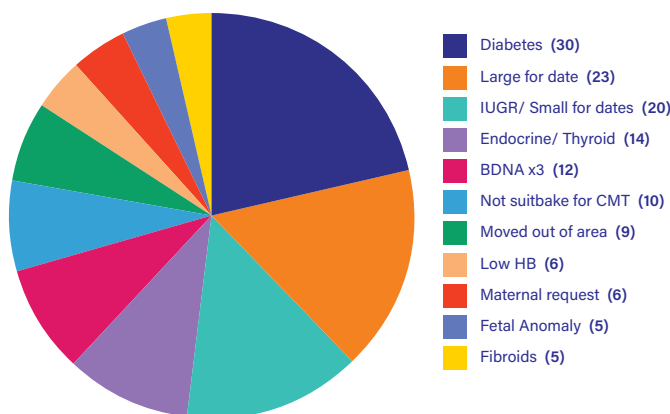
During 2019 the Community Midwifery Team (CMT) continued to offer midwifery-provided care, choice and continuity to normal-risk pregnant women of Dublin City North as well as North County Dublin. We continue to develop our services to meet the needs of women who attend for care. We currently manage nine antenatal clinics in the outlying community and one clinic at the Rotunda to facilitate women living in the inner city area. During 2019, we opened two new clinics within North County Dublin. In January 2019 we opened an antenatal clinic in the newly opened Balbriggan Primary Care Centre; this clinic offers midwifery-provided antenatal care to women in the immediate area of Balbriggan, Skerries, Lusk and Rush. In April 2019, we opened a second new antenatal clinic in the Corduff Primary Care Centre in West Dublin. This clinic covers

much of the Dublin 15 areas of Corduff, Mulhuddart, Tyrellstown and Hollystown.

In 2019, a total of 7,390 antenatal appointments were provided for women in our outlying clinics. A total of 55 women were booked at home for community midwifery care and the remaining women were referred from the general hospital outpatients department to the Community Midwifery Service. All antenatal care was provided in community-based clinics. To facilitate women's needs, home antenatal visits were also provided. 121 home visits were provided to pregnant women in their last trimester of pregnancy.

Care was transferred back from the Community Midwifery Service to the hospital-based obstetric services for 183 women during the antenatal period. The chart below shows that the most common reasons for transfer of care were gestational diabetes, large for dates, and fetal growth restriction/small for dates. Other reasons for transfer of patients back from the Community Midwifery Service to the hospital-based obstetric services included pre-eclampsia (4), bicornuate uterus (1), twins (1), polyhydramnios (2), breech at term (2), deep venous thrombosis (1), cholestasis (2), fetal cytomegalovirus (2), oligohydramnios (1), placenta praevia (1), viral exposure (3), threatened preterm labour (1), recurrent urinary tract infection (3), booking for homebirth (2), haemoglobinopathy (2), gallstones (1), epilepsy (1) and hernia (1). Even when care was taken over by the Obstetric Team, the Community Midwifery Team continued to provide psychological support to women via telephone and continued to connect with them postnatally.

**FIGURE 1: CARE TRANSFERRED FROM COMMUNITY MIDWIFERY SERVICE TO HOSPITAL (N=183)**



All women who attend CMT antenatal clinics are offered early transfer home (ETH) following delivery. Early transfer home is generally encouraged between 6 and 48 hours following delivery. A total of 2,469 women availed of the service, providing care to both mother and baby in the home setting during the first seven days after delivery, and then discharging both to their GP and the Public Health Nursing Team. The Community Midwifery Team carried out a total of 7,190 postnatal visits, with each woman receiving an average of three visits in the home.

A total of 111 women attended the Next Birth After Caesarean (NBAC) support visit at 18 weeks' gestation. At this visit they discuss their options for the next birth after the initial primary caesarean section. Women are given an information leaflet on the risks and benefits of VBAC (vaginal birth after caesarean) compared with elective repeat caesarean section (ERCS). Women receive community-based antenatal care with the Community Midwifery Team and, if opting for an ERCS, they are provided with a 36 week appointment with Consultant Obstetrician Dr. Sam Coulter-Smith to plan the date of the ERCS and then return to CMT care delivery. If opting for a VBAC, patients remain under the care of the CMT until 39 weeks' gestation, when their care is transferred to the Obstetric Team for the remainder of their pregnancy and delivery. The CMT would like to thank Dr. Coulter-Smith for his inclusive work with CMT which enables women categorised as high risk to avail of care in their local health centre knowing that there is an experienced obstetrician available should any concerns arise. NBAC is an innovative service that is an exemplar of the National Maternity Strategy (2016) in action.

Patient education continues to be an important factor for the Community Midwifery Team in empowering and informing women in their pregnancy. The CMT runs 8 monthly classes, covering the topics of antenatal care, breastfeeding and hypnobirthing classes. A total of 624 women attended our antenatal and breastfeeding classes, while 156 attended our hypnobirthing classes, which consist of four classes run over four weeks. We updated our antenatal classes with three of our midwives training in 'Real Birth Workshops.' The Rotunda Hospital facilitated the training of midwives within the RCSI Hospitals Group by hosting a training course. The classes are going well and we are receiving positive feedback from women and their partners.

The Community Midwifery Team members are committed to ongoing education, with one team member finishing her Masters in 2019 and another midwife commencing a prescribing course. All staff members continue to enhance their skills and professional development.

In 2020, CMT will continue to offer women and babies access to safe, high quality maternity care in their local community area, in a manner that is appropriate to their needs, with dignity and respect.



### NEONATAL INTENSIVE CARE UNIT (NICU)

The focus on nurse recruitment remained a priority for 2019 with the aim of increasing our whole time equivalent levels in line with the British Association of Perinatal Medicine (UK DOH Staffing Toolkit for High Quality Neonatal Services, BAPM, 2010). This has been largely successful, with numerous new nurses starting in the unit during the course of the year, so that we are well on the way to reaching our target in 2020. The total number of neonatal nurses recruited in 2019 was 12, resulting in neonatal nursing staff levels reaching 80 WTE in December 2019 compared to 72 WTE in December 2018. A major challenge with all nursing areas is to keep attrition rates from staff voluntarily leaving at a low level and to maintain our current improved levels going forward.

The overall impact of being able to increase our staff numbers has been extremely positive, and has contributed significantly to keeping workload at acceptable levels, which helps to reduce stress and burn-out while improving staff morale.

Throughout the year the Neonatal Unit has supported nursing staff with ongoing professional development. The Rotunda provides sponsorship for staff undertaking educational programmes specific to neonatal nursing. These include the RCSI Postgraduate Diploma in Neonatal Nursing, the 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' in the Centre for Midwifery Education, the latter two being approved by NMBI at Category Level 1.

The work of Advanced Nurse Practitioners (ANPs) is 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 Programme (NRP) training 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.

Along with the staff orientation programme, there is ongoing in house education and support provided to all new staff. Two neonatal workshops were organised and facilitated by the clinical skills facilitators in 2019, which was very beneficial, with further plans to continue these into 2020.

### DELIVERY SUITE

2019 was another busy and fulfilling year for staff in both the Labour and Delivery Suite and the Emergency & Assessment Unit, providing care for the 8,262 women who delivered their newborn infants here.

Scratch Productions produced Season 2 of *The Rotunda*, exploring behind the scenes of the Labour and Delivery Suite and beyond. There was a hugely positive reaction to this television production, which demonstrated both the human interest aspect of patient care

at the Rotunda, as well as demonstrating the professionalism and compassion of all our staff.

Many of our staff undertook various further education projects outside of the minimum mandatory training required in order to enhance their current knowledge and improve standards and options for the women and infants in their care.

Two care bundles were introduced, the Oxytocin Care Bundle and the PEACHES Care Bundle. These care bundles aimed to reduce risk and improve outcomes for those we are caring for. The Oxytocin Care Bundle optimises patient safety by ensuring that a single, consistent oxytocin dosing regimen is used for all clinical indications, together with the use of Smart infusion pump technology to minimise the potential for error. The PEACHES Care Bundle implements a suite of preventative measures to minimise the chances of third or fourth degree perineal tears, and we are already noticing improved outcomes in this regard.

Looking towards 2020, we plan to have some new options of choice for labour and birth following the complete physical refurbishment of the department. These include reinstating the labouring pool and continuous fetal monitoring by telemetry. Once completed in 2020/2021, we will have a state-of-the-art Labour and Delivery Suite consisting of 11 delivery suites and one operating theatre, together with improved supervisory facilities.

We are very grateful to all the staff on the Labour and Delivery Suite, who's hard work and dedication make this such a great place to work.

### DAY ASSESSMENT UNIT

The Day Assessment Unit is a vital aspect of acute hospital service provision for the Rotunda. Its goal is to provide necessary clinical assessments for pregnant patients in a convenient, outpatient setting, thereby greatly reducing the requirement for admitting such patients to the hospital. During 2019, we experienced an increase of 50% in attendance figures at the Day Assessment Unit compared with 2018, which can be attributed to expanded clinical indications for attendance. Additionally, in 2019 we expanded the Day Assessment Unit to a seven day per week service, providing care from 07:15am—20:15pm on Mondays to Fridays, and a shorter working day at the weekend. This has enabled us to provide daily outpatient maternal and fetal testing in clinical settings that would otherwise have required admission, such as for example fetal growth restriction, obstetric cholestasis, and preterm premature rupture of the membranes (PPROM).

TABLE 1: DAY ASSESSMENT UNIT ATTENDANCES

	2015	2016	2017	2018	2019
Attendances (patients)	4,043	4,174	4,269	3,769	5,785
Attendances (encounters)	4,082	4,832	4,441	4,353	5,342



The new expanded service facilitates the on-going assessment and management of the following patients:

**TABLE 2: REASONS FOR ATTENDANCE AT DAY ASSESSMENT UNIT**

	2018	2019
Antenatal or postnatal hypertension	1,421	2,152
Fetal cardiograph monitoring	1,228	961
Obstetric cholestasis	338	476
Intrauterine growth restriction	135	146
Blood sugar monitoring for diabetes	337	367
Preterm premature rupture of membranes	74	92
Hyperemesis	101	215
Intravenous immunoglobulin administration	3	4
Intravenous antibiotic administration	0	2
Admissions	248	358
Prolutin administration	195	75
Antenatal corticosteroid (Dexamethasone) administration	124	131
Insulin education	214	212
Iron infusion	31	52
External cephalic version	59	88
Word catheter management of Bartholin's cyst	15	55
Miscellaneous	276	591

## LACTATION SERVICES

The Lactation Service at the Rotunda provides extensive patient and staff training and support in order to optimise breastfeeding rates at the hospital. Breastfeeding initiation rates remain high at 70%. A key forum for optimising breastfeeding initiation and maintenance is through the Breastfeeding Committee, a multi-disciplinary group which met quarterly throughout 2019. Additional service user representatives and voluntary support organisation representatives joined the Committee in 2019.

During 2019, three additional midwifery staff received sponsorship to undertake International Board of Lactation Consultant Examiners (IBCLE) training. The Association of Lactation Consultants in Ireland held its Annual All Ireland Spring Study Day in the Pillar Room of the Rotunda Hospital, which was a great success with 160 attendees. Joint breastfeeding training continued to be facilitated by the three Dublin maternity hospitals through continued medical education, comprising of one 20 hour training session and three refresher courses. Breastfeeding lectures were included in all orientation programmes for new staff, while in-service training for midwives, nurses and maternity care assistants was provided both in the classroom and at ward level. A Masterclass at Childrens Health Ireland at Crumlin was facilitated by the Rotunda Lactation Team, which presented the findings of the successful Rotunda NICU pilot project on improving the timely provision of expressed breast milk for preterm babies. At the Rotunda Open Day in October, the breastfeeding information stand was well attended, with

presentations on breastfeeding preparation and supports being provided to service users and potential future service users.

Education and support to facilitate the timely provision of mothers own expressed breast milk (EBM) was ongoing in 2019. The Lactation Team appeared on the Claire Byrne Live show on RTE Television with Blood Bikes East, to acknowledge their integral role in the transportation of expressed breastmilk for premature and ill babies. Great awareness about the importance of kangaroo care for preterm babies was also highlighted. The Lactation Team, working collaboratively with the Physiotherapy and NICU Services, held a skin-to-skin and kangaroo care quiz for all staff which proved to be very popular. Hand-knitted blankets and hats were kindly given to our NICU babies by the Rotunda Foundation, and publicity from this generated a greater knowledge and understanding of the importance of kangaroo care.

As a part of National Breastfeeding Week in October 2019, the Rotunda Hospital launched our new patient information booklet, "Antenatal Harvesting of Colostrum". This booklet is a valuable source of information for suitable mothers considering expressing colostrum from 38 weeks' gestation onwards. Aimed specifically to support diabetic mothers and women having elective caesarean deliveries, it enables them to make an informed decision as to whether this antenatal intervention might be suitable. The launch facilitated by the Lactation Team, took place at the Annual Lactation Coffee Morning in the Rotunda Front Hall, which was attended by mothers, their babies, and staff members.

A breastfeeding information stand was also positioned in the main Rotunda reception area for all staff, expectant and delivered mothers and their families. Additionally, all new babies received gift packs containing beautiful knitted cardigans, hats and blankets, supplied by our wonderful 'Rotunda Knitters'. Staff from the Rotunda attended a two-day conference organised by the Association of Lactation Consultants in Ireland during this week. Once again the staff breastfeeding quiz was a great success.

We were saddened to note that our wonderful Lactation Consultant colleague, Aisling Breathnach, retired at the end of June 2019. However, the Lactation Team expended with the appointment of Marina Cullen as a Clinical Midwife Specialist in Lactation in a full time capacity in November 2019.

## OCCUPATIONAL HEALTH SERVICE

The Occupational Health Service at the Rotunda is responsible for optimising the health care and well-being at work of the approximately 1,000 staff who work at the Rotunda. The service is provided under the direction of Dr Dominick Natin, Occupational Health Consultant, with 269 direct consultations being provided during 2019. The service is also extremely busy at providing telephone-based assessments, including 1,608 logged telephone interactions.

While 242 staff attended the Occupational Health Service on our usual Wednesday morning drop-in clinics, a further 132 consultations were provided outside of clinic hours, either on an urgent referral

or drop-in basis. A total of 112 staff attended a 2-day 'Life Fit' health promotion service and 77 staff attended for other assessments, such as blood pressure checks or dermatologic mole assessments.

Additional services provided included 717 Influenza vaccines being administered at 18 special vaccine administration clinics between September and December 2019, resulting in an impressive 77% staff uptake rate of this important public health prevention measure. This achievement was rewarded by receiving second prize nationally amongst all hospitals in terms of highest staff influenza vaccine uptake rates.

Extra clinics were also implemented to provide required vaccinations and haematological testing for 112 student nursing visits. A further 19 staff induction medical assessments were also provided, while 465 pre-employment paper-based medical assessments were provided. A total of 71 immunisation reports were provided for staff who were leaving the hospital or commencing additional employment. A new policy was implemented in 2019 mandating that all new staff or students must demonstrate proven immunity to measles prior to being allowed commence working at the Rotunda, and this change has resulted in a significant increase in administrative workload.

Occupational Health Service assessments were provided following 32 needlestick injuries and six splash episodes, none of which were categorised as high risk. A further four first aid call-outs were provided.

Occupational Health Service staff participate regularly on five hospital management committees, and hosted one Dublin Area Teaching Hospital occupational health meeting. An additional nine lectures on occupational health issues were provided for student nurses.

It is hoped in 2020 to increase awareness of needle-stick injuries and how to prevent them. It is also hoped to increase the numbers of Support Services staff, Housekeeping staff and maternity care assistants availing of influenza vaccination, by re-launching and re-branding the 2020 vaccination campaign.

### **PRACTICE DEVELOPMENT UNIT**

The Practice Development Unit (PDU) co-ordinates and supports all activities relating to professional midwifery and nursing standards and practice throughout the hospital. In addition, it supports and assists with the education of undergraduate and postgraduate student midwives. Facilitation of the many courses and workshops is through various interdisciplinary teams in conjunction with working groups and committees, in partnership with key members of midwifery and nursing staff from all clinical areas. Having a highly educated midwifery and nursing workforce, responsive to the delivery of current healthcare models, is a prerequisite to achieving superior patient outcomes.

The Rotunda Hospital has been fortunate in being able to access exceptional support through our HSE partner in the Nursing and Midwifery Planning and Development Unit to enable postgraduate funding opportunities. Our Clinical Skills Facilitators have

implemented an enhanced Induction/Orientation phase which enhances the new midwifery/nursing staff adjustment to working in the Rotunda. This facilitates an easier transition to mentoring by experienced midwives and nurses. A total of 63 staff, including 11 new starters and 19 internal staff transfers, were supported in their transition to working in the Rotunda. Once staff have completed initiation into their new roles, they are encouraged to enhance their professional development through further educational pursuits. Opportunities for training and educational advancement are aligned with the hospital Strategic Plan and risk-assessed according to operational needs.

In 2019, nine staff participated in Master's programmes in an assortment of care aspects, including Leadership, Midwifery Practice, Perinatal Mental Health, Psychotherapy, Neonatal Intensive Care and Ultrasound. Five neonatal nursing staff undertook the Postgraduate Diploma in Neonatal Nursing Care, while other courses included Lactation, Perinatal Mental Health, Maternal High Dependency Programme, Fundamental Principles of Perioperative Nursing, and Obstetric Ultrasound.

Multidisciplinary in-house training was provided in the following areas:

- Basic Life Support
- Neonatal Resuscitation
- Emergency Skills and Drills
- Epidural Administration
- Intravenous Cannulation & Medication
- Infection Prevention and Control, and Hand Hygiene
- Blood Borne Viruses
- Occupational Health
- Waste Management
- Decontamination
- Point-of-Care Testing
- Clinical Risk
- Manual Handling
- NRP Instructor Programme
- Optimisation sessions for the MN-CMS electronic healthcare record
- Perinatal Mental Health
- Obstetric Emergencies (PROMPT)
- Sepsis
- Surgical Haemostasis
- Termination of Pregnancy

Staff attended the following courses for continued medical education:

- Acupressure
- Aromatherapy
- Bereavement
- Breastfeeding education
- Care of the critically ill pregnant or postnatal women in the maternity HDU
- Diabetes in pregnancy

- 
- Domestic violence
  - Facilitators education
  - Fetal heart rate monitoring
  - Gynaecology skills
  - Infectious diseases and sexually transmitted infections in pregnancy
  - Interview skills preparation
  - Legal and clinical risk aspects of maternity care
  - Obstetric anal sphincter injury prevention
  - Perineal repair workshop
  - Neonatal preceptorship
  - Real birth workshop
  - Theatre nursing

The introduction of these numerous opportunities has provided midwives and nurses the opportunity to impact positively on the patient and staff experience.

In 2019, the Practice Development Unit also facilitated the clinical placements of 77 undergraduate and 14 postgraduate student midwives, 163 general nursing students from DCU (2 week placements each), three students from mental health nursing (2 week placements each), 20 Children's and General Integrated Nursing Programme students (2 week placements each) and six Public Health Nurses. Constant and substantial assistance was provided to ensure the clinical environments were appropriate to their needs. Several audits of the clinical learning environments were also completed.

The revised midwifery undergraduate curriculum was introduced in September 2019, requiring collaboration across large segments of the Midwifery And Nursing Team. The NICU also became a core placement for student midwives with the new curriculum, requiring a specific preceptorship program to be developed for this cohort of nurses and midwives.







# EMERGENCY AND ASSESSMENT SERVICE

## HEAD OF SERVICE

**Dr. Meena Ramphul**, Consultant Obstetrician Gynaecologist

## STAFF\*

**Ms. Fiona Walsh**, Clinical Midwife Manager (CMM3)

**Ms. Bernadette Gregg**, Registered Advanced Midwife Practitioner

**Ms. Debra England**, Registered Advanced Midwife Practitioner

\* Supported by a team of midwife managers and staff midwives from the Labour and Delivery Suite who rotate through the Emergency and Assessment Service

## SERVICE OVERVIEW

While 2019 was the 274th year of unbroken service provided by the Rotunda, it was another particularly busy year for the Emergency and Assessment Service. The Emergency and Assessment Unit (EAU) is a unique setting in the Rotunda which provides antenatal, intrapartum, postpartum, gynaecologic, and neonatal services 24 hours per day. The service uses 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 two registered advanced midwife practitioners (RAMP), clinical midwife managers, staff midwives, maternity care assistants as well as obstetric and neonatal senior house officers on a 24 hour basis, with the support of senior registrars.

TABLE 1: EMERGENCY ROOM ACTIVITY

	2017	2018	2019	Variance 2018 v 2019
Obstetrics	23,389	23,808	23,834	0.11%
Gynaecology	1,272	1,370	1,482	8.18%
Paediatrics	322	354	416	17.51%
<b>TOTAL</b>	<b>24,983</b>	<b>25,532</b>	<b>25,732</b>	<b>0.78%</b>

## SUCCESSSES & ACHIEVEMENTS 2019

The MN-CMS electronic healthcare record has become well established as a key support tool for the Emergency and Assessment Service, and evolved with the introduction of the electronic gynaecology chart module in 2019. The ability to view patient waiting times and discharges in real time with the MN-CMS system has been of significant benefit to the current triage system. By quickly establishing the acuity of patients, the MN-CMS system enables staff to triage patients appropriately and select the intensity of monitoring as required. Remote chart reviews and remote fetal monitoring has allowed for increased senior input which in turn benefits patients, improving clinical outcomes and facilitating more efficient turnover of care also. Electronic prescriptions also enhances patient care, benefiting patients, community midwifery, pharmacies and GPs. The Day Assessment Unit (DAU) is now operating a 6 day service. This has a very positive impact right across the hospital. Specifically for the EAU, DAU can take the overflow of non urgent cases. For example, women with hyperemesis can be treated, discharged home

and can self refer directly to DAU. This reduces presentations to the EAU and admissions to the hospital.

## CHALLENGES 2019

### SPACE

The Emergency and Assessment Service has one triage room, five individual adult assessment rooms and one neonatal assessment room. Given the high level of patient flow, space has remained a significant challenge in 2019. This is most obvious at peak times in the evenings. Despite increased staffing levels, there are often not enough rooms for patients to be reviewed quickly. Caring for women following pregnancy loss alongside women with viable pregnancies and neonates remains an ongoing challenge for the Emergency and Assessment Service.

### 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 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 2020

It is planned to expand the number of registered advanced midwife practitioners to optimise EAU staffing with independent midwifery-provided clinical evaluations. It is the intention to expand to a seven day per week RAMP service. The RAMP's/Senior Obstetric Team plan to introduce standard operating procedures for senior midwives to manage and discharge low risk patients. It is also hoped to extend the number of clinical evaluation rooms as a new three-storey extension is built in 2020, 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. Claire Cassidy**, Administrator

### SERVICE OVERVIEW

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 clinical pathway for women who have had prior molar pregnancies, ectopic pregnancies or two 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 relevant pregnancy support staff.

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	2018	2019
Repeat EPAU ultrasound	1,247	1,633	1,327
Serial Beta hCG testing	545	724	698
Referred for booking visit	886	815	814
Pregnancy of uncertain viability	315	231	334
Pregnancy of unknown location	159	242	106
Miscarriage	1,613	1,176	932
Surgical management of miscarriage	299 (19%)	310 (26%)	251 (27%)
Expectant or medical management of miscarriage	1,314 (81%)	866 (74%)	681 (73%)
Features suggestive of molar pregnancy on ultrasound	37	46	30
Ectopic pregnancy	42	132	40
Methotrexate therapy for ectopic pregnancy	55	56	39
Patients admitted from the EPAU	378	448	392
Reassurance ultrasound	378	448	392
<b>Total number of patients seen</b>	<b>3,955</b>	<b>3,459</b>	<b>3,845</b>

### SUCCESSSES & ACHIEVEMENTS 2019

#### ENHANCING PATIENT CARE

The number of patients attending the Early Pregnancy Assessment Service increased by 11% to 3,845 patient visits in 2019. However, the number of patient follow-up visits dropped from 1,633 in 2018 to 1,327 in 2019. Therefore, more women had a definitive diagnosis made at their first review.

This is likely a result of improved triaging of referrals and the provision of an experienced sonographer to the service, with the associated opportunity to train additional members of staff. These factors have also contributed to a halving in the number of cases of pregnancy of unknown location diagnosed in 2019, which reflects the high quality of the sonography service. However, the number of cases diagnosed with pregnancy of uncertain viability increased by 44%, which likely is a result of improved image clarity with advanced ultrasound equipment.

The establishment of an Early Pregnancy Assessment Service blood-testing clinic has enhanced patient scheduling and streamlined the throughput of the service.

In 2019, while there were 1,433 miscarriages diagnosed at less than 12 weeks' gestation overall throughout various hospital settings, the number of miscarriages diagnosed in the Early Pregnancy Assessment Service dropped from 1,176 in 2018 to 932 cases in 2019. This is in part attributable to the improved quality of ultrasound scanning in the Emergency and Assessment Service, under the supervision of Advanced Midwife Practitioners Bernadette Gregg and Debra England, together with the support of an Obstetric Registrar to assist in streamlined patient care. This enhanced care pathway at the Emergency and Assessment Service reduces the need to refer many patients onwards to the Early Pregnancy Assessment Service.

Similarly, while there were 90 ectopic pregnancies diagnosed in the hospital overall in 2019, 40 of these cases were diagnosed in the Early Pregnancy Assessment Service. The 35% decrease in ectopic pregnancies diagnosed by the Early Pregnancy Assessment Service likely again represents improved accuracy of ultrasound by the Emergency and Assessment Service.

The number of women requiring supervision of methotrexate treatment and follow-up for medical management of ectopic pregnancy was similar in 2018 and 2019. These patients are followed by the Early Pregnancy Assessment Service with serial serum beta hCG testing until levels return to less than 2 IU/L.

Amongst patients diagnosed with miscarriage, 251 (27%) opted for surgical management of pregnancy loss. The percentage of miscarriages managed surgically has remained static in the last two years, which has significant health, social and resource implications. It is hoped that the proportion of patients electing for surgical management will fall in 2020 with the implementation of a Manual Vacuum Aspiration (MVA) service and the optimisation of the medical management of miscarriage protocol. This protocol will soon be amended to include a combination of mifepristone and misoprostol, rather than just misoprostol alone.

The creation of an Early Pregnancy Assessment Service database to record outcomes on a weekly basis allows for more efficient and accurate audit of the service. This will also allow more thorough assessment of cases of miscarriage that are expectantly managed.

### CHALLENGES 2019

The physical infrastructure of the Early Pregnancy Assessment Service remained a challenge in 2019. A visiting team from the Rotunda Board of Governors reviewed the space in 2019 and agreed to help prioritise the achievement of more space to ensure patient care and dignity. It is hoped that this may be achieved in 2020.

A review of the success rate of various medical management of miscarriage drug dosage regimes demonstrated an overall success rate of only 50% following one round of medical management. This is much lower than the published success rate, and in light of this finding, it is hoped that the medical management of miscarriage medication protocol will be optimised during 2020.

### PLANS FOR 2020

The service plans for 2020 include:

- Appointment of an RCPI Aspire Fellow, Dr. Deirdre Hayes-Ryan, to the Early Pregnancy Assessment Service will enable a focus on evolving and improving early pregnancy care options and services
- Review of the medical management of pregnancy loss medication protocol with a goal being to optimise the success rate
- Generation of an automated discharge summary document for referral general practitioners regarding pregnancy outcome using the MN-CMS electronic healthcare record
- Infrastructural change to the waiting area and clinical examination rooms in line with the National Standards for Safer Better Maternity Services
- Re-auditing of the Early Pregnancy ultrasound examination reporting template as part of a quality improvement project
- Introduction of a training session in the use of the obstetric ultrasound reporting system (Viewpoint) for NCHDs as they join the hospital to optimise quality scanning and reporting
- Seek approval for an advanced nurse practitioner role for the Early Pregnancy Assessment Service in line with similar developments in other countries
- Integration of clinical pathways at the Early Pregnancy Assessment Service and the Termination of Pregnancy Service to allow more efficient utilisation of resources.



# 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 endeavour to deliver evidence-based care, limiting 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 close serum  $\beta$ hCG monitoring with rapid access for review if complications occur.

## CLINICAL ACTIVITY

TABLE 1: CLINICAL ACTIVITY

Clinical Activity	2014	2015	2016	2017	2018	2019
Total number of visits	667	681	744	918	845	715
New patient visits	157	82	111	170	151	156
Return visits	510	599	633	748	694	559
Livebirth rate %	44	61	70	69	80	78
GTD pregnancies followed	N/A	21	27	25	24	39

## SUCCESSSES & ACHIEVEMENTS 2019

### ENHANCING PATIENT CARE

The patient cohort attending the service during the year reflects a greatly optimised pathway of more appropriate and timely referrals. Of the 132 recurrent miscarriage patients attending for early pregnancy ultrasound monitoring and support, 103 (78%) achieved successful ongoing pregnancies (including four sets of twins).

### CHALLENGES 2019

The diagnosis of molar pregnancies infers the need for close patient monitoring for up to six months following miscarriage. The increased numbers added further to the service workload in addition to the increased administrative challenges to ensure referral to the National Gestational Trophoblastic Disease Registry, Cork.

### PLANS FOR 2020

To achieve a 'paperless' approach to the clinic with the use of the MN-CMS electronic healthcare record exclusively for documenting patient history and investigation details.

To complete recruitment of patients as part of a collaborative research study with the Department of Immunology, Trinity College Dublin. The study aims to explore the role of Uterine Natural Killer (NK) cells in recurrent pregnancy loss using a novel noninvasive approach which also allows assessment of patients while pregnant.

## 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  
**Dr. Richard Horgan**, Consultant Obstetrician Gynaecologist  
**Dr. Etaoin Kent**, Consultant Obstetrician Gynaecologist  
**Dr. Sieglinde Mullers**, Maternal Fetal Medicine Fellow  
**Dr. Ann McHugh**, Maternal Fetal Medicine Fellow  
**Dr. Niamh Murphy**, Clinical Tutor  
**Dr. Catherine Finnegan**, Clinical Tutor  
**Dr. Suzanne Smith**, Clinical Tutor  
**Dr. Sarah Nicholson**, Clinical Tutor  
**Ms. Mary Deering**, Midwife Manager  
**Ms. Fionnuala Nugent**, 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. Aisling Graham**, Midwife Sonographer  
**Ms. Allyson Lawless**, Midwife Sonographer  
**Ms. Deirdre Nolan**, 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. Tara Fletcher**, 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, early pregnancy support, prenatal diagnosis and fetal treatment programmes. All Rotunda patients, at the time of their initial hospital booking visit, had a formal early pregnancy dating scan. In addition, all patients had a fetal anatomic survey at 20-22 weeks' gestation. Serial obstetric ultrasound examinations were provided for patients receiving ongoing care at various high risk obstetric and medical clinical services. Additionally, the Fetal Medicine Service provided a significant emergency ultrasound service for a variety of obstetric complications at local level and at national level in the Fetal Medicine Clinics. Gynaecologic ultrasound examinations were re-

introduced in December 2019, having been previously outsourced to an external provider due to resource constraints at the hospital.

### CLINICAL ACTIVITY

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

**TABLE 1: CLINICAL ACTIVITY**

Clinical Activity	2015	2016	2017	2018	2019
Initial booking ultrasound examinations	N/A	1,998	6,054*	6,401*	6,351*
Fetal Anatomic Survey (20-22 weeks)	8,499	8,581	8,296	9,016	8,710
Fetal Growth Assessments	8,472	9,734	11,067	14,843	14,961
Fetal Echocardiogram	322	304	379	289	278
Other	1,388	798	N/A	N/A	N/A
<b>Subtotal</b>	<b>18,681</b>	<b>21,415</b>	<b>25,796</b>	<b>30,549</b>	<b>30,300</b>
Gynaecology ultrasounds	1,663	1,822	918**	541**	481**
<b>Total Ultrasounds</b>	<b>20,344</b>	<b>23,237</b>	<b>26,714</b>	<b>31,090</b>	<b>30,781</b>

\*Late bookers had anatomy or growth scans at initial booking ultrasound examination.

\*\*Gynaecology ultrasound service outsourced due to resource limitations

### PRENATAL SCREENING AND DIAGNOSIS SERVICES

Prenatal screening and diagnosis of fetal abnormalities are essential parts of the Fetal Medicine Service; nationally, the Rotunda Hospital is the busiest provider of these services and facilitates patients from all maternity units in Ireland. In 2019, 1,709 new patients attended 4,273 assessments for prenatal screening and diagnosis services:

**TABLE 2: PRENATAL SCREENING TESTS**

Screening Tests	2015	2016	2017	2018	2019
Non-Invasive Prenatal Testing (Cell Free Fetal DNA)	651	925	1,160	1,337	1,406
Combined First Trimester Screening	416	302	169	43	20
<b>Total</b>	<b>1,067</b>	<b>1,227</b>	<b>1,329</b>	<b>1,380</b>	<b>1,426</b>

It is now clear that for general population screening, there is an almost complete conversion away from nuchal translucency-based combined first trimester screening, to a reliance on non-invasive prenatal testing (NIPT). This form of screening relies upon a maternal blood sample, typically taken at 9-10 weeks' gestation, and sent for quantification of cell-free fetal DNA testing. It is associated with detection rates for the more common fetal chromosomal abnormalities of 95% to 99%, with false positive rates less than 0.1%. Amongst the 1,406 patients undergoing NIPT, 21 (1.5%) were screen positive for Trisomies 21, 18 or 13 or 45X. In 16 of these cases, subsequent invasive testing confirmed the screening results, while in 4 cases, invasive testing was declined by the patient. In the final screen positive case, karyotype subsequently confirmed placental mosaicism. Amongst the four cases where invasive testing was

declined, three cases had additional abnormal ultrasound findings that informed further clinical management and one case ended with termination of pregnancy for another reason.

Table 3 below shows a 5-year comparison of invasive diagnostic procedures performed:

**TABLE 3: INVASIVE PRENATAL DIAGNOSTIC TESTS**

Invasive Procedures	2015	2016	2017	2018	2019
Amniocentesis	114	97	99	110	107
Chronic Villus Sampling	80	63	94	90	71
<b>Total</b>	<b>194</b>	<b>160</b>	<b>193</b>	<b>200</b>	<b>178</b>

The number of invasive diagnostic procedures performed has declined slightly, despite the significant increase in number of screening tests, thereby confirming the relative efficiency of NIPT in maximising detection rates with minimal false positives. Of the 178 diagnostic procedures performed, there were 68 abnormal results, representing 38% of invasive tests.

**TABLE 4: FETAL CHROMOSOMAL ABNORMALITIES DIAGNOSED PRENATALLY**

Abnormality	CVS	Amnio	Total
Trisomy 21	15	12	27
Trisomy 18	10	6	16
Trisomy 13	3	2	5
45X	3	3	6
Triploidy	0	2	2
Other	8	4	12
<b>Total</b>	<b>39</b>	<b>29</b>	<b>68</b>

#### MAJOR FETAL STRUCTURAL ABNORMALITY

In addition to the above confirmed fetal chromosomal abnormalities, there were an additional 180 cases of major structural abnormalities detected. Table 5 represents a 5-year comparison of these major structural abnormalities:

**TABLE 5: FETAL STRUCTURAL ABNORMALITIES DIAGNOSED PRENATALLY**

Screening Tests	2015	2016	2017	2018	2019
CNS	32	26	20	11	17
Head & Neck	27	25	21	25	19
Cardiovascular	43	36	56	34	41
Renal	48	48	50	33	47
Abdominal	17	12	13	19	20
Skeletal	24	12	26	19	22
Thoracic	16	4	5	10	12
Other	2	1	6	3	2
<b>Total</b>	<b>209</b>	<b>164</b>	<b>197</b>	<b>154</b>	<b>180</b>

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

#### DUBLIN FETAL SURGERY GROUP

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 2019, a total of 11 cases of severe twin-to-twin transfusion syndrome were managed by the Dublin Fetal Surgery Group by means of fetoscopic laser ablation of placental vessels. Amongst these 11 pregnancies, 7 (64%) resulted in survival of both fetuses, and 4 (36%) resulted in survival of one fetus. This included two sets of triplet pregnancies, such that 20 of 24 fetuses in total (83%) survived. By the end of 2019, the group had completed 186 cases of laser surgery for severe TTTS, with at least one survivor occurring in 84% of cases (157/186). 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.

#### INNOVATIVE FETAL THERAPIES

As fetal therapy continues to advance, the Rotunda collaborated with other institutions and specialties to provide the latest innovative treatments. Two cases of fetal spina bifida were jointly managed with the Fetal Surgery Team at University Hospital Leuven and University College Hospital London, with successful open fetal surgical repair. A successful EXIT (ex utero intrapartum treatment) procedure was performed for a fetus with a large neck mass by a multi-disciplinary team from the Rotunda and Children's Health Ireland, Crumlin. This ultimately resulted in a long term successful outcome following complete resection of the neck mass.

#### FETAL CARDIAC SERVICES

The joint Fetal Cardiac Service at the Rotunda is a national referral service provided by Prof. Fionnuala Breathnach, Consultant Obstetrician and subspecialist in maternal fetal medicine and by Dr. Orla Franklin, Consultant Paediatric Cardiologist at Children's Health Ireland, Crumlin. Screening for fetal cardiac abnormalities is an integral part of routine obstetric care at the Rotunda, with all registered patients undergoing detailed cardiac imaging (four chamber view and outflow tracts) at the time of the 18-22 week fetal anomaly scan. In 2019, the Fetal Medicine Service performed 278 targeted fetal echocardiograms in addition to the standard fetal cardiac examination.

A total of 90% of cases referred to the joint Fetal Cardiology Service had a confirmed cardiac abnormality, which underscores the superb quality of screening cardiac imaging performed by midwife sonographers and radiographers. The vast majority of targeted screening is conducted in Prof. Breathnach's Fetal Clinic, with

prenatal referral of cases to Paediatric Cardiology (Dr. Franklin) predominantly where a cardiac abnormality has been identified. Women who attend this clinic are supported by the Rotunda Fetal Medicine Midwife Team and the Paediatric Cardiac Liaison Service at Children's Health Ireland, Crumlin.

In 2019, Ms. Caroline Geary was appointed as Cardiac Nurse Specialist at Children's Health Ireland, Crumlin and offers an immensely valuable service in meeting with couples for counselling and offering prenatal support when neonatal cardiac intervention is expected.

A total of 17 fetuses were identified with duct-dependent cardiac abnormalities. This is the group that is recognised to benefit most from prenatal detection, which allows for pre-delivery planning for immediate neonatal cardiac care. Only one baby was born at the Rotunda in 2019 with a duct-dependent cardiac abnormality (TGA) that was not detected prenatally, such that the prenatal detection rate at this institution for such critical cardiac abnormalities was 94%. This impressively high detection rate reflects the calibre and expertise of the fetal sonographers at the Rotunda Hospital.

#### RESEARCH

Dr. Ann McHugh completed her PhD thesis work titled: 'Can sonographic assessment of pulmonary vascular reactivity following maternal hyperoxygenation predict neonatal pulmonary hypertension?' under the supervision of Prof. Fionnuala Breathnach, Dr. Orla Franklin and Prof. Afif El-Khuffash. This work was presented at the 39th Annual Pregnancy Meeting of the Society for Maternal Fetal Medicine in Las Vegas, January 2019.

Ms. Fiona Cody, research sonographer, and Prof. Breathnach commenced a study exploring the potential for Artificial Intelligence-assisted examination of the fetal heart: '5D Fetal Echocardiography: A Feasibility Study evaluating Operator- and Subject-specific Pre-requisite Factors for successful volume acquisition.'

**TABLE 6: FETAL CARDIAC ABNORMALITIES DIAGNOSED PRENATALLY**

	2016	2017	2018	2019
HLHS	6	9	3	5
HRHS	5	7	4	2
Complete AVSD	2	5	3	4
VSD	12	15	18	4
Tetralogy of Fallot/DORV	3	7	5	9*
TGA	5	5	6	6
Coarctation / Interrupted arch/ Double arch	2	6	2	6
Truncus Arteriosus	1	0	1	0
Right-sided Aortic Arch	1	0	2	2
Ebstein's Anomaly	0	1	0	1
Systemic Vein anomaly	4	1	0	0
Arrhythmia	3	2	5	2
Cardiac tumour	0	0	1	0
Aortic Stenosis	0	0	1	1
Tricuspid Dysplasia	0	0	0	1
TAPVD	0	0	0	1
Pulmonary Stenosis	0	0	1	0
<b>TOTAL</b>	<b>44</b>	<b>58</b>	<b>52</b>	<b>44</b>

\* (incl 2 DORV) (4 DUCT-DEP)

HLHS = hypoplastic left heart syndrome; HRHS = hypoplastic right heart syndrome; AVSD = atrioventricular septal defect; VSD = ventricular septal defect; DORV = double outlet right ventricle; TGA = transposition of the great arteries; TAPVD = total anomalous pulmonary venous drainage)

#### PLACENTA ACCRETA SPECTRUM SERVICE

Under the supervision of Dr. Jennifer Donnelly, Consultant Obstetrician and subspecialist in maternal fetal medicine, in June 2019, the Rotunda Hospital participated in a monthly Placenta Accreta Spectrum Service MDT at the National Maternity Hospital. This has streamlined co-ordinated care for women with a diagnosis of placenta accreta spectrum from the RCSI Hospitals Group perinatal network. The Placenta Accreta Spectrum MDT is attended by maternal fetal medicine specialists, gynaecologic oncologists, anaesthesiologists, interventional radiologists, neonatologists and operating theatre staff. Rotunda patients with a suspicion of placenta accreta spectrum are now discussed at this monthly MDT, which is also attended by consultants from the Rotunda. A prospective record of all Rotunda patient outcomes who are discussed at the MDT is maintained. Furthermore, patients are offered support and advice through Placenta Accreta Ireland, a national placenta accreta patient support group.

From June 2019, a total of six women attending the Rotunda were discussed at this MDT, two of whom were delivered during 2019 and underwent scheduled caesarean hysterectomy. Both women

recovered with an uncomplicated post-operative course and placenta accreta was subsequently confirmed on histology in both cases. The Rotunda Hospital and National Maternity Hospital Placenta Accreta Spectrum joint MDT allows two tertiary referral units to collaborate and ensure the best outcomes for women affected by this rare and challenging condition.

#### **MULTIPLE PREGNANCY SERVICE**

A total of 36 multiple gestation pregnancies were referred for management of select high-risk circumstances. This included 21 sets of monochorionic diamniotic (MCDA) twins, 9 of which were confirmed as having twin-to-twin transfusion syndrome (TTTS). A further 11 cases of dichorionic twins were managed for discordant growth or structural fetal malformations. A total of four sets of triplet pregnancy were managed for discordant fetal growth.

#### **SUCCESSSES & ACHIEVEMENTS 2019**

- Introduction of Trophon ultrasound probe cleaning units in EPAU and the main ultrasound facility
- Four new Hitachi Futus Machines were purchased for Outpatients and Emergency and Assessment Departments
- Gynaecology ultrasound scanning was re-commenced in the FAU in December 2019
- Sonographer Aisling Graham joined the Ultrasound Service.
- New multi-disciplinary care pathway developed with Neonatal Palliative Care Consultant Dr. Fiona McElligott
- CMS Jane Dalrymple completed Level 6 in counselling and psychotherapy training at the Institute of Integrative Counselling and Psychotherapy (IICP)
- Four sonographers/radiographers attended the Royal Brompton Fetal Cardiac course in May 2019
- A number of staff attended the ISUOG Conference in Berlin and the SMFM Conference in Las Vegas in 2019

#### **CHALLENGES 2019**

- Staff retention remains a challenge given that national demand for skilled sonographers has increased

#### **PLANS FOR 2020**

- Appointment of consultant radiologists to ensure appropriate clinical governance for the Gynaecologic Imaging Service
- Continued upgrading of all ultrasound equipment



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## BEREAVEMENT SUPPORT AND CHAPLAINCY SERVICES

### STAFF

**Ms. Trish Butler**, Bereavement Clinical Midwife Specialist

**Ms. Ann Charlton**, Hospital Chaplain

**Ms. Emma MacBride**, Bereavement Clinical Midwife Specialist

**Ms. Clare Naughton**, Medical Social Worker

### SERVICE OVERVIEW

The Rotunda Hospital acknowledges that the loss of a baby during pregnancy or following delivery is one of the most painful experiences imaginable in any parent's life. With this in mind, the Rotunda Hospital offers a range of services provided through the Bereavement Support, Recurrent Pregnancy Loss and Fetal Medicine Services to afford bereaved parents the necessary support to meet their individual needs.

The Bereavement Team, which includes two bereavement midwives, chaplain, dedicated medical social worker and administration, continued to provide sensitive, compassionate and individualised care to these families in 2019.

Education sessions were provided by the team during the year, including full study days for Undergraduate and Postgraduate Midwifery Students, as well as for staff midwives and nurses in conjunction with the Centre for Midwifery Education. Training sessions for Non Consultant Hospital Doctors and other disciplines of staff were also delivered.

The work of the hospital is greatly assisted by the Chaplains and Ministers who are available to offer support to patients and staff alike. Their dedication and attention to women, their babies, families and staff is very much appreciated.

### ANNUAL SERVICE OF REMEMBRANCE

The Annual Service of Remembrance was held in the Pro-Cathedral in November 2019. The Bereavement Support Team is grateful to the Pro-Cathedral for hosting this extremely important event where we gather to remember and honour the precious short lives of babies who died during 2019 and in previous years. The number of families attending this service continues to increase. The service was also attended by Chaplains from the main Churches, members of the Board of Governors, the Executive Management Team and many staff members. The support and assistance from numerous staff members who volunteered to assist on the day is greatly appreciated. Following the Service many families joined the Governors, the Executive Management Team and hospital staff in the Pillar Room for light refreshments, provided by the Rotunda Catering Department.

### BOOKS OF REMEMBRANCE

The Books of Remembrance which are a key feature of the Remembrance Service are reserved in the Hospital Mortuary Chapel. Babies' names are entered by the Hospital Chaplain at the request of the parents. They remain available for inspection and reflection for any family members.

## MATERNAL MEDICINE SERVICE

### HEAD OF SERVICE

**Dr. Jennifer Donnelly**, Consultant Obstetrician / Maternal Fetal Medicine, Rotunda and MMUH

### STAFF

**Dr. Etaoin Kent**, Consultant Obstetrician / Maternal Fetal Medicine, Rotunda Hospital and OLOLH Drogheda

**Dr. Nicola Maher**, Consultant Obstetrician Gynaecologist, Rotunda Hospital

**Dr. Mary Bowen**, Consultant Anaesthesiologist, Rotunda Hospital and MMUH

**Prof. Ann Brannigan**, Consultant Colorectal Surgeon, MMUH

**Dr. Tony Geoghegan**, Consultant Radiologist, MMUH

**Dr. Barry Kelleher**, Consultant Gastroenterologist, Rotunda Hospital and MMUH

**Dr. Damien Kenny**, Consultant Congenital Cardiologist, MMUH

**Prof. Leo Lawler**, Consultant Radiologist, MMUH

**Dr. Colm Magee**, Consultant Nephrologist, Rotunda Hospital and Beaumont Hospital

**Prof. Conán McCaul**, Consultant Anaesthesiologist, Rotunda Hospital and MMUH

**Prof. Fionnuala Ní Áinle**, Consultant Haematologist, Rotunda Hospital and MMUH

**Dr. Patrick Thornton**, Consultant Anaesthesiologist, Rotunda Hospital and MMUH

**Prof. Kevin Walsh**, Consultant Congenital Cardiologist, MMUH

**Ms. Audrey O’Gorman**, Staff Midwife

**Ms. Cathy O’Neill**, Staff Midwife

**Ms. Caroline Snowe**, Staff Midwife

**Dr. Khadeeja Al Nassar**, RCPI International Clinical Fellow in Maternal Medicine

### SERVICE OVERVIEW

The Maternal Medicine Service in the Rotunda comprises of a number of different specialities who provide overlapping care for women with medical conditions throughout pregnancy and in the postpartum period. The report for endocrine, infectious disease and epilepsy care are summarised elsewhere in this Annual Report.

### CLINICAL ACTIVITY

#### COMBINED OBSTETRIC MATERNAL MEDICINE CLINIC (COMMC)

The Combined Obstetric Maternal Medicine Clinic (COMMC) was established in January 2017 with a significant increase in patient numbers since its inception. There were 1,066 patient encounters at the Maternal Medicine Clinic in 2019. Table 1 shows the breakdown of the number of women who attended the clinic and their primary diagnosis. Some women have more than one diagnosis, such that the data in the table represents women attending the clinic rather than the number of diagnoses. The data in Table 1 also includes women who may have attended the cardiac, epilepsy and renal clinics at different times, which may be counted elsewhere.

TABLE 1: REASONS FOR ATTENDANCE

<b>CARDIAC</b>	<b>21</b>
<b>DERMATOLOGY</b>	<b>4</b>
Rosacea	1
Autoimmune urticaria	1
Chronic plaque psoriasis	1
Pompholyx eczema	1
<b>FETAL</b>	<b>4</b>
<b>GENETICS</b>	<b>1</b>
Maternal Turner syndrome	1
<b>GASTROENTEROLOGY</b>	<b>50</b>
Crohn's disease	23
Ulcerative colitis	10
Other bowel diagnosis	7
Cholelithiasis complications	2
Hepatology	6
Pancreatitis	2
<b>HAEMATOLOGY</b>	<b>60</b>
Current or previous thrombosis	23
Antiphospholipid syndrome / lupus	9
Previous haematologic malignancy	8
Platelet disorders	7
Bleeding disorder	3
Other haematology	10
<b>IMMUNOLOGY</b>	<b>1</b>
Anaphylaxis	1
<b>METABOLIC</b>	<b>2</b>
Fabry disease	1
Classical Homocystinuria	1
<b>MUSCULOSKELETAL</b>	<b>7</b>
Ehlers Danlos	3
Osteopenia/osteoporosis	2
Rickets	1
Previous hip injury	1

TABLE 1: REASONS FOR ATTENDANCE (CONTINUED)

<b>NEUROLOGY</b>	<b>67</b>
Migraine/Headache	3
Stroke/TIA	14
Seizure disorder/epilepsy	5
CNS tumour	6
Multiple sclerosis	11
Intracranial aneurysm	4
Structural brain malformation	7
Other	17
<b>ONCOLOGY (PREVIOUS OR CURRENT)</b>	<b>10</b>
Breast Cancer	4
Ovarian Cancer	1
Thyroid Cancer	1
Colon Cancer	2
Malignant melanoma	2
<b>NEPHROLOGY</b>	<b>13</b>
Renal transplant	3
Chronic renal impairment	4
Severe hypertension	3
Lupus nephritis	2
Multicystic dysplastic kidneys	1
<b>RESPIRATORY</b>	<b>17</b>
Asthma	5
COPD	2
Cystic fibrosis	1
Lung transplant	2
Sarcoidosis	6
Haemoptysis due to lung injury	1
<b>RHEUMATOLOGY</b>	<b>49</b>
Systemic lupus erythematosus	6
Behcet's syndrome	5
Rheumatoid arthritis	15
Seronegative arthritis	5
Fibromyalgia	1
Psoriatic arthritis	8
Sjogren's syndrome	3
CREST syndrome	2
Other connective tissue disorder	4
<b>OTHER</b>	<b>6</b>
Severe maternal morbidity follow-up	4
Trauma	1
Ophthalmology problem	1

### MATERNAL MEDICINE MDT

A Maternal Medicine Multi-Disciplinary Team (MMMDT) Meeting is a crucial component of the Maternal Medicine Service and is held every six to eight weeks utilising the Radiology Department MDT facility at the Mater Misericordiae University Hospital, which provides a platform for multidisciplinary input into the management of women with complex medical backgrounds in pregnancy. The medical challenges of pregnancy facing 101 women were discussed by the MMMDT in 2019. In 2019, input from 15 different specialties including physicians, surgeons, pharmacists, anaesthesiologists, midwives and nurses were gathered in order to optimise the care of these patients.

### CARDIAC OBSTETRIC SERVICE

The Cardiac Obstetric Service has been in evolution since 2004. This service provided between the Rotunda and the Mater is groundbreaking as a Pregnancy Heart Service was only introduced as a "new concept" into the European Society of Cardiology Guidelines in 2018. The service includes an Obstetric Antenatal Clinic on a Wednesday afternoon. This allows co-ordination with screening fetal echocardiograms performed by Prof. F Breathnach in the Rotunda on Wednesday mornings and with the Adult Congenital Heart Clinic in the Mater Hospital on Wednesday afternoon. Obstetric and Cardiac Anaesthetic review can also take place on a Wednesday as well as on Mondays. This timing streamlines care for women in minimising numbers of visits to hospital and making it easier to arrange time off work or child care.

### CARDIAC OBSTETRIC ANTENATAL CLINIC

In 2019, there were 553 patient encounters at the Cardiac Obstetric Antenatal Clinic. Table 2 gives an overview of the range of diagnoses that were addressed amongst these patients. In order to provide women-centred care, for patients attending the hospital for other clinics and reasons, there are a small number of non-cardiac patients seen in the clinic. These include women who attend the Maternal Medicine Clinic and cannot come to the scheduled Thursday morning time.

TABLE 2: CARDIAC DIAGNOSES MANAGED DURING PREGNANCY

Congenital heart disease	40
Arrhythmia	54
Aortic disease	13
Valvular disease	19
Cardiomyopathy	2
Coronary artery disease	3
Endocarditis	3
Family history of cardiac disease	8
Non-cardiac cases	10
Reviewed and discharged	15
<b>TOTAL</b>	<b>167</b>

### CARDIAC OBSTETRIC MDT

A Cardiac Obstetric MDT is held at MMUH 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 97 women were discussed at the Cardiac Obstetric MDT in 2019.

### SUCCESSSES & ACHIEVEMENTS 2019

Early recognition and appropriate treatment of medical problems as well as access to best practice care is very important in reducing maternal morbidity. The Maternal Medicine Service acts as a hub for referrals from the MMUH and the RCSI Hospitals Group hospitals, as well as from many other hospitals around the country.

The Maternal Medicine Service is a national referral centre for pregnant women with complex congenital cardiac disease and lung transplant.

The service hosts an RCPI International Clinical Fellow in Maternal Medicine. We continued to engage with other maternal medicine teams across Dublin through quarterly educational meetings. The preconceptional counselling service has been expanded with relevant patients being seen both in the Rotunda and MMUH.

### PLANS 2020

- Developing links with rheumatology services and establishment of a dedicated joint pre-pregnancy and obstetric clinic
- Submission of a proposal for joint site Consultant Radiologist between MMUH and the Rotunda
- Appointment of an RCPI post-CSCST Maternal Medicine Fellow
- Further development of the Irish Medicines in Pregnancy Service in conjunction with the Rotunda Hospital Pharmacy Department
- Development of a midwifery role to provide supportive, holistic care for women during pregnancy







## 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
2015	104
2016	129
2017	90
2018	129
2019	126

In 2019, 59% of attendees at the service were Irish. Roma patients accounted for 21% of the total attending the service and 10% were Irish travellers.

Six teens transferred care to another facility, with the remaining 120 patients receiving their complete care at the Rotunda.

**TABLE 2: PREGNANCY OUTCOMES 2019 (N=120)**

Spontaneous vaginal delivery	74	62%
Instrumental vaginal delivery	27	23%
Caesarean delivery (elective)	4	3%
Caesarean delivery (emergency)	15	13%
<b>Total Delivered in Rotunda</b>	<b>120</b>	<b>100%</b>

The overall caesarean delivery rate in the teenage population was 16%, which represents a slight increase from the 13% rate noted in 2018.

### PATIENT OUTCOMES

Pregnancy outcomes were positive in all cases, with no stillbirths. Unfortunately, there was one case of neonatal demise due to Sudden Infant Death Syndrome at four weeks of age. Additionally, there was one prenatally diagnosed case of duodenal atresia and one case of orofacial clefting.

### SUCCESSSES & ACHIEVEMENTS 2019

It was reassuring to note a continued low caesarean delivery rate in this young population. All fetuses were appropriately grown, except for one case of a low birth weight fetus. There was also excellent attendance at the Antenatal Clinic, which reflects the close collaborative and supportive relationship developed between the patients and clinic staff.

### ENHANCING PATIENT CARE

- Postpartum contraception provided prior to discharge.
- Provision of LARC (long-acting reversible contraception) in a dedicated postnatal clinic
- Midwife Specialist provided postnatal home visits for select patients in the North Dublin area
- The Clinical Midwife Specialist is now qualified in examination of the newborn, which ensures continuity of care for Teenage Pregnancy Services patients in the Postnatal Ward

### CHALLENGES 2019

The main clinical challenge in 2019 remains the increased number of patients developing gestational diabetes, likely secondary to the high prevalence of obesity. This patient cohort represents a vulnerable group, which requires significant input from the Medical Social Work Service. For example, one 12 year old patient became pregnant following a sexual assault, and one patient developed acute psychosis antenatally requiring inpatient psychiatric care. One baby was given up for adoption. Another patient's partner was murdered four months following delivery of the baby, and two patients struggled with homelessness, with one sleeping in her partner's car and one patient living in a squat. These social work challenges are a particularly difficult problem for these vulnerable patients.

### PLANS FOR 2020

The Clinical Midwife Specialist will commence training in midwife prescribing.

## COMBINED OBSTETRIC ENDOCRINE SERVICE

### HEADS OF SERVICE

**Dr. Richard Horgan**, Consultant Obstetrician Gynaecologist  
**Prof. Fionnuala Breathnach**, Consultant Obstetrician Gynaecologist  
**Dr. Maria Byrne**, Consultant Endocrinologist

### STAFF

**Ms. Jackie Edwards**, Clinical Midwife Manager  
**Ms. Aileen Fleming**, Clinical Midwife Manager  
**Ms. Ali Cunningham**, Senior Dietician  
**Ms. Laura Kelly**, Senior Dietician  
**Dr. Irina Goulden**, Endocrinology Registrar  
**Dr. Catherine Finnegan**, Specialist Obstetric Registrar, Research  
**Dr. Suzanne Smyth**, Specialist Obstetric Registrar, Research

### SERVICE OVERVIEW

The Combined Obstetric Endocrine Service for the care of women with diabetes mellitus represents a focussed multidisciplinary area targeted at the perinatal care of this particularly high-risk cohort. The extent to which each subgroup with diabetes (type I, type II and gestational diabetes) contributes to the population whose prenatal care is conducted through this clinic is illustrated in Table 1.

The service continues to observe low shoulder dystocia rates in the high-risk population with pre-pregnancy diabetes. This is attributed to a multifaceted approach to shoulder dystocia prevention, including close ultrasound surveillance for fetal growth in the third trimester, with all women with type I or type II diabetes undergoing formal ultrasound assessment of fetal growth at least twice in the third trimester. Additionally, avoidance of postdate pregnancy is important in this population, with all women with pregestational diabetes being delivered by their due date, or earlier in the event that fetal macrosomia is identified. Additionally, it is expected that there should be a higher caesarean delivery rate in this population, with the 62% caesarean delivery rate in the type I diabetic population being driven principally by the fact that the ability to await spontaneous onset of labour is limited in this group.

### CLINICAL ACTIVITY

2019 was the busiest year on record for the Combined Obstetric Endocrine Service at the Rotunda. A 24% increase in the number of women diagnosed with gestational diabetes was recorded. In addition, 243 women attended the service for care of thyroid dysfunction in pregnancy.

TABLE 1: CLINICAL ACTIVITY – DIABETES MELLITUS

	2015	2016	2017	2018	2019
Type I	23	32	37	26	29
Type II	33	22	24	25	55
GDM - diet	609	753	756	674	856
GDM - insulin	166	222	218	289	325
<b>Total</b>	<b>831</b>	<b>1,029</b>	<b>1,035</b>	<b>1,014</b>	<b>1,265</b>

TABLE 2: PREGESTATIONAL DIABETES: MATERNAL CHARACTERISTICS

	TYPE I	TYPE II
N	29	55
Mean Age (years)	32	36
Mean duration of diabetes (years)	12.6	3.2
<b>DM Complications: (Expressed in ongoing viable pregnancies)</b>		
Chronic hypertension	2/29 (7%)	1/55 (2%)
Retinopathy	5/29 (17%)	1/55 (2%)
Nephropathy	0/29 (0%)	0/55 (0%)
Neuropathy	0/29 (0%)	0/55 (0%)
Preeclampsia	4/29 (14%)	3/55 (5%)
Gestational at booking (weeks) (Mean/SD)	6.4 (2.6)	9.1 (5.8)
Mean HbA1c at booking/IFCC (mmols/l)	57.6	41
Mean HbA1c at delivery/IFCC (mmols/L)	42.3	32.1
Mean Fructosamine at booking	295.4	217.6
Mean Fructosamine at delivery	231.1	186

TABLE 3: PREGESTATIONAL DIABETES: PERINATAL OUTCOME

	TYPE I	TYPE II
N	29	55
Spontaneous Fetal Loss (<24 weeks)	3/29 (10%)	9/55 (16%)
Preterm delivery 24+0 – 36+6 weeks*	6/26 (23%)	6/46 (13%)
Liveborn*	25/26 (96%)	44/46 (96%)
Stillbirth*	1/26 (4%)	1/46 (2%)
Neonatal death	0	0
Delivered Elsewhere*	3/26 (12%)	1/46 (2%)
Caesarean Delivery*	16/26 (62%)	20/46 (43%)
Mean Gestational age at delivery (weeks)	36.9	37.4
Mean birthweight (g)	3,390	3,250
Macrosomia ≥95th centile for gestational age	10/26 (39%)	7/46 (15%)
Shoulder dystocia	0	1/46 (2%)

\*Ongoing viable pregnancies delivered at the Rotunda

TABLE 4: GESTATIONAL DIABETES (GDM)

	Diet-controlled GDM	GDM On Insulin
N	856	325
Age (years) (mean/SD)	32.4 (4.8)	35.6 (5.1)
Gestational age at delivery (weeks) (mean/SD)	38.5 (1.7)	38.1 (1.3)
Birthweight (g) (mean/SD)	3,390 (577)	3,490 (537)
Caesarean delivery	320/856 (37%)	158/325 (49%)
Stillbirth	4/856 (0.3%)	1/325 (0.3%)
Delivered Elsewhere	0/856	0/325
Preeclampsia	21/1181 (2%)	9/325 (3%)
Shoulder Dystocia	15/856 (2%)	5/325 (2%)

## SUCCESSSES & ACHIEVEMENTS 2019

### ENHANCING PATIENT CARE

The specialist diabetes midwives became involved in the formation of the National Diabetes in Pregnancy Midwife/Nurse Group, involving all specialist diabetes midwives and nurses working in maternity services in Ireland. This group convenes three times per year with the aim being to standardise the provision of care throughout maternity diabetes services in Ireland. This group will also provide specialised education in the areas of sensor-augmented insulin pumps for women with type I diabetes.

### INNOVATION

The RCSI Research team, led by Prof. Fionnuala Breathnach, has been successful in attracting Horizon 2020 funding to conduct innovative research into artificial intelligence solutions for gestational diabetes management and surveillance, using "Big Data" solutions. Industry partners for this project include Huawei® and Nissatech®, with the overarching "Big Medilytics" research project involving 12 pilot project workstreams across Europe.

### EDUCATION AND TRAINING

The diabetes midwives continued to provide lectures and clinical skills workshops to undergraduate and postgraduate student midwives within the hospital environment and in Trinity College Dublin, as well as contributing to the bi-annual Tri-Hospital Diabetes Study Day for staff of the three Dublin maternity hospitals.

Dr. Catherine Finnegan commenced her PhD thesis work on the IRELANd Study (Investigating the Role of Early Low-dose Aspirin in Diabetes) and Dr. Suzanne Smyth commenced her PhD thesis on the development of artificial intelligence solutions for gestational diabetes care.

## CHALLENGES 2019

Consistent with international experience, a very significant increase in the gestational diabetes population has been noted, in particular from 2014 onwards. This expanded gestational diabetes population, now constituting almost 1 in 8 of the Rotunda's entire pregnant patient cohort, has placed significant strain on the midwifery-

provided gestational diabetes model of care, with obstetric care for these women being provided as much as possible through routine antenatal clinics. Attendance at the formal Combined Obstetric Endocrine Clinic is generally reserved for women with pregestational diabetes (type I or type II) or with gestational diabetes who require therapy beyond diet. The greatest challenge that the service faced in 2019 was meeting the needs of this population within current resources.

Increasingly, women with type I diabetes are being managed with sensor-augmented pumps. Four women with type I diabetes were managed with sensor-augmented pumps in 2019, and that number is expected to rise going forward. Twice-weekly review of sensor-generated data is highly labour intensive for the core group of midwives involved in this specialised field, thereby placing even further strain on the limited resources of the Combined Obstetric Endocrine service.

## PLANS FOR 2020

The multidisciplinary Combined Obstetric Endocrine Service will be expanded with the appointment of a dedicated Staff Midwife with responsibility for the glycaemic surveillance of women with diet-controlled gestational diabetes. It is hoped that dedicated clerical support and social work support can also be provided for the Combined Obstetric Endocrine service.

The "Big Medilytics" research project will be rolled out in 2020. This Horizon 2020 Innovation Action project focuses on producing designs for new or improved products and involves prototype testing, piloting and large-scale validation activities in clinical medicine. This project is led by Philips® and the Rotunda-led project will focus on the development of telemedicine and artificial intelligence solutions for the management of gestational diabetes.

Prof. Breathnach will also lead a team of researchers in conducting an HRB-funded multicentre randomized controlled trial that focuses on aspirin use in pregnancies complicated by type I and type II diabetes. This project (the 'IRELANd Study') will commence recruiting at seven Obstetric Diabetes Services in Ireland by the end of 2020.



## INFECTIOUS DISEASES SERVICE

### HEAD OF SERVICE

**Dr. Maeve Eogan**, Consultant Obstetrician and Gynaecologist

### STAFF

**Dr. Jack Lambert**, Consultant in Infectious Diseases

**Dr. Wendy Ferguson**, ID Associate Specialist Paediatrician

**Dr. Barry Kelleher**, Consultant in GI/Hepatology

**Dr. Richard Drew**, Consultant Microbiologist

**Ms. Mairead Lawless**, ID Liaison Midwife

**Mr. Justin Gleeson**, Drug Liaison Midwife

**Ms. Susan Finn**, Medical Social Worker

**Dr. Valerie Jackson**, Clinical Audit & Surveillance Scientist

### SERVICE OVERVIEW

The Infectious Diseases Service, 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 2019, 112 women with positive screening serology booked for antenatal care at the Infectious Diseases Service. Of these:

- 48 (43%) women were positive for Hepatitis B surface antigen, representing an increase of 19% compared to 2018 (Fig 1)
- 29 (26%) women were positive for Hepatitis C antibody, a decrease of 29% compared to 2018
- 21 (19%) were positive for HIV infection, a decrease of 32% compared to 2018
- 18 (16%) women had positive Treponemal serology, a decrease of 10% compared to 2018

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: DOVE CLINIC BOOKINGS BY YEAR

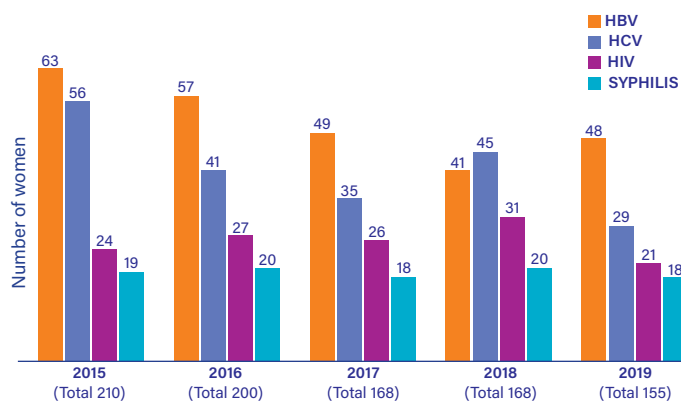


TABLE 1: DELIVERIES TO HIV POSITIVE MOTHERS 2019 (N=27)

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	27
Live Infants	28 (1 set twins)
Miscarriage	0
Stillbirths	0
Infants <37 weeks gestation	6
Infants ≥37 weeks gestation	22
Infants delivered by C. Section	11
HIV Positive Infants	0
<b>Maternal Data (n=27)</b>	
Median Age (years)	33
Newly Diagnosed this pregnancy	5

TABLE 2: DELIVERIES TO HCV POSITIVE MOTHERS 2019 (N=39)

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	39
Live Infants	38 (1sets twins)
Miscarriage	0
Stillbirths	2
Infants <37 weeks gestation	9
Infants ≥37 weeks gestation	31
Infants delivered by C. Section	10
HCV Positive Infants	1*
<b>Maternal Data (n=39)</b>	
Median Age (years)	34
Newly Diagnosed this pregnancy	3

\*Final serology not yet available for all infants

(The difference in the numbers in tables is because one section is 'bookings' and one is 'births' (the bookings will deliver in 2019 and 2020) and the births will have booked in 2018 and 2019)

TABLE 3: DELIVERIES TO HBV POSITIVE MOTHERS 2019 (N=42)

Total Mothers Delivered <500g (incl. miscarriage)	2
Total Mothers Delivered >500g	42
Live Infants	43 (1 set twins)
Miscarriage	2
Stillbirths	0
Infants <37 weeks gestation	4
Infants ≥37 weeks gestation	39
Infants delivered by C. Section	14
HBV Positive Infants	0*
<b>Maternal Data (n=44)</b>	
Median Age (years)	32
Newly Diagnosed this pregnancy	2

\*Final serology not yet available for all infants

TABLE 4: DELIVERIES TO SYPHILIS POSITIVE MOTHERS 2019 (N=15)

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	15
Live Infants	15
Miscarriage	0
Stillbirths	0
Infants <37 weeks gestation	3
Infants ≥37 weeks gestation	12
Infants delivered by C. Section	5
Syphilis Positive Infants	0
<b>Maternal Data (n=15)</b>	
Median Age (years)	37
Newly Diagnosed this pregnancy	6

#### DRUG LIAISON MIDWIFERY (DLM) SERVICE

During 2019, 105 women were referred to the DLM service, including 33 women who had a history of opiate addiction and were engaged in a Methadone Maintenance Programme. Eight of these women commenced treatment because of pregnancy.

TABLE 5: DELIVERIES TO MOTHERS UNDER THE DRUG LIAISON MIDWIFERY SERVICE 2019

Total Mothers Delivered >500g	56
Total Mothers Delivered <500g (incl. miscarriage)	0
HCV positive mothers	17
HIV positive mothers	0
Live Infants	54
Stillbirths	3
Infants <37 weeks gestation	13
Infants ≥37 weeks gestation	44
Infants delivered by C. Section	17
NICU admissions for NAS	11

#### INFECTIOUS DISEASE SERVICE MEDICAL SOCIAL WORK

In 2019, the medical social worker for the Infectious Disease Service 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 Service 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 2019, 42 women were referred to Tusla, Child and Family Agency. The following actions were the outcome of Tusla social work involvement:

- 11 Discharge Safety Planning meetings
- 14 Child Protection Case Conferences
- 1 baby placed in foster care under an Interim Care Order
- 3 babies discharged into care under a Voluntary Care Agreement
- 19 mothers were discharged under the supervision of a non-drug using relative for a period of time until stability was assured
- 1 mother and baby were discharged to a parenting assessment unit

#### PAEDIATRIC INFECTIOUS DISEASE CLINIC

In 2019, 349 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.

## SUCCESSSES & ACHIEVEMENTS 2019

### EDUCATION & TRAINING

In October 2019, Dr. Wendy Ferguson was admitted as Fellow of the Faculty of Paediatrics, RCPI.

Members of the Infectious Diseases team 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 annual multicentre training programme 'Update of Infectious Diseases & STIs in pregnancy', held in December 2019 in conjunction with The Centre for Midwifery Education (CME).

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) Course (STIF Core) continues 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 March and October 2019 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 SPR 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 hard of hearing

### ENHANCING PATIENT CARE

As well as continuing to provide responsive patient focussed care to pregnant women & 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 ID 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 as well as the impact of infectious diseases on vulnerable populations.

A number of members of the team have collaborated to enhance maternal and neonatal care in the context of perinatal infection.

Dr. Ferguson in liaison with The Mater ID and hepatology team is collaborating with a UK proposal to determine feasibility of antiviral treatment of hepatitis C in pregnancy.

Dr. Ferguson underwent theoretical and practical training in forensic examination and is now participating in the SATU forensic examiners on-call rota.

In Oct/Nov 2019, the Infectious Diseases Service completed a three week initiative to provide onsite Influenza and Pertussis vaccination to patients attending the clinic, with the support of colleagues from Safetynet. Of the 42 women who were eligible for one or both vaccines, only two declined. This highlights the public health benefit of an antenatal care package that can 'recommend and offer' vaccination when compared to 'recommend' vaccination alone.

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 2019

Interestingly, the number of women attending the DOVE clinic with HCV, HIV and syphilis decreased in 2019. A slight increase in the numbers presenting with HBV was noted however. It is also interesting to note that the number of women being diagnosed with infectious diseases for the first time in pregnancy is decreasing – more women are now aware of their diagnoses prior to pregnancy which provides opportunities to optimise pre-pregnancy health. However the Rotunda Hospital does not provide routine antenatal screening for HCV at antenatal booking, something we would aspire to reverse in the coming years, in order that women could access antiviral treatment postnatally.

### PLANS FOR 2020

The 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 addiction.

It is hoped to extend our hospital-based influenza and pertussis vaccination programme in 2020 to facilitate additional access to on-site antenatal vaccination. It is also hoped to develop further collaborations with Safetynet, in particular to improve access to contraception for this vulnerable patient population.

## EPILEPSY SERVICE

### HEAD OF SERVICE

**Dr. Nicola Maher**, Consultant Obstetrician Gynaecologist

### STAFF

**Ms. Sinead Murphy**, Advanced Nurse Practitioner

### SERVICE OVERVIEW

This service has been established to provide care for women with epilepsy throughout pregnancy. The aim of this service is to minimise complications of epilepsy in pregnancy, by ensuring seizure control is maintained and ensuring patients are confident in the safe use of medications for epilepsy in pregnancy. Preconception care is also offered for patients with seizure disorders who are contemplating becoming pregnant.

Care is maintained in the joint obstetric/ANP clinic for the duration of the patient's pregnancy.

### CLINICAL ACTIVITY

A total of 87 women attended the epilepsy clinic in 2019. Fifteen women experienced seizures during pregnancy. Of these, four women had stopped their medications themselves on discovering that they were pregnant. All of these women were re-started on appropriate medication and reported no further seizures in pregnancy. One woman experienced her first seizure in pregnancy at 31 weeks' gestation and was commenced on levetiracetam (Keppra). Follow up with neurology was arranged for her to complete relevant investigations postnatally.

A total of 33 women who attended the clinic with epilepsy were not taking medications. Two of these women were awaiting formal diagnosis and required review by the Neurology Team. This was facilitated urgently during pregnancy.

A further 12 of these women who attended had a history of epilepsy in childhood and were seen and advised in relation to the risk of seizure recurrence in pregnancy, together with the measures advised to reduce this risk. There were nine women who experienced seizures within the past 5 years and decided against taking medication. These decisions were made following extensive discussion on the risks and benefits of medication in pregnancy versus potential worsening seizure control and the implications of this. Ten women decided, following multi-disciplinary consultation, to recommence anti-seizure medication. These women engaged well with the service and remained on their medications throughout pregnancy and postnatally.

The remaining women attending the clinic were on treatment for seizure control at the start of the pregnancy. Of those women, 9 experienced some recurrence of aura and 2 had seizures in pregnancy. Medication doses were titrated and seizure control improved. Two patients had complex neurological conditions and their care was jointly managed with their Neurology Team.

One patient developed severe HELLP and IUGR at 28 weeks' gestation which was unrelated to her epilepsy. This woman had poorly controlled epilepsy pre-pregnancy, but control improved in pregnancy with significant care input. She had a number of risk

factors for preeclampsia and also had an intellectual disability making her care challenging.

A further patient experienced a massive obstetric haemorrhage secondary to retained placenta and atony, but this was unrelated to her epilepsy diagnosis.

One woman developed preeclampsia at 36 weeks' gestation which was complicated by pulmonary oedema and required ICU admission, again unrelated to her underlying epilepsy diagnosis.

One woman had a significant shoulder dystocia following an instrumental delivery and her baby was therapeutically cooled and diagnosed with HIE.

One patient who was treated for epilepsy pre-pregnancy reported an increase in possible seizures requiring urgent admission to the Beaumont Hospital Neurology Service for further investigations. A diagnosis of complete heart block was made, and a pacemaker fitted at 26 weeks' gestation.

Sadly, one patient experienced an intrauterine demise of her baby at 40 weeks' gestation deemed to be secondary to a cord accident and was unrelated to her underlying epilepsy diagnosis.

### SUCCESSSES & ACHIEVEMENTS 2019

Care was provided without any significant epilepsy-related morbidity during 2019. No patients who booked for care were taking Sodium Valproate which is a credit to the extensive education and publicity efforts that have gone into the Pregnancy Prevention Programme for this medication.

Congratulations are offered to Ms. Sinead Murphy who has become an Advanced Nurse Practitioner. Her skills remain invaluable to this cohort of obstetric patients. Without her expertise and reassurance, women would not benefit from the shared decision-making made in the clinic in relation to medication use in pregnancy. Anecdotal feedback from patients postnatally highlights this and patients report feeling confident and happy in relation to their care in pregnancy. Rapid access to neurology services was facilitated by Ms. Murphy across all of the Dublin hospitals.

### CHALLENGES 2019

The lack of a Consultant Neurologist with assigned clinical sessions at the Rotunda limits the multi-disciplinary capabilities for prompt management of patients with seizure disorders. While the availability of an Advanced Nurse Practitioner is a significant clinical benefit, it will be optimal to secure the clinical support of a Consultant Neurologist to provide on-site neurology services at the Rotunda in the near future.

### PLANS FOR 2020

The roll-out of the Irish Medicines in Pregnancy Service (IMPS) towards the end of 2019 is of huge benefit to the epilepsy clinic. Women with epilepsy are understandably anxious given the legacy of anti-seizure medications. Ensuring shared, informed decision-making is essential in managing women with epilepsy in pregnancy. Collaboration with the IMPS to develop risk communication tools and decision aids are planned for 2020.



## MENTAL HEALTH SERVICE

### HEAD OF SERVICE

**Prof. John Sheehan**, Consultant Psychiatrist

### STAFF

**Dr. Richard Duffy**, Consultant Psychiatrist

**Ms. Ursula Nagle**, Clinical Midwife Specialist in Perinatal Mental Health

**Dr. Jillian Doyle**, Senior Clinical Psychologist

**Ms. Stefanie Fobo**, Senior Mental Health Social Worker

**Ms. Louise Rafferty**, CMM2 Perinatal Mental Health

**Ms. Jeanne Masterson**, CMM2 Perinatal Mental Health

**Ms. Julia Daly**, Clinical Nurse Specialist in Perinatal Mental Health

**Ms. Leanne O'Neill**, Clinical Nurse Specialist in Perinatal Mental Health

**Dr. Chinu Simon**, Registrar in Psychiatry

**Ms. Eithne O'Leary**, Assistant Administrator

### SERVICE OVERVIEW

The Specialist Perinatal Mental Health Service (SPMHS) provides mental healthcare for people attending the Rotunda from their booking visit until one year after delivery. In addition, preconception counselling is provided for individuals with complex needs.

Treatment and support are delivered for a wide range of difficulties including anxiety, depression, obsessional thinking, mania, and psychotic illness. The service also follows up with individuals who screen positive for depression following delivery. The service works in collaboration with GPs, community mental health teams and voluntary organisations and has a strong emphasis on prevention and early intervention. The service also provides telephone advice to community mental health teams and GPs.

### CLINICAL ACTIVITY

During 2019, the psychiatrists on the SPMHS saw 217 new cases and provided 327 follow-up appointments. The Rotunda psychiatrists were complimented by Dr. Ana Maria Clarke and Dr. Zetti Azvee who also provided special interest days with the SPMHS. The mental health midwives from the SPMHS reviewed 613 new patients, and 665 follow-up patients in the midwife-led Perinatal Mental Health Clinics and reviewed 1,213 women on various wards and departments across the hospital.

### SUCCESSES & ACHIEVEMENTS 2019

Following an investment by the National Clinical Programme, the Rotunda significantly expanded its Mental Health Team in 2019 to become Ireland's first complete Specialist Perinatal Mental Health Service. The team was grateful and excited to welcome six additional clinical staff during 2019, Dr. Duffy, Dr. Chinu, Dr. Doyle, Ms. Daly, Ms. O'Neill, and Ms. Fobo. The new team administrator, Ms. O'Leary, has been instrumental in enhancing the time that can be dedicated to clinical care. Accommodation for the expanded team was provided within the Rotunda, which allowed the SPMHS to greatly increase the therapeutic services provided.

The mental health midwives, in collaboration with Better Finglas, TUSLA and the HSE, developed a Postnatal Depression Group and

ran a pilot confirming the efficacy of this service in Finglas. This was highly successful and future courses are planned.

Ms. Nagle commenced training as an ANP in the area of birth trauma under the supervision of Consultant Obstetrician, Dr. Sharon Cooley, and consultant psychiatrist, Dr. Richard Duffy. To compliment this Ms. Nagle also commenced a cognitive behavioural therapy (CBT) diploma. A grant was also secured to develop this service.

### EDUCATION AND TRAINING

The SPMHS team is very proud of Louise Rafferty and Jeanne Masterson who both completed Masters in 2019. Biannual workshops in perinatal mental health for Rotunda staff were held with good attendance from many different disciplines. Regular teaching sessions with undergraduate and postgraduate midwifery students were conducted. The team also delivered teaching at a wide range of events including Dundalk Institute of Technology's Perinatal Mental Health Diploma, the Institute of Community Health Nursing Conference 2019, a Rotunda Hospital Hot Topics Evening for Public Health Nurses, Specialist Perinatal Mental Health National Training, Trinity Health and Education International Research Conference 2019 (THEconf2019), the Rotunda Hospital Open Day and multiple events run by Aware.

### RESEARCH

Ms. Nagle commenced a longitudinal retrospective study of self-reported prevalence of traumatic birth. Dr. Firdous Murad has done an excellent job in collecting data on neonatal adaptation and mother-infant bonding. Dr. Ana Maria Clark received ethical approval for her project relating to SSRIs in collaboration with the Pharmacy Department. Ms. Rafferty's Masters thesis examined the prevalence of anxiety in the perinatal period and Ms. Masterson's thesis examined midwives' experience of discussing mental illness. An audit of DNAs to midwife-led clinics was also conducted.

### CHALLENGES IN 2019

The main challenges related to ensuring that the new expanded Mental Health Team runs smoothly and that specialist services can be developed. Challenges also exist in relation to the adequacy of hospital accommodation, which it is hoped will be addressed with additional community-based services and projects.

The team is also very keen to maintain and enhance the ties with the Mental Health Midwives working in the other RCSI Hospitals Group hospitals in Drogheda and Cavan.

### PLANS FOR 2020

The team aims to develop a collaborative trauma clinic for women who experience birth trauma and PTSD.

The team's website will be further enhanced so that more people will be able to access high-quality information about perinatal mental health. The team hopes to build on the very positive engagement that has been developed with members of the travelling community and refine services to better meet the needs of this community.

## NEXT BIRTH AFTER CAESAREAN SERVICE

### HEAD OF SERVICE

**Prof. Sam Coulter-Smith**, Consultant Obstetrician Gynaecologist

### STAFF

**Ms. Denise Kildea**, Midwife

### SERVICE OVERVIEW

The Next Birth After Caesarean (NBAC) Service is a midwifery-provided service and has been running for four years. It was set up to encourage and support women identified at their booking visit who had had a previous caesarean delivery and, where appropriate, to consider an attempt at vaginal birth after caesarean (VBAC).

Women with one previous lower segment caesarean section and who are otherwise considered to be 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/m<sup>2</sup>
- 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 2019, 111 women were identified as potential candidates for the clinic and received support visits from the team. This represented a decrease from 141 cases in 2018 and 188 in 2017.

A total of 33 patients (30%) returned to hospital-based care due to either maternal request or obstetric factors complicating their pregnancy, thereby preventing them from continuing with a VBAC attempt. 6 (5%) patients were identified with gestational diabetes and reverted to hospital care, which was a decrease from 9% the previous year, and 3 patients moved abroad. The remaining 75 (68%) patients continued with the NBAC Service for the duration of their pregnancy, which compares well with the 66% continuation rate in 2018.

### DELIVERY OUTCOME

Successful VBAC	24 (32%) down from 40% in 2018
Spontaneous vaginal delivery	11 (15%) down from 27% in 2018
Operative vaginal delivery	13 (17%) up from 12% in 2018
Emergency LSCS	13 (17%) up from 15% in 2018
Planned LSCS	38 (51%) up from 45% in 2018

Amongst the 38 patients who had a planned caesarean delivery, 31 patients (41%) chose to have a LSCS before their due date and so not to proceed with a trial of VBAC, which was up by 3% on 2018 and continued the trend seen in previous years. The remaining 7 patients (9%) had a LSCS at 41 weeks' gestation, which was similar to the 8% rate seen in 2018. 13 patients (17%) had an emergency LSCS during labour while undergoing a trial of VBAC.

There was a further reduction in the numbers of women attending the clinic this year which was disappointing. It is possible that this reduction was due to a reduced awareness of the service and steps have been taken to rectify this.

While the overall successful VBAC rate of 32% fell slightly and the emergency caesarean delivery rate of 17% increased slightly compared with 2018, neither is significant.

### CHALLENGES IN 2019

The number of women having initially expressed an interest in attempting VBAC and then changing their minds has increased, which has triggered further analyses on the part of the NBAC Service to evaluate what may be influencing this change of heart.

The MN-CMS electronic healthcare record and the lack of a paper record creates additional challenges to accurately assess the narrative and the circumstances of the patient's previous LSCS, which remains an ongoing clinical issue. The MN-CMS electronic healthcare record is not as intuitive at communicating risk issues as the reasons why a caesarean was performed are sometimes not recorded well in the electronic record.

### PLANS FOR 2020

Additional communication steps will be implemented to ensure that all women with one prior caesarean delivery are aware of the potential option of availing of the NBAC Service, as well as ensuring that those who initially sign-up for the service are supported to the maximum extent to optimise the rate of successful VBAC.

# LABOUR AND DELIVERY

## HEAD OF SERVICE

**Prof. Michael Geary**, Consultant Obstetrician Gynaecologist

## STAFF\*

**Ms. Fiona Walsh**, Clinical Midwife Manager

(\*together with a dedicated team of midwives, midwifery care assistants, administrative assistants, non-consultant hospital doctors and consultants)

## SERVICE OVERVIEW

2019 was the 274th year of unbroken service provided by the hospital for women in labour. It was another very busy year for the hospital with 8,262 women delivering 8,410 babies. This represented only a 1% decrease in delivery activity compared to 2018. Given the significant decline in birth rates nationally, as reflected by sharp decreases in delivery volume at other maternity units, the effective maintenance of our delivery volume reflects the population growth in our catchment area as well as expressed patient preferences for services at the Rotunda. The Labour and Delivery Unit is the key clinical area of any maternity hospital, and in the case of the Rotunda, approximately 85% of all patients will pass through this unit for care, with the other 15% having an elective caesarean section. With such continued pressure on our services, 2019 was another challenging year – some days had as many as 40 patients delivering in a single 24 hour period.

With another year of usage of the MN-CMS electronic healthcare record, following its implementation in 2017, it was notable that staff demonstrated greater experience and confidence in the system. All delivery outcomes for both mothers and babies, as well as rates of inductions, operative vaginal delivery and caesarean section, are continuously monitored. During 2019, a rigorous approach to audit was continued, which has a beneficial influence on caesarean section rates in particular.

The headline Labour and Delivery performance rates for 2019 were:

▪ Induction of labour	35%
▪ Spontaneous vaginal delivery	49%
▪ Operative vaginal delivery	16%
▪ Caesarean delivery	35%

## INDUCTION OF LABOUR

The induction of labour rate for 2019 was 35%, which was broadly similar to the rate for 2018 (Table 1). There has been a slight increase in the induction rate over the last number of years which is almost certainly a response to recently published Grade A evidence in the obstetric literature around optimal care at the end of pregnancy. The ARRIVE trial from the US was published in 2018 and demonstrated significantly lower caesarean delivery rates and a trend towards safer outcomes for babies if induction of labour was performed in first time mothers in the 39th week rather than waiting until later in pregnancy. The SWEPSIS (Swedish Post-term Induction) Study was published in 2019 and demonstrated significantly fewer stillbirths when pregnancies were induced at 41 instead of 42

weeks' gestation. Further data from trials on women of advanced maternal age, and those with hypertension have also shown clearly that induction of labour per se does not increase caesarean section rates. Moreover, we are also seeing more women requesting induction of labour based on their own knowledge acquired from social media and their own review of the literature. For all of these reasons it is not surprising that rates of induction of labour will continue to increase, which will certainly pose a challenge on how to operationalise this demand in a safe way. For the Rotunda, this will manifest itself in particular with challenges for midwifery staffing numbers and for bed capacity on the Prenatal Ward and Labour and Delivery Suite. Ongoing research is being conducted at the Rotunda on how to achieve this goal.

The indications for induction of labour are presented in Table 2. The four main reasons for induction include fetal, maternal, postdates and prolonged rupture of membranes. There has been an increase in the number of inductions for fetal, maternal and prolonged rupture of membranes, whereas there has been a reduction in the number of inductions for postdates. In the 2018 Annual Report the potential role of using the Propess prostaglandin administration system on an outpatient basis was highlighted. During 2019, attempts were made to continue to increase the number of women availing of this outpatient induction service. Initially, outpatient induction was confined solely to normal-risk, healthy, nulliparous women at 41 5/7 weeks' gestation (Term plus 12). Given our growing experience and confidence with this new service, we have now expanded the indications for outpatient induction to all other normal-risk cases, irrespective of the specific term gestational age.

Another significant challenge for optimising induction of labour care pathways in 2019 has been the commencement of significant building works affecting the Labour and Delivery Suite, thereby putting further pressure on an already limited infrastructure. In response to this, it is hoped to further increase the outpatient approach to induction of labour for as many normal-risk patients as possible. Our experience to date is that for women who live within 30 minutes drive of the hospital, that patients are more relaxed in their own home environment while the induction of labour process is commencing. The vast majority of such patients will go home within a couple of hours of their initial hospital assessment and Propess administration, following which they receive a follow-up telephone call approximately 12 hours later from a midwife to ensure that all is well. Patients then return after 24 hours at home to continue the induction process as an inpatient, usually by means of amniotomy. Many of these patients will however progress into labour prior to the 24 hour hospital re-assessment time and, following review of outcome data for these cases, there have been no safety concerns or issues. Feedback from patients is very positive and we will continue to expand this service in the coming year.

## CAESAREAN DELIVERY

The overall caesarean delivery rate at the Rotunda for 2019 was 35%, which is broadly similar to the 34% rate in 2018 and 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. From the Rotunda's perspective, the most important obstetric metric remains safe outcomes for both mothers and babies, with the caesarean delivery rate being considered a secondary measure. In 2019, the corrected perinatal mortality rate was 4.1 per 1,000 births which objectively confirms our continued excellent standards of obstetric and neonatal care, while being low in comparison to accepted international standards.

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. We have continued to work with the new classification system for indications for caesarean delivery as reflected by a nationally agreed set of indications for caesarean section based on the new MN-CMS electronic healthcare record. There were no significant differences in 2019 compared to 2018 in terms of indications for caesarean delivery. However, there was a slight decrease in caesarean delivery for post-dates and for inefficient uterine action with an over-contractile response to oxytocin, which may represent more cautious use of oxytocin. This was also accompanied by an increase in the number of caesarean deliveries performed for inefficient uterine action with fetal intolerance to oxytocin, inefficient uterine action with poor response to oxytocin, and also inefficient uterine action in the setting of oxytocin not being utilised at all. These changes may represent more cautious use of oxytocin in the setting of a suspicious fetal heart rate tracing, and is likely a welcome and expected approach given the recognised concern with oxytocin use and adverse fetal outcomes.

The Robson Ten Group classification system has been in use at the Rotunda since 2002. This classification system allows for a critical evaluation of the indications for caesarean section, and enables improved inter-hospital comparisons, albeit given the limitations of differences in hospital populations. Indications for each caesarean delivery are subjected to peer-review on a weekly and monthly basis throughout the year. This approach allows 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's Ten Group classification system, are described in Table 5. More recently at the Rotunda, a particular focus on audit of Group 1 has been implemented, which refers to nulliparous patients with a singleton pregnancy and a cephalic presentation, with spontaneous onset of labour, at term. This rate had risen in 2016 to 17%, but through education and audit, the rate has now stabilised at 13%-14% for the last number of years. A slight fall the Group 2 caesarean delivery rate has been noted in 2019, which refers to the singleton cephalic patient at term who underwent induction of labour. This fell from 35% to 32%. The Group 5 caesarean delivery rate (singleton cephalic at term but with a previous caesarean) increased from 79% to 85%, likely representing a decreased preference for VBAC amongst some patients and their providers. There was a slight increase in the caesarean section rate in Group 8 (all multiple pregnancies) from 68% to 72%, and a slight

decrease in Group 10 (all preterm singleton cephalic pregnancies) from 48% to 43%. All other groups remained stable compared to the previous 12 months.

The Next Birth After Caesarean Section (NBAC) Clinic continues to work well. As part of a quality improvement project in 2019, a standardised information leaflet was provided at the booking visit to all patients who had one previous caesarean delivery. For those patients who did not attend the NBAC Clinic, a policy was implemented whereby all such patients were to be formally reviewed by a consultant obstetrician at the 28 week antenatal visit, to ensure that all such patients had the opportunity to discuss the pros and cons of a trial of labour after caesarean (TOLAC) versus repeat caesarean section. For those who expressed preference for TOLAC, the information leaflet is signed and uploaded to the MN-CMS electronic healthcare record, thereby confirming that all patients are documented as having made a fully informed decision as to their preferred care pathway. We are in the process of auditing this particular change in practice.

#### OPERATIVE VAGINAL DELIVERY

The operative vaginal delivery rate for 2019 was 16%. This rate has been very stable over the last five years. The vacuum delivery rate was 10%, the forceps rate was 5% and the use of sequential instruments (typically attempted vacuum followed by forceps) was 1%, which reflects the established practice amongst many obstetricians for many years of favouring the vacuum instrument. At the Rotunda, the most common vacuum instrument utilised is the Kiwi OmniCup disposable instrument. The main focus as a quality improvement project during 2019 for the performance of operative vaginal delivery has been to ensure optimal 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 and Delivery Suite (Monday to Friday 08.00–16.00) continues to be a very positive development for the hospital. The key concept with this policy is to ensure that an identifiable consultant obstetrician is freed up from all other duties during this time supervising the Labour and Delivery Suite, and the same consultant remains in place throughout the day, thereby minimising the number of patient hand-over rounds required. This has assisted in optimising the degree of senior supervision of obstetric trainees. The hospital introduced a practical and pragmatic guideline on operative vaginal delivery in 2018, which has been shared with other hospitals within the RCSI Hospitals Group. The purpose of this guideline is to provide direction to trainees with a view to leading to safer outcome for mothers and babies, with focus on optimising choice of instrument, number of tractions and guidance on when to abandon an operative vaginal delivery attempt. We will continue to audit the use of sequential operative vaginal delivery instruments (vacuum followed by forceps) as it has been well established that this can be associated with greater morbidity both for mother and baby. Ultimately the goal is to minimise the use of sequential instruments. This delivery pathway will be reviewed



again in 2020 once the expected RCOG updated Operative Vaginal Delivery guideline becomes available.

### PLANS FOR 2020

The renovation of the entire Labour and Delivery Suite was commenced during 2019, and will likely be completed in 2020. This will result in the provision of a dedicated fit-for-purpose operating theatre for the Labour and Delivery Suite, which will represent a significant safety improvement compared with the existing operating theatre. It is envisaged that the upgrading of the Labour and Delivery Suite rooms will take place during 2020 also. All nine delivery rooms will be upgraded and refurbished. The Executive Management Team is looking at the possibility of developing two additional labour and delivery rooms during 2020, to provide a total of 11 delivery rooms, which should significantly improve our service given our persistently high delivery volume. The building works will also include a new meeting room space on the Labour and Delivery Suite which will further improve the quality of hand-over rounds, leading to greater multi-disciplinary involvement and further opportunities for teaching. It will also provide a dedicated space on the Labour and Delivery Suite for the supervising consultant obstetrician, thereby further increasing the unit's safety culture.

Fetal monitoring during labour remains a challenge for all labour and delivery units worldwide. During 2018 we achieved our ambition of 100% compliance for all midwives and doctors with the K2 CTG education training tool. This high compliance rate was maintained during 2019. A weekly caesarean delivery review and education meeting continued throughout 2019 with a specific focus on reviewing challenging fetal monitoring cases and the difficulties associated with CTG interpretation. This provides a valuable forum to discuss fetal monitoring and also provides other educational opportunities around management of women and fetuses in labour. It is expected that this CTG educational meeting will continue throughout 2020, and will be facilitated by the development of a dedicated teaching space on the renovated Labour and Delivery Suite.

As part of a further quality improvement project, the Rotunda introduced a new safety measure with respect to delivery of oxytocin infusions during 2019. This involved a single standardised concentration of oxytocin for all indications, visually distinct infusion containers and smart pump technology with dosing limits. Undoubtedly this has made a difference to the safe infusion of oxytocin to women in labour. Future plans for 2020 involve having the pumps integrated with the MN-CMS electronic healthcare record to ensure oxytocin infusion rates are always infusing at the appropriate level. It is planned to audit this new service in 2020.

The excellent care provided by all of the team involved in labour and delivery for so many women and babies during 2019 is as always, greatly appreciated.

TABLE 1: INDUCTION OF LABOUR

Year	2015	2016	2017	2018	2019
Total Number of Inductions	2,430	2,464	2,509	2,610	2,893
Induction rate expressed from total deliveries	29%	29%	31%	36%	35%
Number of caesarean deliveries following induction	547	568	570	584	630
Caesarean delivery rate following induction	23%	23%	23%	22%	22%

TABLE 2: INDICATIONS FOR INDUCTION

Reasons	2018		2019	
	Total	%	Total	%
Fetal	585	22%	828	29%
Maternal	535	20%	758	26%
Prolonged Rupture of Membranes	352	13%	651	23%
Post Dates	434	17%	436	15%
Preeclampsia / Hypertension	172	7%	195	7%
No Medical Indication	20	1%	25	1%
Other	512	20%	0	0%
<b>Total</b>	<b>2,610</b>		<b>2,893</b>	

TABLE 3: CAESAREAN DELIVERY

	2017	2018	2019
Total caesarean section	2,796	2,820	2,884
Incidence versus total mothers delivered >500g	34%	34%	35%
Primary caesarean section	58%	57%	57%
Repeat caesarean section	42%	43%	44%
Classical caesarean section	5	19	2
Tubal ligation at caesarean section	105	166	189
Caesarean hysterectomy	12	8	2

TABLE 6: OPERATIVE VAGINAL DELIVERY RATE

Year	2015	2016	2017	2018	2019
Forceps	3%	4%	4%	4%	5%
Vacuum	12%	10%	11%	11%	10%
Sequential	2%	1%	1%	1%	1%
<b>Total</b>	<b>17%</b>	<b>15%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>

TABLE 4: INDICATION FOR CAESAREAN DELIVERY

	2018			2019		
	Primary	Repeat	Total	Primary	Repeat	Total
Previous caesarean delivery	0	943	943	0	969	969
Fetal indication	621	143	764	548	100	648
Inefficient uterine action - fetal intolerance	230	10	240	308	20	328
Maternal medical reason	274	53	327	247	53	300
Inefficient uterine action - poor response to oxytocin	187	11	198	255	15	270
Efficient uterine action - persistent malposition	103	3	106	93	5	98
Non medical reason / maternal request	61	6	67	74	8	82
Preeclampsia / Hypertension	42	19	61	35	20	55
Inefficient uterine action - no oxytocin given	13	10	23	26	46	72
Efficient uterine action - cephalopelvic disproportion	21	1	22	24	4	28
Prolonged rupture of membranes	18	20	38	11	13	24
Inefficient uterine action - over contracting	16	3	19	5	1	6
Post dates	11	1	12	4	0	4
<b>Totals</b>	<b>1,597</b>	<b>1,223</b>	<b>2,820</b>	<b>1,630</b>	<b>1,254</b>	<b>2,884</b>

**TABLE 5: TRENDS IN CAESAREAN DELIVERY RATES (2014-2018) - ROBSON TEN GROUP ANALYSIS**

	2015	2016	2017	2018	2019
All Deliveries	8,361	8,405	8,226	8,359	8,262
All Caesarean Sections	2,696	2,904	2,904	2,820	2,884
Section Rate	32%	35%	35%	34%	35%
Group 1 - Nulliparous Singleton Cephalic Term Spontaneous Labour	190/1,597	269/1,554	226/1,504	201/1,541	185/1,334
Section Rate	12%	17%	15%	13%	14%
Group 2 - Nulliparous Singleton Term Cephalic Induced Labour	414/1,234	447/122	451/1,337	469/1,349	500/1,573
Section Rate	34%	37%	34%	35%	32%
Group 2a - Nulliparous Singleton Cephalic Term CS Before Labour	231	242	259	291	295
Group 3 - Multiparous Singleton Cephalic Term Spontaneous Labour	36/1,963	49/1,963	35/1,840	25/1,773	25/1,636
Section Rate	2%	3%	2%	1%	2%
Group 4 - Multiparous Singleton Cephalic Term Induced Labour	88/1,046	80/1,098	73/1,017	60/1,078	74/1,146
Section Rate	8%	7%	7%	6%	7%
Group 4a - Multiparous Singleton Cephalic Term CS before Labour	169	144	124	123	110
Group 5 - Previous Section Singleton Cephalic Term	965/1,220	1026/1,247	1026/1,261	996/1,261	1073/1,267
Section Rate	79%	82%	81%	79%	85%
Group 6 - All Nulliparous Breech	174/182	161/169	157/167	176/180	181/186
Section Rate	96%	95%	94%	98%	97%
Group 7 - All Multiparous Breech	132/141	158/169	143/152	145/157	141/150
Section Rate	94%	93%	94%	92%	94%
Group 8 - All Multiple Pregnancies	113/169	128/179	117/182	104/152	104/145
Section Rate	67%	72%	64%	68%	72%
Group 9 - All Abnormal Lie	18/18	19/19	18/18	21/21	28/28
Section Rate	100%	100%	100%	100%	100%
Group 10 - All Preterm Singleton Cephalic	167/392	181/399	167/365	209/433	168/392
Section Rate	43%	45%	46%	48%	43%
Elective Caesarean Section Total	1,364	1,430	1,417	1,435	1,455
Emergency Caesarean Section Total	1,332	1,474	1,379	1,385	1,429
Total Multiparous Patients	3,514	3,441	4,674	4,747	4,655
Total Nulliparous Patients	4,847	4,964	3,552	3,612	3,607

# ANAESTHESIOLOGY SERVICE

## HEAD OF SERVICE

**Dr. Niamh Hayes**, Director of Anaesthesiology

## STAFF

**Dr. Mary Bowen**, Consultant Anaesthesiologist  
**Dr. Anne Doherty**, Consultant Anaesthesiologist  
**Dr. John Loughrey**, Consultant Anaesthesiologist  
**Prof. Conan Mc Caul**, Consultant Anaesthesiologist  
**Dr. Caitriona Murphy**, Consultant Anaesthesiologist  
**Dr. Ciara Jean Murphy**, Consultant Anaesthesiologist  
**Dr. Roisin Ni Mhuircheartaigh**, Consultant Anaesthesiologist  
**Dr. Doireann O'Flaherty**, Consultant Anaesthesiologist  
**Dr. Patrick Thornton**, Consultant Anaesthesiologist

## SERVICE OVERVIEW

The Anaesthesiology Service provided care to over 2,800 patients for caesarean section, neuraxial block for almost 4,000 labouring mothers, and anaesthesia for more than 2,500 gynaecology procedures in the operating theatres in 2019. In addition, 1,200 patients were seen in specialist anaesthetic clinics during the calendar year.

## 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 (CSE) neuraxial techniques, as well as patient-controlled epidural pumps which provide individualised analgesic dosing for patients. In 2019, the service introduced a state-of-the-art Programmed Intermittent Epidural Bolus (PIEB) pump technology for delivery of epidural medication in labour. This technique is associated with higher patient satisfaction and lower anaesthetic agent dosing when compared with traditional pump regimes. An audit of obstetric outcomes with epidural anaesthesia since the introduction of PIEB will be published in 2020.

Intravenous remifentanyl analgesia is available as an alternative pain relief in selected cases where epidural options are unsuitable. This analgesic option is supervised by both anaesthesiology and midwifery staff, and offers improved analgesia compared with traditional patient-administered inhalational anaesthesia using nitrous oxide (Entonox).

There is immediate anaesthesiology support for elective and emergency care for operative obstetrics and gynaecology, as well as critical care and resuscitation on a 24/7 basis. The Anaesthesiology Service also provides relevant anaesthesia for invasive fetal medicine procedures in the operating theatres.

## OBSTETRICS

### NEURAXIAL ANALGESIA IN LABOUR

A total of 3,956 patients received neuraxial blockade for labour analgesia in 2019, with the majority of these being epidural (76%) and overall represented a 5% increased level of activity compared to 3,763 procedures in 2018. The proportion of first-time mothers

receiving epidural analgesia in labour has increased to 80%, while there has been a small decrease in the uptake of neuraxial blockade for multiparae (46%). A total of 962 (24%) neuraxial blocks in labour were combined spinal-epidurals (CSEs), administered either as a de novo technique or for rescue of failed epidural analgesia. This represents a substantial increase in the use of this technique over previous reports.

**TABLE 1: NEURAXIAL ANALGESIA IN LABOUR**

Nulliparous	2,451 (80% of labouring nulliparae)
Multiparous	1,505 (46% of labouring multiparae)
<b>Total</b>	<b>3,956</b>

Intravenous remifentanyl patient controlled analgesia (PCA) as an alternative to neuraxial blockade was used in 27% of cases, representing a slight decrease compared with 2018.

### POST DURAL PUNCTURE HEADACHE (PDPH)

Accidental dural puncture leading to headache (PDPH) was reported in 38 patients following labour epidural, substantially less than the 53 cases noted in 2018. This represents an incidence of less than 1%, which compares very favourably with international reports of this complication in major obstetric hospitals. Only one PDPH occurred following a CSE, and that case did not need treatment with a blood patch. Overall, 48% of cases of PDPH associated with epidural anaesthesia needed treatment with a blood patch. An additional 31 patients had PDPH following spinal anaesthesia, but only 13% of these needed blood patch treatment. Many of these complications were identified by midwifery staff on the postnatal wards or at home following discharge, rather than routine screening for post-operative neuraxial cases undertaken by anaesthesiology staff. In 2019, new guidelines were published by the Obstetric Anaesthetist's Association (OAA) relating to the management of PDPH. Internal audit was completed by the Anaesthesiology Service to identify any gaps in care between this new guideline, and measures have been put in place to ensure full compliance. Standardised patient information, communication with GPs and longer term follow up are planned for 2020.

### ANAESTHESIA FOR CAESAREAN DELIVERY

The vast majority of patients had a neuraxial technique for caesarean section, allowing mothers to be awake for the delivery of the baby. Only 1% of elective caesarean deliveries had planned general anaesthesia (GA) placed de novo, or needed to be converted to GA for failed neuraxial block. A total of 5% of emergency caesarean deliveries had GA performed de novo (reflecting the urgency of delivery), and 7% were converted to GA (reflecting the relative unreliability of epidural top-up compared to spinal anaesthesia in the emergency setting), giving a total of 12%. These proportions for both elective and emergency caesarean deliveries fall within the suggested audit standard of having a less than 5% GA rate for elective (category 4) caesareans, and less than 15% for urgent/emergent (category 1 – 3) CS (Table 2).



TABLE 2: ANAESTHESIA FOR CAESAREAN DELIVERY

	Elective	%	Emergency	%
Spinal	1,385	95%	672	47%
General	16	1%	74	5%
Epidural	4	< 1%	560	39%
Combined Spinal Epidural (CSE)	36	2%	30	2%
General/Spinal/Epidural*	14	1%	93	7%
<b>Total</b>	<b>1,455</b>		<b>1,429</b>	

\*Some patients had failure of the primary neuraxial technique resulting in an alternative neuraxial block or general anaesthesia (GA) conversion

### OUTPATIENT OBSTETRIC CLINICS

More than 600 patients were reviewed in the Obstetric High Risk Anaesthesiology Clinic during 2019, with the vast majority (98%) of cases being new visits. Additionally, members of the Anaesthesiology Service participate in the assessment and care-planning of patients attending the Maternal Multidisciplinary Team meetings to address their specific anaesthetic needs. A Specialist Cardiac Anaesthesiology Clinic is run both on-site at the Rotunda and in conjunction with our cardiology colleagues at the Mater Misericordiae University Hospital, to serve the needs of this vulnerable population. A total of 92 cardiac patients were assessed in this clinic in 2019, representing 7% of the high risk clinic workload.

### GYNAECOLOGY

More than 2,500 gynaecology procedures, requiring anaesthesia, were carried out in the operating theatres during 2019. Gynaecology pre-assessment anaesthesia clinic efficiencies continue to evolve under the direction of Dr. Patrick Thornton, with nurse-led clinics taking responsibility for the pre-assessment of 189 gynaecology patients during 2019.

### ACHIEVEMENTS IN 2019

#### EPIDURAL PUMP TECHNOLOGY

Improved patient satisfaction and reduced local anaesthetic dosing are associated with programmed intermittent epidural bolus (PIEB) dosing of epidural medication. New smart pumps facilitated the integration of this technique with the option of additional patient-controlled boluses in 2019. A review of anaesthetic, obstetric and neonatal outcomes from the use of this technology is ongoing through 2019 and will be published in 2020. Dr. Anne Doherty has led this quality improvement and assessment of same.

#### OXYTOCIN MEDICATION SAFETY BUNDLE

Because of concerns relating to medication safety, peripartum fluid management and optimal evidence-based approach to postpartum haemorrhage treatment, a new oxytocin medication safety bundle was devised by a multi-professional group led by Consultant Anaesthesiologist Dr. Caitriona Murphy. This bundle focused on standardisation of drug concentration for all oxytocin indications (labour and postpartum haemorrhage), visually distinct infusions,

smart pump technology and pre-built orders in the MN-CMS electronic healthcare record. This was rolled out in early 2019. A clinical practice review of maternal haemorrhage is ongoing to assess the efficacy and safety of the new regime, and it is hoped to extend it across all maternity units in the RCSI Hospitals Group in the near future. Dr. Caitriona Murphy was awarded an MSc in Quality and Safety in Healthcare (RCSI) on the basis of this project.

### EDUCATION, RESEARCH AND TRAINING

The Anaesthesiology Service continues to provide education and training for RCSI senior cycle medical students in obstetric anaesthesia with lecture-based and bedside clinical teaching in anaesthesia, labour analgesia and pain management. There is also an active teaching programme for postgraduate anaesthesiology for the College of Anaesthesiology trainees, up to and including fellowship level. Fellows are encouraged to participate in the care of complex co-morbid and cardiac patients both in the Rotunda Hospital and Mater Misericordiae University Hospital (MMUH). Fellows also formally train in trans-thoracic echocardiography in the Department of Intensive Care Medicine at MMUH. Onsite practical echocardiography/point of care ultrasound is a feature of the training programme for all trainees. Dr. Patrick Thornton coordinates teaching as the College Tutor.

Members of the Anaesthesiology Service are involved in advanced airway teaching and high-fidelity simulation training in the College of Anaesthesiologists in Ireland (CAI) and RCSI. They also contribute as examiners for both membership and fellowship examinations in the CAI. Dr. Niamh Hayes serves on the council of CAI and chairs the Education Committee. The Anaesthesiology Service research programme is diverse and members work in collaboration with RCSI, UCD, TCD and DCU. The research provides the basis for a number of higher degrees in Medicine and Midwifery. In addition to peer-reviewed publications in International journals, researchers under the supervision of Prof. Conan McCaul were awarded first prize in the basic sciences category of the world airway management meeting in 2019 in the Netherlands. Members of the Anaesthesiology Service represented the Rotunda as invited speakers at national and international meetings in obstetric anaesthesia and advanced airway management.

### PLANS FOR 2020

#### ENHANCED RECOVERY AFTER CAESAREAN (ERAC)

The goal of ERAC is to provide women with evidence-based, patient-centred care using a standardised, multidisciplinary approach that optimises their recovery from caesarean delivery and offers the best possible maternal and newborn outcomes. Elements of this process include maintenance of perioperative nutrition and hydration, nausea and vomiting prevention, optimal analgesia, thromboembolism prophylaxis and early mobilisation. A number of clinical practice reviews to establish a gap analysis and plan for ERAC implementation will be ready for implementation in 2020, led by Dr. Doireann O'Flaherty. A substantial multi-professional collaboration will be required to establish this focused care process in 2020.

## CRITICAL CARE SERVICE

### HEAD OF SERVICE

Dr. Mary Bowen, Consultant Anaesthesiologist

### SERVICE OVERVIEW

The High Dependency Unit (HDU) provides Level-2 critical care for both obstetric and gynaecology patients on site at the Rotunda Hospital. It is a dedicated two-bedded facility providing high intensity nursing support and medical care for the sickest patients at the Rotunda, with most forms of supportive critical care (with the exception of mechanical ventilation) being available. A multidisciplinary approach, including obstetrics-gynaecology, anaesthesiology and nursing support, is provided, supplemented as needed by external specialist consultants. The unit receives tremendous support from the Department of Intensive Care Medicine at the Mater Misericordiae University Hospital (MMUH), who regularly facilitate access to Level-3 intensive care beds when onward transfer to an adult general hospital is deemed necessary. Additional support is provided by the Department of Intensive Care Medicine at Beaumont Hospital, typically when neurosurgical critical care is needed. The Rotunda HDU also acts as a step-down unit for patients returning from external intensive care units. There were 269 admissions to the Rotunda HDU in 2019, 258 being obstetric patients and 11 gynaecology. This represents a 29% increase in the demand for this service compared with 2018.

### CLINICAL ACTIVITY

TABLE 1: HDU CLINICAL ACTIVITY

	2015	2016	2017	2018	2019
Obstetric	245	217	250	199	258
Gynaecology	19	10	10	1	11
<b>Total</b>	<b>264</b>	<b>227</b>	<b>260</b>	<b>200</b>	<b>269</b>

Table 2 summarises obstetric admissions to the HDU in 2019. While many patients will have had more than one admission diagnosis, in the table only the primary admission diagnosis is listed.

TABLE 2: OBSTETRICS CASES REQUIRING HDU ADMISSION 2019

Obstetric	Number	Overall %
Haemorrhage	115	45%
Pre-eclampsia/HELLP	68	26%
Sepsis	37	14%
Cardiac	16	6%
Confirmed or suspected Pulmonary embolism	6	2%
Other	16	6%

TABLE 3: MISCELLANEOUS CATEGORIES OF OBSTETRIC HDU ADMISSION 2019

Obstetric miscellaneous categories:
High spinal
Acute Fatty Liver of Pregnancy
SVC obstruction
Opioid drug error
Surgical injury at Caesarean delivery
Amniotic Fluid Embolism
Splenic rupture
Diabetes Insipidus
Friedrich's ataxia
Sleep apnoea/CPAP dependency
Moebius syndrome
Narcolepsy/Cataplexy
Myasthenia gravis
Post-lung transplant

Transfers of obstetric patients between partner critical care units are listed in Table 4. Of note, the majority of transfers to the Mater Misericordiae University Hospital (MMUH) were for major obstetric haemorrhage. There was one case of coronary artery dissection and one transfer for pulmonary embolus with cardiomyopathy. One patient was transferred for Acute Fatty Liver of Pregnancy.

TABLE 4: INTER-HOSPITAL TRANSFERS OF HDU PATIENTS TO AND FROM ROTUNDA

Inter-Hospital Transfers Rotunda HDU	22
To MMUH	11
To St Vincent's University Hospital	1
From MMUH	7
From Beaumont Hospital	1
From Connolly Hospital	1
From Wexford General Hospital	1

Table 5 summarises the cardiac diagnoses required for HDU admission:

TABLE 5: CARDIAC DIAGNOSES REQUIRED FOR HDU ADMISSION:

Cardiac Admissions	9
Aortic Stenosis	2
Transposition of Great Arteries	2
Marfan syndrome with History of Aortic Arch Repair	1
Tachyarrhythmia	3
Tetralogy of Fallot with BT Shunt	1

In addition to obstetric HDU admissions, the reasons for admission of gynaecology patients to the HDU including surgical haemorrhage, sepsis, venous thromboembolism, post-operative delirium, and observation following unanticipated long duration of a surgical procedure.

**TABLE 6: NUMBER OF INVASIVE MONITORING LINES USED AT THE ROTUNDA HDU**

Invasive Monitoring Lines	2018	2019
Arterial line	53	70
Central venous line	8	9
<b>Total</b>	<b>61</b>	<b>79</b>

### CHALLENGES IN 2019

The increasing complexity of patients presenting to the HDU is an ongoing challenge.

The limited physical infrastructure of the rooms with no individual bathrooms is of ongoing concern. This, in conjunction with its close proximity to a busy access corridor present extreme limiting factors in infection control.

We aspire to a much improved structure for our HDU in the proposed new building.

We also look forward to the appointment of Dr. Maria Kennelly as a Specialist in OBGYN – Critical Care in 2020. She will have a joint appointment with the Mater Misericordiae University Hospital and this should further enhance the two hospitals' strong clinical links.







# MATERNAL MORBIDITY

## HEAD OF SERVICE

**Dr. Sharon Cooley**, Consultant Obstetrician Gynaecologist

## STAFF

**Prof. Michael Geary**, Consultant Obstetrician Gynaecologist

**Dr. Niamh Hayes**, Consultant Anaesthesiologist

**Dr. Maria Kennelly**, Consultant Obstetrician Gynaecologist

**Dr. Claire McCarthy**, Assistant Master

**Dr. Khadeeja el Nasser**, Maternal Medicine Fellow

**Dr. Vanitha Zusthi**, Associate Specialist, Anaesthesiologist

**Ms. Kathy Conway**, Clinical Reporting Unit

**Ms. Ruth Ritchie**, Information Technology Unit

**Ms. Catherine Finn**, Administrative Assistant

## SERVICE OVERVIEW

Operating as the oldest maternity hospital in the world, the Rotunda Hospital remains committed to caring for women, their babies and families whilst providing the highest standards of care. While maternal mortality rates allow for comparison internationally, it is through examining maternal morbidities that we can create interventions in order to minimise mortality and protect mothers and babies in subsequent pregnancies. Thus, the Rotunda Hospital continues to provide detailed information on a wide range of major obstetric morbidities that are associated with adverse outcomes. Severe maternal morbidity continued to be prospectively monitored throughout 2019, and continues to use the classification system of the National Perinatal Epidemiology Centre (NPEC).

As always, the Rotunda is grateful for the hard work of the large multi-disciplinary team both in the Rotunda and in our sister adult general hospitals, for their care and dedication to the women who attend the Rotunda, as well as those involved in collecting and analysing the data allowing for this report to be generated.

## CLINICAL ACTIVITY

There were 258 obstetric admissions to the maternal High Dependency Unit (HDU) in 2019, with 73 major morbidity events meeting the NPEC reporting criteria in 59 individual women. These women required management of a range of medical and surgical conditions, as well as obstetric conditions. In addition to these patients meeting NPEC Severe Maternal Morbidity reporting criteria, there were an additional 12 women admitted to the HDU for management of maternal cardiac disease. Consistent with previous years, the most common indication for HDU admission was for postpartum haemorrhage (115 cases), although only 30 of these cases met the NPEC reporting criteria for major maternal morbidity (i.e. blood loss of more than 2.5 litres or requiring more than a 5 unit blood product transfusion).

The incidence of major maternal morbidity consistent with NPEC reporting criteria in 2019 was 0.9%. As demonstrated in Table 1 below, it is clear that this incidence has been static over the past 24 months.

TABLE 1:

	2014	2015	2016	2017	2018	2019
Number of mothers delivered	8,787	8,361	8,405	8,226	8,358	8,262
Number of patients with Major Morbidity	64	59	87	91	64	59
Number of Major Morbidity Events	81	73	102	109	85	73
Incidence of Major Morbidity	0.9%	0.9%	1.0%	1.3%	0.9%	0.9%

There were 22 obstetric patient transfers to and from the Rotunda Hospital in 2019, 15 of which were critical patient transfers involving complex multi-disciplinary care. The support of our sister hospitals, the Mater Misericordiae University Hospital and Connolly Hospital Blanchardstown, as well as other hospitals in the greater Dublin area in the provision of advanced medical and surgical care, as well as Level 4 critical care is greatly appreciated.

The mean maternal age of the 58 NPEC-reportable cases was 32.9 years, with a range of 18 to 43 years. Of these women, 3 were initially registered for antenatal care at another hospital and were transferred to the Rotunda Hospital for maternal critical care. This highlights the importance of close links between hospitals both within the RCSI Hospitals Group, but also nationally. Consistent with previous reports, the Body Mass Index was over 25.0kg/m<sup>2</sup>, consistent with a diagnosis of overweight, in 43% of women.

The rate of massive obstetric haemorrhage has remained stable at approximately 0.4% over the last number of years. There were three cases of uterine rupture in 2019, with all cases occurring in the setting of one previous caesarean delivery. One case occurred at 40 weeks' gestation in a patient who developed sudden abdominal pain in early labour. The second uterine rupture case occurred at 33 weeks' gestation when a patient developed a nonreassuring fetal cardiotocographic (CTG) tracing with a background of a Mullerian abnormality. The third uterine rupture case was only diagnosed during an emergency caesarean delivery for dystocia in the first stage of labour. All mothers and infants were discharged home well. None of these three cases of uterine rupture required hysterectomy, with the uterus being successfully repaired in all cases.

TABLE 2: MAJOR OBSTETRIC HAEMORRHAGE AND RELATED OPERATIVE EVENTS

	2014	2015	2016	2017	2018	2019
Massive Haemorrhage	30 (0.3%)	25 (0.3%)	34 (0.4%)	36 (0.4%)	26 (0.3%)	30 (0.4%)
Uterine Rupture	0 (0%)	4 (0.05%)	3 (0.03%)	1 (0.01%)	1 (0.01%)	3 (0.04%)
Peripartum Hysterectomy	0 (0%)	1 (0.01%)	9 (0.1%)	12 (0.1%)	6 (0.07%)	2 (0.02%)
Haemorrhage requiring interventional radiology	0	2 (0.02%)	1 (0.01%)	0	0	1 (0.01%)

Both peripartum hysterectomies in 2019 were performed for placenta accreta spectrum disorder, which represents a decrease on the peripartum hysterectomy rate seen in 2018. One patient required interventional radiology for the drainage of an abdominal collection three weeks following caesarean delivery. This was followed three days later by a repeat-laparotomy and evacuation of haematoma following deterioration in symptoms.

TABLE 3: END ORGAN DISEASE

	2014	2015	2016	2017	2018	2019
Renal/Liver dysfunction	14 (0.2%)	7 (0.1%)	25 (0.3%)	37 (0.5%)	19 (0.2%)	9 (0.1%)
Pulmonary Oedema/ Acute Respiratory Dysfunction	5 (0.1%)	2 (0.02%)	6 (0.1%)	2 (0.02%)	3 (0.04%)	5 (0.06%)
Pulmonary Embolism	1 (0.01%)	0 (0%)	0 (0%)	1 (0.01%)	0 (0%)	3 (0.04%)
Cardiac Arrest	2 (0.02%)	1 (0.01%)	0 (0%)	1 (0.01%)	0 (0%)	1 (0.01%)
Severe Sepsis	10 (0.1%)	11 (0.1%)	7 (0.1%)	10 (0.1%)	13 (0.2%)	5 (0.06%)
Other		13 (0.2%)	6 (0.1%)	3 (0.04%)	6 (0.07%)	1 (0.01%)

In 2019, there was a small increase in patients with acute respiratory dysfunction, although overall this rate remained low. A total of five women were diagnosed with septicaemic shock.

Having had extremely low rates of major thromboembolic complications, it was notable that there were three confirmed cases of major pulmonary embolism in 2019. One was a massive saddle embolus at 18 weeks' gestation treated with thrombolysis. The second case was a postnatal pulmonary embolus following a coronary artery dissection. The third case occurred 8 weeks after a caesarean delivery which had been complicated by massive obstetric haemorrhage.

One cardiac arrest occurred in 2019, which occurred following a respiratory arrest after a caesarean delivery. This was felt to be secondary to a potential amniotic fluid embolus, compounded by respiratory depression following spinal anaesthesia.

TABLE 4: CENTRAL NERVOUS SYSTEM EVENTS

	2014	2015	2016	2017	2018	2019
Eclampsia	0 (0%)	1 (0.01%)	0 (0%)	4 (0.1%)	3 (0.04%)	1 (0.01%)
Status Epilepticus	1 (0.01%)	1 (0.01%)	2 (0.02%)	2 (0.02%)	0 (0%)	0 (0%)
Cerebrovascular Accident	1 (0.01%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.01%)
Coma	1 (0.01%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

There was one case of eclampsia in 2019, which occurred at 39 weeks' gestation in a woman in early labour. She was transferred to the Mater Misericordiae University Hospital following delivery and was found to have a subarachnoid haemorrhage with reversible vasoconstriction syndrome.

TABLE 5: INTENSIVE CARE MANAGEMENT

	2014	2015	2016	2017	2018	2019
ICU/CCU Transfer	17 (0.1%)	5 (0.1%)	10 (0.1%)	19 (0.2%)	12 (0.1%)	15 (0.2%)
Direct Maternal Death	1 (0.01%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

For the fifth year in a row, there were no direct maternal mortalities in the Rotunda Hospital in 2019. A slight increase in the ICU/CCU transfer rate demonstrate the continued reliance on the National Ambulance Service, as well as critical care colleagues in the transfer of women for Level 3 and Level 4 care in tertiary referral hospitals.

## SUCCESSSES & ACHIEVEMENTS 2019

In 2019, a number of new initiatives were launched in order to optimise critical care for women. A new weekly special Postnatal Care Clinic has allowed a dedicated space and time for women to meet with a Consultant Obstetrician to discuss any complications (including major maternal morbidity) associated with their pregnancy. This also empowers appropriate, multi-disciplinary planning for future pregnancies.

Further Consultant Obstetrician Appointments, including those with a special interest in Maternal Medicine (such as Dr. Nicola Maher and Dr. Vicky O'Dwyer) have increased the depth and expertise of the Maternal Medicine Service. Dr. Maher has continued to expand services to women with epilepsy, in collaboration with a Clinical Nurse Specialist in epilepsy.

There has been continued multi-disciplinary education of both medical and midwifery staff, as well as continuation of the RHOET multi-disciplinary emergency training for all staff. The Maternal Medicine Service continues to engage in research with other multi-disciplinary teams in the RCSI Hospitals Group and beyond.

## CHALLENGES 2019

Initially, the implementation of the MN-CMS electronic healthcare record led to a steep learning curve for staff, but is now widely used and accessible for patients who are cared for in the Rotunda. Given that the electronic healthcare record is not utilised when transferring patients to other hospitals for further care, the integration of this system with other hospitals would allow more streamlined communication between healthcare providers, which currently poses challenges for patients receiving care in multiple centres.

While the number of mothers delivering at the Rotunda has remained stable, an increase in the medical complexity of patients posed diagnostic and management challenges as a stand-alone maternity hospital.

## PLANS FOR 2020

From an infrastructural perspective, the construction of additional operating theatres and renovation of the Labour and Delivery Suite which commenced in 2018 will be finalised with handover aimed for 2021. This will allow for the introduction of an Enhanced Recovery after Caesarean Delivery programme.

The Rotunda plans to appoint a new consultant obstetrician with special interest in maternal critical care, Dr. Maria Kennelly, who will commence in January 2020. This will provide a significant improvement in multidisciplinary management of obstetric critical care patients between the Rotunda and the Mater Misericordiae University Hospital, which will support the already established care pathways provided by Dr. Jennifer Donnelly, another Consultant Obstetrician Gynaecologist between both hospitals.

The inaugural post-CSCST fellowship in Maternal Medicine will commence in 2020/2021 and will continue to strengthen links between the Rotunda Hospital and the Mater Misericordiae University Hospital. Through this structured educational role, it is hoped to train, educate and find innovative ways to contemporaneously review maternal morbidity cases, and facilitate clear communication and operational pathways between healthcare providers. This allows streamlining and consistent multidisciplinary care and advice particularly in the preconceptional, antenatal and postnatal periods.

As part of the Rotunda key strategic principle to be a leader in women's health in the RCSI Hospitals Group, and to lead on quality improvement, we plan on optimising maternal critical care by further harnessing the MN-CMS electronic health care records to improve communication with GPs and other health care providers. This will include implementation of HDU discharge summaries and creation of NPEC summary reports. This will improve data capture, both for continued integrated patient care after discharge from the hospital and to provide crucial information for clinical audit and research.

While uncommon, critical illness and the morbidity that comes with this in pregnancy can be devastating for new mothers and poses a big challenge for critical care and maternity staff. We are continually grateful for our colleagues in our sister hospitals, our community midwifery and medical staff who provide high quality antenatal, postnatal and breastfeeding support to mothers in this delicate time.

## 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 service also provides care for women who have had other postnatal concerns, including wound infection, perineal pain, dyspareunia and faecal incontinence. Since 2014, women have been referred to the clinic for surgical revision of Female Genital Mutilation (FGM). Since 2018, the service provided follow-up for women who had Word Catheter placement for management of Bartholin's gland cyst/abscess.

### CLINICAL ACTIVITY

334 new patients attended the clinic in 2019:

**TABLE 1: INDICATION FOR ATTENDANCE**

	No. of Patients
Antenatal Assessment (previous OASI)	81
Antenatal Assessment (other issues)	34
Postnatal Assessment after Third-Degree Tear	105
Postnatal Assessment after Fourth-Degree Tear	1
Postnatal Assessment of Perineal Infection / Pain / Dyspareunia	60
Postnatal Assessment of Faecal Incontinence	6
Female Genital Mutilation (FGM) Assessment	9
Word catheter for Bartholin's follow-up	25
Other	13
<b>Total</b>	<b>334</b>

OASI rates in the Rotunda are currently stable with 116 women sustaining obstetric anal sphincter injury in 2019; this has fallen from a peak of 3.4% of vaginal births in 2011 to 2.2% of all vaginal births in 2019. The number of 4th degree tears was, however, significantly lower in 2019. Modes of delivery of those who sustained anal sphincter injury are described in Table 2 below:

**TABLE 2: MODE OF DELIVERY**

	3rd degree	4th degree
Spontaneous vaginal	62	1
Vacuum only	15	0
Vacuum and Forceps	8	0
Forceps only	28	2
Born Outside Hospital	0	0
<b>Total</b>	<b>113</b>	<b>3</b>

44 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 in Table 3 below:

**TABLE 3: PROCEDURE / REFERRAL**

	No. of Patients
Referral to Colorectal Service	7
Treatment of granulation tissue (outpatient)	15
Removal of persistent suture material (outpatient)	10
Perineal revision / injection (day case)	9
Reversal of Female Genital Mutilation	3
<b>Total</b>	<b>44</b>

### SUCCESSES & ACHIEVEMENTS 2019

#### ENHANCING PATIENT CARE

The primary focus of this service 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, such as colorectal surgery.

The service 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. Written information is given to support this. Of the women who attended for antenatal review after previous OASI, 55% decided to follow expectant management with the intention of achieving vaginal delivery, while the remainder chose planned cesarean delivery for perineal protection.

#### EDUCATION & 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. Clinic staff were involved in three peer reviewed publications in 2019.

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

#### INNOVATION

Since the Word Catheter was introduced as a management option for women with cysts or abscesses of the Bartholin's Gland in 2018, follow-up of these patients was provided at the Complicated Postnatal service. This ensures that they were seen by the same cohort of doctors. This follow-up care will be provided in our enhanced access Day Assessment Unit (DAU) from January 2020.

#### CHALLENGES 2019

A challenge in 2019 was to embed routine provision of a patient information leaflet regarding birth after obstetric anal sphincter injury at antenatal booking visits. Provision of this supports women to access relevant patient information prior to their antenatal review.



Another challenge was to ensure appropriate follow up for all women with perineal wound infection. This has been greatly assisted by availability of the Postnatal clinic and a 7 day/week Day Assessment Unit facility.

**PLANS FOR 2020**

Introduction of a multidisciplinary team meeting to discuss challenging pelvic floor and postnatal issues. This will be attended by relevant medical, midwifery, physiotherapy, mental health and bladder care staff.

Continue to strive to reduce rates of OASI, with introduction of care bundles which recommend antenatal education on severe perineal trauma, perineal protection for vaginal births, episiotomy when indicated and comprehensive postnatal perineal assessment.

## RADIOLOGY SERVICE

### HEAD OF SERVICE

**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 Service provides diagnostic imaging for the adults and infants of the Rotunda Hospital, both as inpatients and outpatients. Radiology 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.

We are delighted to welcome Dr. Kevin Pennycooke, Consultant Adult Radiologist to the Rotunda Radiology Service Department. Dr. Pennycooke will work between the Rotunda and Connolly Hospital, Blanchardstown. Along with Dr. Neil Hickey, the adult radiology cover in the Rotunda Hospital thus increased from 0.1 WTE to 1 WTE. This will facilitate a significant increase in productivity in adult radiology in 2020.

### CLINICAL ACTIVITY

The Radiology Service performed 6,355 exams in 2019 representing an 8% increased level of activity when compared to 2018 (5,905).

### ADULT RADIOLOGY

In 2019, a total of 86 x-rays were performed on adult patients as well as 198 hysterosalpingograms performed as part of a subfertility work-up. A total of 172 gynaecologic ultrasound examinations were performed, for patients referred from the Rotunda general gynaecologic clinics. In addition, 709 gynaecological 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. This outsourcing ceased in 2019, when an increased capacity for on-site gynaecologic ultrasound in the Rotunda was implemented.

### PAEDIATRIC RADIOLOGY

In 2019, a total of 6,355 paediatric studies were performed. Of these, 3,070 (48%) 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 2,492 plain films and 72 fluoroscopy studies were performed, (including upper and lower gastrointestinal contrast studies and

videofluoroscopic feeding studies), as part of a Service Level Agreement with the Children's University Hospital, Temple Street.

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 2019, the Children's University Hospital, Temple Street performed five neonatal CT examinations and 16 MRI scans on paediatric patients referred from the Rotunda.

Due to continuing challenges meeting the demand for antenatal fetal and neonatal MRI scans, the MRI service at the National Maternity Hospital (NMH) continued to provide additional supports for Rotunda patients. A total of 61 Rotunda patients had MRI studies performed at the NMH, with 14 of these being antenatal MRI scans and 47 being neonatal MRI scans. Ultrasound, CT and MRI scans of Rotunda babies are discussed, when appropriate, at multidisciplinary meetings at Children's University Hospital, Temple Street attended by Rotunda neonatologists and radiologists.

### SUCCESSES & ACHIEVEMENTS 2019

#### 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 Service committed this year to participating in the National Radiology Quality Improvement Programme. Local quality improvements continued during 2019 which included service delivery improvements and radiation safety improvements.

#### EDUCATION & TRAINING

2019 was the eighth 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 since become a national event.

#### AUDIT AND RESEARCH

Several audits have been performed by radiography staff including:

- Patient Identification Audit
- Anatomical Marker Placement Audit
- Report Turnaround Times
- Audit of Contents of Hysterosalpingogram (HSG) Packs

Audits by radiologists included:

- Audit of the use and accuracy of gonad shield placement for hip and pelvis in children
- An audit of interobserver variability in the measurement of acetabular angle on radiographs in a cohort of babies with suspected DDH
- Audit of Yield of Magnetic Resonance Imaging in Idiopathic Scoliosis

There were several presentations and lectures at national and international meetings given by Radiology service staff, including:

- Comparison of radiation dose delivered during baby hip X-ray examinations using CR and DR systems. L Bowden, A Moran, C Saidleir, Y Shiekh, S Ryan. ECR Annual Meeting Vienna Feb 2019
- Neuroimaging in Metabolic Disorders. Irish Society of Inherited Metabolic Disorders Symposium. Dublin. 12 Apr 19. Lecture by S. Ryan
- 31st Graf ultrasound course for the diagnosis and management of infant hip dysplasia, University of Cardiff, Wales, June 2019. A Tarrant on faculty and lecturer

- In order to ensure robust governance in the gynaecology ultrasound service, there will be a need to procure two additional NIMIS Reporting Stations. One will be located in the general ultrasound scan area on the 2nd floor to enable sonographers to report on all scans performed. The second will be located in the NICU radiography processing room to facilitate on-site reporting of neonatal ultrasound examinations
- To expand the HyCoSy Ultrasound Service to reduce the reliance on hysterosalpingograms (HSGs), as part of subfertility evaluations, thereby reducing the exposure to ionizing radiation
- To ensure Radiology's continued inclusion on the national HSE Medical Equipment Replacement Programme
- To provide educational assistance for Masters' Education Programs in Ultrasound to support staff education and maximise staff retention

## CHALLENGES 2019

### STAFF RETENTION AND RECRUITMENT

An aim of the service is to return to 1:4 rota for the radiographer on-call service to reduce its reliance on locum radiographer staff. The current recruitment drive will continue into 2020.

The lack of an interface between the national radiology electronic image archiving system (NIMIS) and the Rotunda's MN-CMS electronic healthcare record has persisted in 2019. Efforts to resolve this significant issue continued, not least due to the impending expansion 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 2020

- To encourage and facilitate complete integration of the MN-CMS electronic healthcare record and the NIMIS image archiving systems, as this would allow reliable and easy access by the end-user to all aspects of patient records
- Continued recruitment drive to ensure correct resourcing as stated by the Irish Institute of Radiographers and Therapists under best practice guidelines
- To increase the adult gynaecologic ultrasound capacity to the extent that all outsourced gynaecologic ultrasound examinations can be performed and reported in-house by the Rotunda Radiology Service



A professional headshot of Dr. Vicky O'Dwyer, a woman with long, dark, wavy hair, smiling warmly. She is wearing a dark blue blazer over a light-colored blouse. The background is a plain, light-colored wall.

**“IT IS A PRIVILEGE TO  
WALK THE CORRIDORS  
OF THE ROTUNDA  
HOSPITAL EVERY DAY”**



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# GYNAECOLOGY

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## GYNAECOLOGY SERVICE

### HEAD OF SERVICE

**Dr. Vicky O'Dwyer**, Director of Gynaecology

### SERVICE OVERVIEW

The Rotunda provides gynaecology services for the large catchment area of North Dublin. The gynaecology services include General Benign Gynaecology Clinics, Adolescent Gynaecology Clinic, Urogynaecology / Promotion of Continence Clinic, Subfertility / Reproductive Medicine Clinics, Recurrent Miscarriage Clinic, GP-led Contraception and Family Planning Clinic, Colposcopy Service and the Outpatient Hysteroscopy Service.

While the Rotunda continued to have significant infrastructure and capacity limitations in 2019, the hospital was able to cater for an expansion of the Gynaecology 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. Each week the number of referrals received exceeded the clinic capacity currently available. The Virtual Clinic concept was implemented to provide care for many women through virtual consultation, enabling organisation of appropriate baseline investigations prior to attendance at a General Gynaecology Clinic. This significantly improves the efficiency of the Gynaecology Service.

The Rotunda's Outpatient Hysteroscopy Service (located on the Connolly Hospital campus) has greatly benefitted patients. While the service is located on the Connolly Hospital campus in Blanchardstown, the entire service is funded, staffed, managed and provided by the Rotunda. This clinic catered for many new referrals and allowed procedures to be effectively performed in a less resource-intensive setting, with excellent outcomes, while at the same time ensuring the efficient use of hospital beds in the Rotunda. The service follows a "see-and-treat" model, by providing immediate investigations and minor treatments for the more common benign gynaecology complaints at the same time as the initial consultation.

Acknowledgement and credit must be given to all staff involved in providing the Gynaecology Service at the Rotunda, including administration, household, GP liaison, midwives/nurses and doctors whose individual contributions make it possible to provide this essential service. 2019 was another busy and successful year across all sectors of the Gynaecology Service including emergency gynaecology and elective gynaecologic surgery.

Gynaecology is provided as both a public and private service on the hospital campus with General Outpatient Clinics in the main hospital building and Private Gynaecology Clinics in the private and semi-private building. There were 2,740 new gynaecology appointments in the public hospital clinics and 4,900 return visit appointments during 2019. The "did not attend" (DNA) rate for appointments was 24.3%. Despite a total of 7,640 appointments in 2019 the high volume of referrals and this high DNA rate resulted in the outpatient waiting list deteriorating, with 2019 seeing 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, including further infrastructural developments and expansion in staffing. This will take the form of additional gynaecology clinics and increased Operating Theatre capacity.

### GENERAL GYNAECOLOGY CLINICS

General Benign Gynaecology Outpatient Clinics 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.

### SPECIALIST GYNAECOLOGY CLINICS

#### ADOLESCENT GYNAECOLOGY CLINIC

This clinic is provided by Dr. Geraldine Connolly and Ms. Debbie Browne, Clinical Nurse Specialist. The clinical conditions cared for in this clinic include menorrhagia, abdominal pain, ovarian cysts and complex congenital anomalies of the genital tract including cloacal abnormalities. There is a specialised Vaginal Dilator Clinic for girls with congenital anomalies provided as part of this service. In 2019 there 135 new and 129 follow-up appointments attended.

#### PROMOTION OF CONTINENCE CLINIC

This specialist clinic is a multi-disciplinary clinic staffed by Consultant Gynaecologist Dr. Naomi Burke, as well as by physiotherapists, led by Ms. Canny Cusack, together with Specialist Bladder Care Nurse, Ms. Caroline Hendricken. 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. In 2019 there were 203 and 298 follow-up appointments attended.

#### SUBFERTILITY CLINIC

Two clinics are provided weekly by Dr. Edgar Mocanu and Dr. Rishi Roopnarinesingh, 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. 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 and referral to an external IVF service provider is required. In 2019 there were 386 new and 1,220 follow-up appointments attended.

#### RECURRENT MISCARRIAGE CLINIC

This Recurrent Miscarriage Clinic follows national and international standards for the investigation and management of couples

who have experienced three or more consecutive first trimester miscarriages. This specialist clinic is provided by Dr. Karen Flood and Senior Nurse Specialist Ms. Patricia Fletcher. It also provides support and reassurance through early pregnancy ultrasound and care for couples with a history of recurrent miscarriage in the first trimester of pregnancy and beyond for their subsequent pregnancies. In 2019, there were 156 new and 599 follow-up appointments attended. The large number of follow-up appointments is accounted for by demand by this particularly vulnerable patient population for reassurance ultrasound examinations in early pregnancy.

#### VIRTUAL CLINIC

The Rotunda Hospital introduced an innovative gynaecology telemedicine clinic in May 2019. The initial focus of the clinic was to provide women with follow-up appointments for results and review of symptoms post-operatively. A total of 98 women attended for virtual follow-up through the clinic in 2019. The clinic was then expanded to provide the primary assessment and management of women with gynaecological problems, including those who had been waiting for more than one year for an initial gynaecology appointment.

#### OUTPATIENT HYSTEROSCOPY SERVICE

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. 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 these clinics. The team is completed by Care Assistants Ms. Lisa Hillman and Ms. Ciara Deegan. In 2019, there were 654 outpatient hysteroscopies performed in this clinic.

In 2019 the Outpatient Hysteroscopy Service was expanded. Two new consultants with special interest in this area, Dr. Nicola Maher and Dr. Vicky O'Dwyer, were appointed and provided additional hysteroscopy clinics. The Outpatient Hysteroscopy Service received both direct GP referrals and internal referrals for diagnostic and operative hysteroscopy.

The procedures offered in the clinic included diagnostic hysteroscopy and biopsy, either through a vaginoscopy approach or with cervical dilatation under local anaesthetic. Operative hysteroscopy was also used for removal of intrauterine contraceptive devices that could not be removed in the outpatient clinic. Uterine polypectomy and myomectomy were performed using Myosure operative hysteroscopes.

#### GP-LED 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, and the Outpatient Hysteroscopy Service. The

clinic provides an efficient service for insertion and removal of intrauterine contraceptive devices. 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.

#### OPERATING THEATRE

##### ABBREVIATIONS USED IN TABLES

AP repair	Anterior and posterior colpoperineorrhaphy
BSO	Bilateral salpingo-oophorectomy
D&C	Dilatation and curettage
Dye	Methylene blue dye
EUA	Examination under anaesthetic
FGM	Female genital mutilation
IUCD	Intrauterine contraceptive device
LLETZ	Large loop excision of the transformation zone
STAH	Subtotal hysterectomy
TOT	Transobturator tape
TVT	Transvaginal tape
TAH	Total abdominal hysterectomy

TABLE 1: HYSTEROSCOPIC PROCEDURES

	2017	2018	2019
Dilatation and curettage (D&C)	224	272	225
D&C with insertion of intrauterine device	170	185	211
D&C with endometrial ablation	61	71	112
Polypectomy	79	86	65
Myomectomy	32	13	59
D&C with diathermy to cervix	16	13	12
Resection of uterine septum	2	4	3
<b>Total</b>	<b>584</b>	<b>644</b>	<b>687</b>

TABLE 2: LAPAROSCOPIC PROCEDURES

	2017	2018	2019
Dye +/- APC +/- ovarian drilling +/- adhesiolysis	188	181	289
Ovarian cystectomy	42	37	78
Diagnostic	42	51	76
Salpingo-oophorectomy	17	11	36
Hysterectomy +/- salpingectomy +/- oophorectomy	39	52	33
Sterilisation	14	6	11
Myomectomy	3	5	10
Oophorectomy	12	2	9
Appendectomy	0	1	3
<b>Total</b>	<b>357</b>	<b>346</b>	<b>621</b>

TABLE 3: LAPAROTOMY

	2017	2018	2019
TAH +/- BSO	24	37	53
Myomectomy	20	27	16
Conversion from laparoscopy	5	8	4
Ovarian cystectomy	6	6	4
Oophrectomy	7	4	2
Cystectomy/oophrectomy/washings	3	1	1
Reversal of sterilisation	2	4	1
STAH	12	19	0
Salpingectomy	3	1	0
<b>Total</b>	<b>82</b>	<b>106</b>	<b>81</b>

TABLE 4: VAGINAL AND TRANSVAGINAL SURGERY

	2017	2018	2019
Anterior and posterior colpoperineorrhaphy	31	37	63
Vaginal hysterectomy	58	46	60
Sacrospinous fixation	15	8	16
Transvaginal oocyte retrieval	0	4	3
TVT	18	4	0
TOT	1	1	0
Bulkamid injection	0	1	0
<b>Total</b>	<b>123</b>	<b>101</b>	<b>142</b>

TABLE 5: OTHER VULVOVAGINAL PROCEDURES

	2017	2018	2019
Revision of perineum	0	6	10
Resection of vaginal septum	1	0	8
Fentons's procedure	5	4	4
Labial reduction/repair	3	4	4
Repair of FGM	2	2	0
<b>Total</b>	<b>11</b>	<b>16</b>	<b>26</b>

TABLE 6: MINOR SURGICAL PROCEDURES

	2017	2018	2019
Bartholins cyst/abscess or vaginal cyst/abscess	39	38	50
Cystoscopy	0	11	45
Vulval biopsy/ excision of vulval lesion	23	26	26
Intravesical injection of botox	0	1	19
Hymenectomy	3	6	4
EUA +/- smear	0	20	3
Cervical cerclage	0	24	1
Diathermy to labial condylomata	1	0	1
Evacuation of vaginal haematoma	0	4	0
LLETZ	12	11	19
<b>Total</b>	<b>78</b>	<b>141</b>	<b>168</b>

TABLE 7: FIVE YEAR COMPARISON

	2015	2016	2017	2018	2019
Laparoscopic hysterectomy +/-BSO			38	52	33
Vaginal hysterectomy +/- AP repair	62	57	58	46	60
Anterior and posterior repair	42	28	31	37	63
TAH +/- BSO	64	46	24	37	53
LLETZ	7	21	12	11	19
STAH	22	15	12	19	0
Sacrospinous fixation	10	8	15	8	16
Laparoscopic sterilisation	10	8	14	6	11
<b>Total</b>	<b>217</b>	<b>183</b>	<b>204</b>	<b>216</b>	<b>255</b>

## ANALYSIS

The number of hysteroscopic procedures was similar in 2019 and 2018. There were fewer diagnostic hysteroscopies performed but there was an increase in operative hysteroscopies including insertion of mirena, endometrial ablations and myomectomies. This may be explained by the increasing number of diagnostic hysteroscopy procedures being performed in the Outpatient Hysteroscopy Clinic while operative hysteroscopy procedures are performed in both settings based on patient choice and case complexity.

The number of laparoscopic procedures increased in 2019 compared with 2017 and 2018. There was a significant increase in the number of operative laparoscopies for treatment of endometriosis, pelvic pain and investigation of infertility. There was also an increase in the number of ovarian cystectomies and salpingo-oophorectomies but a decline in hysterectomies.

The number of abdominal hysterectomies increased in 2019. The number of laparotomies for other procedures remained low reflecting the high rate of laparoscopic procedures performed. In 2019, the number of vaginal hysterectomies remained consistent with previous years but the number of vaginal repairs almost doubled.



Following the difficulties with vaginal mesh there have been no TVT or TOT procedures performed.

The number of other vulvovaginal procedures, minor surgical procedures and LLETZ procedures remained consistent with previous years. The number of LLETZs performed in theatre is <1% of the total number of LLETZ performed, with almost all being provided directly in the Colposcopy Service which is consistent with best practice.

### SUCCESSSES AND ACHIEVEMENT IN 2019

- The Gynaecologic Ultrasound Service was successfully re-implemented at the Rotunda, having been previously outsourced to an external provider. This has resulted in short turnaround times for completion of gynaecologic ultrasound once ordered by the treating gynaecologist
- The expansion of the Virtual Clinic service greatly improved clinical capacity, by including triage of new referrals and for all gynaecologists so that results and advice can be given without the need for the patient to re-attend the clinic
- The MN-CMS electronic healthcare record was introduced for inpatient gynaecology activity including for the operating theatre. The final step in this expansion will be completion of all outpatient services with the electronic healthcare record, which will occur in the near future
- The number of outpatient hysteroscopy clinics was expanded at Connolly Hospital, further increasing clinical capacity
- Further expansion of minimal access surgical techniques is ongoing, by continuing professional development for consultants and the dedicated training of the non-consultant medical staff
- Termination of Pregnancy services were introduced in the Rotunda Hospital efficiently and on time in January 2019 with the implementation of new legislation following the constitutional amendment of 2018
- A North Dublin emergency gynaecology rota was introduced in December 2019 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. This novel service has resulted in two consultant obstetrician-gynaecologists being on-call every night and every weekend, with one being designated the lead for emergency gynaecology including provision of emergency laparoscopy as needed. The lead gynaecologist on-call also provides a liaison service for Connolly Hospital and Beaumont Hospital, assisting with the triage of gynaecology cases that might require emergency surgery, either at the local hospital or on transfer to the Rotunda Hospital

### PLANS FOR 2020

- To continue to actively and efficiently manage gynaecology referrals and to achieve a significant reduction in gynaecology waiting times, including targeting NTPF funding for such expanded services
- Expansion of the outpatient Hysteroscopy/Ambulatory Gynaecology Service to a five day per week basis, and to source space for this expanded service on the Rotunda Hospital Parnell Square campus
- Expansion of the general gynaecology clinic services by relocating all outpatient gynaecology services to dedicated new space on the Rotunda Hospital Parnell Square campus. This will provide a significant increase in the number of gynaecology clinics and the number of new patient appointments
- Introduction of the electronic patient record in the outpatient clinics so that the entire Gynaecology Service at the Rotunda becomes a fully electronic paperless service
- Construction of the new three-storey theatre development will continue and will result in two additional operating theatres being commissioned in late 2020/early 2021. This will result in a significant increase in gynaecologic surgical capacity
- Expansion of the gynaecologic oncology consultant capacity at the Rotunda, from the existing two shared posts with the Mater Misericordiae University Hospital, to a third consultant gynaecologic oncologist being appointed. This will significantly increase the availability of emergency surgical supports for the Rotunda on a 24/7 basis for cases of major obstetric haemorrhage, while also expanding the capacity for managing gynaecologic oncology cases through the Rotunda







# PREGNANCY OPTIONS SERVICE

## HEAD OF SERVICE

**Dr. Vicky O'Dwyer**, Consultant Obstetrician Gynaecologist

## STAFF

**Dr. Conor Harrity**, Consultant Obstetrician Gynaecologist

**Dr. Deirdre Hayes Ryan**, Aspire fellow

**Ms. Suzanna Byrne**, Clinical Midwife Manager 3 Outpatients Department

**Ms. Jean Coffey**, Clinical Nurse Manager 3 Gynaecology

**Ms. Elizabeth Iredale**, Staff Midwife

**Ms. Rebecca Lanauze**, Staff Midwife

**Ms. Aoife Murphy**, Staff Midwife

**Ms. Audrey O'Gorman**, Staff Midwife

**Ms. Nicola Quigley**, Staff Midwife

**Ms. Caroline Snowe**, Staff Midwife

**Ms. Rebecca Haughton**, Social worker

**Ms. Olivia Boylan**, Administrative support

## SERVICE OVERVIEW

The Pregnancy Options Service at the Rotunda came into operation on January 1, 2019 following the implementation of new legislation to allow for pregnancy termination on foot of the successful passage of the 36th Amendment to the Constitution of Ireland, which was passed by a 66% to 34% margin on May 25<sup>th</sup>, 2018. Following consultation with various professional bodies, the Health (Regulation of Termination of Pregnancy) Act 2018 was crafted to legislate for termination of pregnancy when the life or health of the mother is in danger, when the life or health of the mother is in danger in an emergency, when a fatal fetal abnormality is present, and when the mother chooses to undergo termination of pregnancy at less than 12 weeks' gestation. Section 12 of the Health Act states that:

- (1) A termination of pregnancy may be carried out in accordance with this section by a medical practitioner where, having examined the pregnant woman, he or she is of the reasonable opinion formed in good faith that the pregnancy concerned has not exceeded 12 weeks of pregnancy
- (2) A termination of pregnancy shall not be carried out under this section unless the medical practitioner referred to in subsection (1) has certified his or her opinion as to the matter referred to in that subsection
- (3) The termination of pregnancy shall not be carried out by a medical practitioner unless a period of not less than 3 days has elapsed from—
  - (a) the date of certification under subsection (2) by that medical practitioner, or
  - (b) where a certification was previously made in respect of the pregnancy by another medical practitioner for the purposes of subsection (2), the date of that previous certification
- (4) A termination of pregnancy to which the certification referred to in subsection (2) relates shall be carried out as soon as may be after the period referred to in subsection (3)(a) or (b), as the case

may be, has elapsed but before the pregnancy has exceeded 12 weeks of pregnancy

(5) For the purposes of this section, '12 weeks of pregnancy' shall be construed in accordance with the medical principle that pregnancy is generally dated from the first day of a woman's last menstrual period

Despite limited time for development of a completely new service, and with all of the challenges inherent in commencing such a sensitive clinical programme without a commitment to additional hospital resources, the Rotunda put together an extensive team of multidisciplinary professionals to ensure that patients could avail of this legally permissible service as soon as the relevant legislation became operational. The intended approach for providing termination of pregnancy to patients at less than 12 weeks' gestation is generally for those less than 9 weeks' gestation to have medical termination of pregnancy performed under the supervision of a General Practitioner in the community, while those between 9 and 12 weeks' gestation are expected to access the service in a hospital-based environment, which may be either medical or surgical. The Pregnancy Options Service at the Rotunda started on January 2, 2019, with two dedicated clinics per week. During 2019, over 300 women have been managed through this service, which offers both medical and surgical termination of pregnancy at between 9 and 12 weeks' gestation. Additionally, some patients less than 9 weeks' gestation are managed who have had a termination of pregnancy in the community but in which the termination has been incomplete.

All patients accessing the Pregnancy Options Service must be first referred by their General Practitioner. The clinic uses a multidisciplinary model where women see both a midwife and doctor, with all women also being offered a social work appointment. Bereavement support is also available for women who require or request this service.

All patients have a confirmatory ultrasound performed initially. Certification by a doctor and the mandatory three-day wait period are completed, with patients being fully counselled about their options. Contraception services are also discussed and offered at the clinic.

During 2019, there were 164 medical terminations and 14 surgical terminations performed under Section 12 of the Health (Regulation of Termination of Pregnancy) Act 2018. There were an additional 29 women who required surgical evacuation of retained products of conception (ERPC) after earlier attempted medical termination under the supervision of their General Practitioner in the community. In an additional two cases, patients required treatment for ectopic pregnancy following earlier attempted medical termination of pregnancy under the supervision of their General Practitioner in the community. It should be noted that GP-provided medical termination of pregnancy services in the community generally do not have access to pre-termination confirmatory ultrasound examinations.

The initial development and implementation of an integrated medical and surgical termination of pregnancy service in such a short



window of time was only possible with the exemplary drive and collaboration of Gynaecology Ward and Operating Theatre staff.

### **SOCIAL WORK**

The Medical Social Work (MSW) Service provides a confidential support and counselling service to all women attending the Pregnancy Options Service. The Crisis Pregnancy Social Worker offered support to 343 patients who attended the Pregnancy Options Service in 2019, with face-to-face meetings with forty-two of these patients. Follow-up MSW support was provided to six patients who chose to continue with their pregnancy. Issues that have been managed throughout the year included domestic violence, mental health, history of anxiety, history of substance misuse, relationship breakdown, infidelity, environmental circumstances, and social issues, mainly homelessness.

The Crisis Pregnancy Social Worker implemented two Tusla referrals in 2019 in relation to disclosures of domestic violence within the home. Additionally, one Tusla referral was arranged relating to an underage patient concealing her pregnancy from her parents. The Medical Social Work Team provided support to four patients who were under the age of 18 years.

The Crisis Pregnancy Social Worker also referred one patient who decided to continue with her pregnancy to the Perinatal Mental Health Team. Six patients gave a history of mental health difficulties, with two of these patients being inpatients in an Acute General Hospital Psychiatric ward.

One patient who was trafficked to Ireland as a sex worker was referred to Pregnancy Options Service from the Rotunda Sexual Assault Treatment Unit (SATU). The Crisis Pregnancy Social Worker supported this patient on both of the occasions that she attended the Pregnancy Options Service, as well as liaising with Gardaí and Ruhama.

### **CHALLENGES IN 2019**

Establishing a new service in the hospital was challenging due to limited capacity in our Outpatients Department. For this reason, clinics took place in the evenings. A dedicated team provided care in the outpatient setting. The women were cared for during their inpatient stay on our Gynaecology Ward and theatre in a non-judgemental and caring manner.

Many of our patients had complex social needs and the provision of a dedicated social worker was hugely important for our service.

The lack of free contraception was a challenge in providing a complete service. Contraception was discussed with all women, written information provided, and prescriptions given. For women who opted for an intrauterine contraceptive device this was facilitated in either the Pregnancy Options Clinic, GP-led Clinic or in theatre for women undergoing surgical termination of pregnancy.

### **PLANS FOR 2020**

At the beginning of the service women were seen for two visits prior to medical termination of pregnancy to enable certification

and a 3-day wait prior to termination of pregnancy. We plan to streamline the service, reduce unnecessary visits to the clinic by ensuring all women have certification and a 3-day waiting period completed prior to their initial visit. We will focus on seeing women with persistently positive HCG test or prolonged bleeding after early medical abortion in our Monday clinic and seeing women for medical termination of pregnancy in our Thursday clinic when treatment can be initiated after consultation with the Medical Team and Social Work Department.

Limited theatre capacity affected availability for surgical termination of pregnancy and ERPC after early medical abortion. In 2020 we plan to offer manual vacuum aspiration as an alternative treatment to ERPC, expanding patient choice and increasing the safety of options available to women attending the service.

To offer free long acting contraception (copper coils) for all women attending the service.

# COLPOSCOPY SERVICE

## HEAD OF SERVICE

**Dr. Vicky O'Dwyer**, Consultant Obstetrician Gynaecologist

## STAFF

**Dr. Kushal Chummun**, Consultant Obstetrician Gynaecologist

**Dr. Eve Gaughan**, Consultant Obstetrician Gynaecologist

**Dr. Conor Harrity**, Consultant Obstetrician Gynaecologist

**Dr. Yahya Kamal**, Consultant Obstetrician Gynaecologist

**Dr. Hassan Rajab**, Consultant Obstetrician Gynaecologist

**Ms. Jean Coffey**, Lead Nurse Co-ordinator

**Ms. Jennifer O'Neill**, Nurse Colposcopist

**Ms. Virginie Bolger**, Nurse Colposcopist

**Ms. Carol O'Rourke**, Nurse

**Ms. Rose Thorne**, Nurse

**Ms. Barbara Markey**, Nurse

**Ms. Nicola Boyd**, Healthcare Assistant

**Ms. Janice Glynn**, Healthcare Assistant

**Ms. Trish O'Donovan**, Healthcare Assistant

**Ms. Susan Daly**, Administrative Team Leader

**Ms. Eilis Dalton**, Administrative Support

**Ms. Lisa Gleeson**, Administrative Support

**Ms. Niamh O'Carroll**, Administrative Support

**Ms. Margaret O'sullivan**, Administrative Support

## SERVICE OVERVIEW

This was another busy year for the Colposcopy Service in the Rotunda Hospital. The target of 2,073 new appointments for women in the year was exceeded, with nearly 4,000 patients being seen for follow-up appointments. This was achieved by increasing the clinic capacity in 2019. The colposcopy clinics, including consultant-led and nurse-led clinics, provided care for women on a Monday to Friday basis, from 07.30am until 05.00pm, with morning, afternoon and evening smear clinic appointments being offered.

A high level of clinical referrals were received, in addition to abnormal cytology and HPV-detected cases. This impacted the ability to meet targets for seeing high grade and low grade referrals in the timeframe suggested by CervicalCheck.

The Colposcopy Service moved to a fully electronic system in 2019, with the electronic healthcare record being introduced to the Colposcopy Service in September and is used in conjunction with the Mediscan system for all colposcopy patients.

## CLINICAL ACTIVITY

**TABLE 1: COMPLIANCE WITH REFERRAL APPOINTMENT TARGETS**

Metric	Target	% Compliance	Actual Numbers
Waiting Time urgent end month	90% seen within 2 weeks of referral	40%	Number of Urgent Referrals = 158 Number of patients who received an appointment = 63
Waiting Time HG (high grade) end month	90% seen within 4 weeks of referral	60%	Number of HG Referrals = 481 Number of patients who received an appointment = 287
Waiting Time LG (low grade) end month	90% seen within 8 weeks of referral	63%	Number of LG Referrals = 1270 Number of patients who received an appointment = 804

**TABLE 2: COLPOSCOPY SERVICE CLINICAL ACTIVITY**

	N	%
New referrals	2,073	
Follow up appointments	3,951	
DNA rate	890	15%
Biopsies performed	3,439	
Cold coagulation performed	359	
LLETZ procedures performed	520	
Cancer cases diagnosed	20	

## SUCCESSSES & ACHIEVEMENTS 2019

### AUDIT ACTIVITY 2019

The following audits were completed in 2019:

- Review of clinical referrals to colposcopy
- Review of women aged 50+ attending colposcopy
- Review of pregnant women attending colposcopy

### TRAINING

The Colposcopy Service has two nurse colposcopists in training as well as four registrars undertaking training in colposcopy.

### CHALLENGES 2019

The main challenge in 2019 was the limitation of physical space, preventing expansion of colposcopy and smear clinics.

### PLANS FOR 2020

Plans have been developed to restructure the colposcopy workspace to increase clinical space for smear clinics and create a new waiting area. In addition, primary HPV screening will commence in March 2020. In parallel with Colposcopy Service improvements, new general gynaecology clinics will be developed to see clinical referrals previously seen in colposcopy, thereby allowing the Colposcopy Service to focus on targeted colposcopic problems.





# SEXUAL ASSAULT TREATMENT SERVICE

## HEAD OF SERVICE

**Dr. Maeve Eogan**, Consultant Obstetrician Gynaecologist

## STAFF

**Dr. Nicola Maher**, Consultant Obstetrician Gynaecologist

**Ms. Noelle Farrell**, Midwife Manager

**Ms. Deirdra Richardson**, Clinical Midwife Specialist

**Ms. Kate O'Halloran**, Clinical Nurse/Midwife Specialist

**Ms. Naomi Finnegan**, Clinical Nurse/Midwife Specialist

**Ms. Christine Pucillo**, Clinical Nurse Specialist Training Programme

**Ms. Sarah O'Connor**, Project Manager for Higher Diploma in Nursing (Sexual Assault Forensic Examination)

**Ms. Rita O'Connor**, Administration

**Ms. Moira Carberry**, Administration

**Dr. James Moloney**, Forensic Medical Examiner

**Dr. Nicola Cochrane**, Forensic Medical Examiner

**Ms. Aideen Walsh**, Forensic Nurse Examiner

**Dr. Daniel Kane**, Forensic Medical Examiner

**Dr. Jill Mitchell**, Forensic Medical Examiner

**Dr. Cathy Montieth**, Forensic Medical Examiner

**Dr. Niamh Murphy**, Forensic Medical Examiner

**Dr. Elzahra Ibrahim**, Forensic Medical Examiner

**Dr. Ciara Luke**, 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 women and men who seek care after sexual crime receive the same standard-of-care regardless of which SATU to which they present.

The support the SATU receives from the Executive Management Team and all colleagues is again acknowledged. When compared with other clinical areas, the SATU service sees a small number of patients, such that its value in the hierarchy of service provision may not be evident to all. In many ways, the absence of the SATU would be noted more than its presence, and the Rotunda's support, despite competing and important demands on valuable resources is greatly appreciated.

Dr. Jim Moloney, a GP and Forensic Medical Examiner who worked for many years in the Rotunda SATU, moved on from the service at the end of 2019. His many years of service are acknowledged and the SATU team wishes him all the best for the future.

## CLINICAL ACTIVITY

### 5-YEAR COMPARISON OF ATTENDEES TO THE SATU

Year	2015	2016	2017	2018	2019
No.	317	289	327	319	393

In 2019 the SATU at the Rotunda Hospital provided care for 393 people (92% being women) after rape or sexual assault, which represented a 25% increase from the previous year. Overall, national

SATU attendance figures only increased by less than 1%. Happily an improvement in Rotunda SATU staffing in 2019 meant that diversion of the on-call service to the SATU at the Midland Regional Hospital, Mullingar was needed for only 18 shifts in 2019, compared with 2018 when the service diverted to Mullingar for 114 shifts.

In total, the national SATU services saw 943 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, as well as support and health promotion (e.g. hepatitis B vaccination programme) for up to 6 months after first attendance.

Patients ranged from under 14 years to over 70 years. A total of 328 (83%) patients attended within seven days of an incident of sexual assault, and it is notable that early presentation is optimal in terms of provision of appropriate care as well as collection of forensic evidence. Of the 322 (82%) Rotunda cases where the incident was reported to have taken place in the Republic of Ireland, 196 (61%) of these took place in Dublin city or county. Sixteen other counties were also represented in the attendances. While 83% of attendees reported that the incident took place between 8pm and 8am, the majority of patients 255 (65%) actually attended for care within daytime hours (8am-8pm). Nevertheless, just over one third of patients were seen between the hours of 8pm and 8am, which emphasises the continued need for a round-the-clock, on-call service.

## SUCCESSES & ACHIEVEMENTS 2019

### EDUCATION & TRAINING

An additional consultant resource was secured for the SATU in 2019, with Dr. Nicola Maher being recruited to take over as lead clinician for the Rotunda SATU in October 2019. Following her appointment, Dr. Maeve Eogan will focus on a wider leadership role for SATUs nationwide.

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.

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

This year's 11th annual interagency study day for those involved in SATU care took place at the Pillar Room of the Rotunda Hospital, and was combined with a celebration of 10 years of forensic nursing including acknowledgement of the new Clinical Nurse Specialists (Sexual Assault Forensic Examination) in the service. The team welcomed Minister Simon Harris to launch the study day and to address the audience on the outputs and implementation of the

Department of Health Policy Review in this area. His personal and professional support for the SATU is greatly appreciated. It was also helpful hearing updates on a range of other aspects of SATU work which will impact on the planning for the 2020 conference programme. As ever, this study day afforded plenty of opportunities for interagency networking to drive quality patient care and service improvements. Since the Department of Health Policy Review in this area, a ring-fenced budget for this event is now included in the annual SATU budget.

In 2019 Naomi Finnegan and Kate O'Halloran completed their training as Clinical Nurse Specialists (SAFE), and Christine Pucillo Murphy will complete her training in 2020. Additionally, a number of Rotunda obstetric and gynaecology doctors in training commenced training in SATU care in 2019, with some of them now providing clinical and forensic care on the on-call rota. Sincere thanks to Drs. Cathy Montieth, Daniel Kane, Niamh Murphy, Jill Mitchell, Ciara Luke and Elzahra Ibrahim for this commitment, and to all SATU staff for the ongoing training they provide for new staff joining the service.

Sarah O'Connor continues to provide education, training and support for the clinical nurse specialists in training, and on an ongoing basis. She has also assisted with the training programme for forensic medical examiners, which is much appreciated.

#### 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 to external authorities. Since 2016, a facility has existed 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 393 patients that attended the SATU in 2019, 136 (34%) attended without reporting the incident to An Garda Síochána. A total of 41 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 decides to report the incident.

Receipt of funding, through the implementation budget following the Department of Health Policy Review, is appreciated which allowed an update to waiting areas and SATU space to enhance the patient experience. Funding was also received to install WiFi and videoconferencing in the unit, which enables team meetings across the SATU network, and will hopefully enhance patient care through peer discussion, but also reduce the sense of professional isolation that some SATU staff in smaller units may feel.

The SATU team was delighted to welcome the Department of Health Policy Review in 2019, which focused on identifying and implementing solutions to identified staffing and service gaps. It was a pleasure to be involved in such a solution-focused project and the SATU team is enjoying participating in the implementation of the review. Accountability for implementation of the Policy Review has

been identified in the HSE and is being driven by the directorate of the National Women and Infant's Health Programme (NWIHP). Davinia O'Donnell from NWIHP has been tasked with managing this implementation and the SATU team looks forward to further developments in this regard in 2020.

#### 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. This feedback is used to drive further service developments. In the final months of 2019, work was commenced with the HSE Communications Division, to improve both the SATU website ([hse.ie/satu](http://hse.ie/satu)) and electronic feedback mechanisms.


#### CHALLENGES 2019

Although the remit for the adult SATU services is for patients over 14 years, in 2019 the unit provided care for 3 female patients less than 14 years of age. These were instances where acute care in a paediatric service could not be arranged. Aideen Walsh and colleagues in Children's Hospital Ireland, Crumlin are now providing far more care in their Laurel's Clinic than previously, which means that accommodation of such patients within paediatric settings will become more prevalent in the future.

#### PLANS FOR 2020

The highest priority, to ensure appropriate provision of responsive care at all times, is to maintain staffing levels, both for forensic examiner and assisting nurse rotas. As the SATU is a 24/7 service, it is imperative that the SATU has adequate staffing levels to cover the service, and it is hoped that the SATU team will be able to participate in ongoing medical and nursing/midwifery recruitment and training drives.



A portrait of Prof. Naomi McCallion, a woman with blonde hair pulled back, wearing a dark green patterned top. She is looking directly at the camera with a slight smile.

**“IT IS SUCH AN  
HONOUR TO WORK  
AS PART OF THE NICU  
TEAM, WHO PROVIDE  
SUCH SPECIAL CARE TO  
OVER 1,300 BABIES  
PER YEAR”**



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# NEONATOLOGY

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## 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

**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 and/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's Hospitals (Children's University Hospital, Temple Street and Our Lady's Children's Hospital Crumlin), now under the auspices of Children's Health Ireland (CHI).

The Rotunda NICU admits approximately 1,300 infants per annum, including between 120 and 150 very low birth weight (VLBW) infants. The NICU has 39 beds with 7 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 recognized as a center 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 developmental medicine 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)

The unit remained very busy with 1,300 admissions in 2019 (Table 1.1). Unfortunately, 2019 was a difficult year due to an ESBL-producing *K. pneumoniae* outbreak in our NICU identified in late March. As one of the main control measures in an attempt to resolve an infectious outbreak, bed closures were implemented and the NICU was closed to all but emergency admissions for two months from April 23 until June 23, 2019. During this time, many mothers at risk of delivery before 34 weeks' gestation were transferred to other maternity units and the unit was closed to external admissions. A complete root cause analysis was completed into this infectious outbreak, and the main underlying cause was considered to be overcrowding, mostly due to the suboptimal physical infrastructure of the Rotunda's aging buildings. Therefore, on reopening after the outbreak was controlled, a policy of closing to external admissions once HDU/ICU occupancy reached 70% was introduced. Although these control measures were very successful in terms of infection control and prevention, they also resulted in a significant fall in number of admissions of babies <1,500gms, with only 97 babies <1,500gms being cared for in our unit during 2019.

Despite an increase in admission figures, there was an overall reduction in number of care days across all three areas (ICU, HDU and special care), as summarised in Table 1.2. This would suggest a shorter average length of stay. The relative rise in HDU care days is a trend that is continuing reflecting improvements in fetal medicine and neonatal care.

Overall, our key performance indicators remain in line with previous years. However there has been a notable increase in chronic lung disease (CLD) which peaked at a high rate in 2019 at 35% (Table 2.4). This compares to a baseline rate of CLD around 22% prior to 2014. Other morbidities (IVH, NEC, and PVL) have remained stable. The rise in CLD in our cohort is multi factorial. Firstly, in the last two years we have had rolling closures due to renovations and infection outbreaks. As capacity was reduced in 2019, admission of the highest risk babies was prioritised with lower risk babies being transferred to other centres resulting in a much higher risk VLBW cohort, thereby making CLD proportionately more common. Also, it is likely that the rise in CLD incidence in recent years reflects the survival of a growing cohort of babies in our institution who deliver with a prolonged history of fetal compromise with onset often in very early pregnancy. This is reflected by the overall risk adjusted morbidity rate (i.e. the shrunken standardised morbidity rate, SMR) for CLD lying within the expected range being 0.8 (95% confidence intervals being 0.6 to 1.0). Achieving a reduction in CLD has been identified as a key quality improvement project moving forwards in 2020.

### HYPOXIC ISCHAEMIC ENCEPHALOPATHY (HIE)

During 2019, a total of 17 babies were diagnosed with hypoxic ischaemic encephalopathy (HIE), including 7 moderate cases and 10 severe cases (Table 4.1). Only one baby was admitted with a coded discharge diagnosis of mild (grade 1) encephalopathy. Given the likely inaccuracy of ascertainment of mild HIE, we have therefore not reported mild HIE in Table 4.1.

There were 17 babies (10 inborn and 7 outborn) with moderate or severe encephalopathy. Of these seven (4 inborn and 3 outborn) had signs of moderate encephalopathy, and ten babies (6 inborn and 4 outborn) had severe encephalopathy (Table 4.2). Amongst the seven cases of moderate HIE, one child did not undergo therapeutic hypothermia as the infant did not meet criteria for cooling on initial evaluation. This child subsequently had significant seizure activity and evidence of extensive ischaemic injury in a watershed distribution, ultimately developing right hemiplegia. Cranial imaging was abnormal in only two of the remaining six infants with moderate encephalopathy who were treated with therapeutic hypothermia. In one of these cases, imaging showed quite significant watershed injury in both an anterior and posterior distribution. This infant was outborn and will have a full psychological assessment in the Rotunda at two years of age. The other infant with abnormal cranial imaging had a single focus of restricted diffusion in the splenium of the corpus callosum, and this child has a normal neurological outcome to date. All four children remaining infants with moderate HIE, who had normal cranial imaging have also had normal neurodevelopmental progress to date.

Unfortunately, there were ten infants (6 inborn and 4 outborn) with severe encephalopathy in 2019. Therapeutic hypothermia was not commenced in one baby with severe encephalopathy given a preterm gestational of 34+2 weeks' gestation and extensive multi-organ failure. The lower limit for commencing therapeutic hypothermia is generally considered to be 35 weeks' gestation. This infant died 15 hours following birth. A further six infants with severe encephalopathy died with only three infants in the severe HIE group surviving. Of those who survived, cranial imaging was abnormal in all three cases. Two cases had a central pattern of focal neuronal injury (basal ganglia +/- central sulcus). One of these three infants was outborn and continues to attend neurodevelopmental surveillance locally. Another infant has signs of evolving cerebral palsy with poor visual response. Cranial imaging in the remaining survivor with severe encephalopathy showed small foci of haemorrhage within the cerebellar hemispheres. This third case was unusual as this baby had associated non-immune hydrops prenatally followed by postnatal collapse as a result of hydrops. This infant has only mild gross motor delay evident to date.

### SPECIALIST CARDIOLOGY SERVICES

The Rotunda has well established links with the Paediatric Cardiology Service at Our Lady's Hospital, Crumlin. Dr. Orla Franklin (Consultant Paediatric Cardiologist) attends the Neonatal Unit at the Rotunda weekly and provides formal cardiology assessment including echocardiography for all relevant infants. In 2019, 140

neonates had echocardiographic assessment 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.

### NATIONAL NEONATAL TRANSPORT PROGRAMME (NNTP)

The National Neonatal Transport Programme (NNTP) continued to provide its country-wide 24/7 retrieval service in 2019, fulfilling over 90% of the nation's neonatal critical care transport needs. A dedicated 24/7 call-handling service was introduced in 2019 for all National Ambulance Critical Care Retrieval Services, including the NNTP. This call-handling capacity facilitates the clinical coordination of transport calls between referring and receiving hospitals and the Transport Team, resulting in a more enhanced and expedient referral process. The NNTP's outreach education programme (including the delivery of 13 STABLE courses and other transport related focused sessions) also continued in 2019 in neonatal units around the country.

In 2019, 567 infants were transported by the NNTP. The NNTP Team from the Rotunda conducted 32% (178) of these transports, 103 (58%) of which involved a hospital outside the greater Dublin and including two transports to the United Kingdom. In 2019, the Rotunda received 47 (13%) of all NNTP transports. The Rotunda also used the NNTP service to transfer out 88 infants. This represents 16% of all NNTP transports in 2019. The main reason for this relatively low share of the Dublin transports being received at the Rotunda is the persistent closure of the Rotunda NICU due to infrastructure constraints and infectious outbreaks.

### PAEDIATRIC OUTPATIENTS

The Paediatric Outpatient Department remains an extremely busy hub of activity in 2019, with 8,537 attendances (4,997 new attendances) across a number of specialised clinics including neonatology, developmental medicine, psychology, infection control and dietetics. We are particularly proud of the service provided by our nurses who give much-needed support to parents as well as community and public health nurses. Nurse-led clinics facilitate access into weight and review clinics as well as providing a service for newborn screening on weekends.

### NEONATAL DEVELOPMENTAL SCREENING PROGRAMME

The Neonatal Developmental Screening Programme formally assesses the development of babies with a birthweight < 1,500g, and those with an established diagnosis of hypoxic ischaemic encephalopathy (HIE). Assessment is based on the Bayley Scales of Infant and Toddler Development, third edition (BSIT-3) at two years corrected gestational age for the preterm population, and two years chronological age for the term population. Using BSIT-3, scaled scores  $\geq 8$  are considered to be within or above the typical/normal range. Scaled scores of 5-7 (composite score equivalent 75-85) are considered borderline, while scaled scores  $\leq 4$  (composite score equivalent 55-70) are suggestive of a significant abnormality. The domains assessed by BSIT-3 include gross motor skills, fine

motor skills, expressive and receptive language skills and cognition. In January 2019, Dr. Liezl Wienand, a Senior Clinical Psychologist, joined the Neonatal Clinical Team. She has a very strong background in developmental assessment of young children.

During the course of 2019, assessments were performed on 101 very low birth weight (VLBW) children, and eleven children who received therapeutic hypothermia for HIE. It is reassuring to note that eight (73%) of the 11 children with a history of HIE were confirmed as having typical/normal outcomes for all domains of the BSIT-3. One (9%) child who also has spina bifida had significant motor delay on the BSIT-3, but their other outcomes were in the typical range. One child had speech and language delay and another presented with non-compliance and behaviours that prevented a formal assessment being completed. In this particular case, clinical features were suggestive of either a diagnosis of Reactive Attachment Disorder (RAD) or Autism Spectrum Disorder, both of which present similarly at this age.

A total of 51 (515%) of the 101 of the low birth weight (LBW) children that were assessed showed outcomes within the typical/normal range for all domains of the BSIT-3. Seven (7%) children showed delays in speech development only. One (1%) showed delays in motor development, with an otherwise typical profile. Two (2%) showed speech and motor delays and three (3%) showed overall mild developmental delay. A total of 23 (23%) children presented clinically with signs of a potential Autism Spectrum Disorder, with nine (39%) of these 23 children having outcomes suggestive of developmental delay. Four (4%) children had clinical presentations suggestive of a potential diagnosis of Attention Deficit Hyperactivity Disorder. Three siblings presented with elective/situational mutism (3%).

In 2019, formal links with the Developmental Service at CHI Temple Street were established. The main aim of this service was to facilitate onwards referral of children with significant developmental issues identified on Bayley screening to longer term developmental services. A total of 43 children were seen in the Developmental Medicine Clinic in 2019. This service is unique in the maternity hospital setting and provides much needed support to families while awaiting transfer into intervention services.

#### 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, gonorrhoea, herpes simplex, tuberculosis, 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 cytomegalovirus (CMV) infection and toxoplasmosis at both a local and national basis. In 2019, 203 infants were referred to this Rotunda Paediatric ID Clinic for specialist follow-up.

#### SUCCESSES & ACHIEVEMENTS 2019 ENHANCING PATIENT CARE

A significant focus on nurse recruitment remained a priority for 2019. A total of 12 neonatal nurses were recruited in 2019, increasing the whole time equivalent (WTE) number from 72 to 80 by the end of 2019. The Rotunda remains on target for reaching a goal of 86 WTE in 2020, which is the recommended target based on the Department of Health Staffing Toolkit for High Quality Neonatal Services (British Association of Perinatal Medicine, 2010).

In September 2019, following extensive planning and education preparations, enrolment began in our Family Integrated Care (FiCare) programme. This initiative was led by our FiCare Team [Mark Hollywood (ANP), Brona Fagan (Physiotherapist), Jeyanthi Sukumareen (clinical skills facilitator), Anu Garg (CNM2), Elizabeth Tobin (CNM2) and Orla O'Byrne (CNM3)]. The primary aim of the FiCare model is to develop the parenting role by supporting parents to become active members of the NICU team and to take on the role of primary care-givers to their infants. This is achieved through the provision of parental education whereby parents are taught the skills necessary to participate in their infants care, such as bathing, feeding, administering oral medications, temperature monitoring and how to interact and support their infant's development. Parents also take part in medical rounds to present their infant to the healthcare team, are involved in decision-making and track their infant's progress with the NICU team. In 2019, four families were enrolled for FiCare and parental and staff feedback has been overwhelmingly positive. This is an initiative we hope to further develop throughout 2020.

In November 2019, we incorporated the use of a neonatal sepsis calculator in the sepsis evaluation of well babies. This advance was led by one of our advanced neonatal practitioners (ANP) Enda Woolhead. Use of the calculator in well babies has safely allowed us to significantly reduce the number of babies receiving antibiotics following birth. In November and December 2019, the number of babies receiving antibiotics on the postnatal ward was reduced by an average of 61 babies per month. The use of this neonatal sepsis calculator not only improves efficiency in the department but most importantly helps to protect the natural flora of the newborn and reduces unnecessary antibiotic consumption.

The ringing of a bell is a tradition that has been adopted by children's cancer centers around the world to signal the end of a long road of treatment. Our little warriors and their families undergo a similar arduous journey and therefore, supported through funds raised by the Rotunda Foundation, we have purchased a NICU discharge bell. We hope this will become a familiar sound of success as families ring the bell on the day of discharge home after completing their NICU journey.

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 2019 have assisted with the purchase of specialised equipment including cardiac monitors to assess newborn heart rate in operating theatres, a "SoundEar" to aid with noise reduction in the unit, and preterm simulation manikins to assist with resuscitation training. A major funding drive for an echocardiography machine began in December 2019 and was met with enormous support and generosity. Funds raised will be used to purchase a new echocardiograph machine with any remaining funds going towards a "life start" beside resuscitation unit to help support resuscitation during delayed cord clamping in our most vulnerable babies.

Donations to the NICU also help to continue the "Beads of Courage" program. This initiative recognizes the long and often difficult course our babies and their family's journey through. Each bead helps to transform the bedside experience and provides the opportunity for courage to be honored and hope to be given. Another important initiative providing support to our families is the "Tentacles for Tinies" program which continues thanks to our amazing Rotunda Knitters.

Our annual party for NICU graduates was once again a huge success. Held annually on World Prematurity Day, all babies born with birthweight less than 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 Rotunda Hospital Neonatal Department, under the supervision of Prof. Afif El-Khuffash, was successful in securing one of six Aspire Fellowships awarded nationally. The NDTP Aspire (Post CSCST) Fellowship Awards have resulted from the collaborative efforts of the HSE's Acute Hospitals Division, Mental Health Division, National Doctors Training and Planning (NDTP) and the Forum of Irish Postgraduate Medical Training Bodies. Funding was provided for a full time Aspire Fellow (Dr. David Staunton) to acquire skills in neonatal echocardiography. The use of echocardiography in critical care has become an invaluable tool in tailoring the care of the sickest patients, and within the field of neonatology echocardiography by trained neonatologists has gained significant momentum over the last 10 years. There is an increased recognition of the benefits of this modality in improving how critically ill infants are managed. Prof. El-Khuffash was integral in devising, writing and publishing pan-European Neonatologist-Performed Echocardiography (NPE) guidelines and training recommendations. The Rotunda combines a busy NICU with the requisite expertise and equipment to train Fellows in neonatal echocardiography. This was the first formal fellowship of its kind in Europe designed to provide this vital skillset.

The Rotunda Hospital continues to support nursing staff with their professional development and provides sponsorship for staff undertaking educational programmes specific to neonatal nursing. These include the RCSI Postgraduate Diploma in Neonatal Nursing, the 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' in the Rotunda Centre for Midwifery Education, the latter two being approved by NMBI at Category Level One. Along with the new staff orientation programme, there is ongoing in-house education and support provided to all new staff. Two neonatal workshops were organised and facilitated by the clinical skills facilitators in 2019, which were found to be very beneficial. As result it is hoped to continue these workshops as part of an in-house education program.

The work of Advanced Nurse Practitioners (ANPs) Christine Mc Dermott, Edna Woolhead and Mark Hollywood is also acknowledged. They have made tremendous advances in their roles within nursing education and the advancement of specialist neonatal nursing. In addition to their clinical role they have a major role in 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 Programme (NRP) training nationally and facilitated a national NRP instructor course in 2019. They also provide continuing medical education, contribute to midwifery study days nationally and provide lectures for HDip and BSc Midwifery students at Trinity College Dublin. A recognised strength of the ANP role is their continuous presence in the Neonatal Unit which enables continuity of care for infants and their families especially during the changeover of NCHDs in July and January each year. They continue to provide nursing support on transport and the provision of the STABLE programme nationally. Recent legislative changes regarding the definition of prescribers will enable ANPs to prescribe all necessary medications within their scope of practice once professional regulations are updated. They continue to drive quality improvement initiatives, for example through the introduction of the neonatal sepsis calculator, medication safety enhancements, introduction of Family Integrated Care, fundraising, and ongoing guideline and protocol development with the RCSI Hospitals Group Neonatal Network Guidelines Group.

#### RESEARCH

The importance of good quality medical research is well recognised within the Neonatal Department. 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 multi-centered trial ongoing in the unit.



During 2019 there were a total of seven higher degree candidates in the Department:

- Dr. Nurul Aminudin
- Dr. Neidin Bussmann
- Dr. Kamelia Krysiak
- Dr. Patrick McCrossan
- Dr. Adam Reynolds
- Dr. Aisling Smith
- Dr. Lyudmyla Zakharchenko

A number of other research and audit projects undertaken by our clinical non-consultant hospital doctors (NCHDs) at all levels (specialist registrar, registrar, senior house officer and academic intern) were also facilitated in 2019.

### CHALLENGES 2019

2019 was a difficult year as we encountered yet another infection outbreak in our NICU. Unfortunately, unlike previous outbreaks where babies became colonised with resistant organisms but remained well and relatively unaffected, the outbreak from March to May 2019 was markedly different. This outbreak centered in our main ICU where our most vulnerable premature patients were being cared for. The outbreak pathogen, ESBL-producing *K. pneumoniae*, was identified in eight babies. Three of the eight babies had invasive infection (two with blood stream infection and meningitis, while a third had necrotising enterocolitis and blood stream infection). In five babies the bacterium was identified only from rectal screening swabs and these five babies were considered only to be colonised with the organism. One baby, born at 25 weeks' gestation, in whom the bacterium was identified on rectal screening tragically died.

The most significant challenge being faced by the Department of Neonatology is balancing the need to provide a tertiary neonatal service and yet ensure adequate spacing and nursing ratios needed to reduce infection risks. These difficulties are compounded by our infrastructure which poses three major challenges, namely a lack of isolation facilities, particularly in the ICU and HDU areas; limited patient space; and as a consequence considerable movement of seating and equipment between patient zones. The Rotunda NICU has a maximum patient space of 5m<sup>2</sup>, which is far below the recommended minimum of 16-21m<sup>2</sup> per incubator cot.

Following the major infectious outbreak in March 2019, a root cause analysis identified that outbreaks were clearly associated with peaks in activity and in particular spikes in the number of infants requiring ICU and/or HDU care. Therefore, once the unit re-opened at the end of June 2019, the very difficult decision was made to limit capacity by closing to external admissions once 70% occupancy was reached in the ICU/HDU areas. This measure was successful in preventing further outbreaks in 2019, but was only achieved at the expense of serious disruption to service provision, with only seven outborn babies <1,500 gms being accepted in 2019 at the Rotunda. This

occupancy cap is not a sustainable solution for the medium to longer term, as the other neonatal intensive care units in Dublin do not have sufficient spare capacity to take up the Rotunda's cases.

### PLANS FOR 2020

It is recognised that limiting capacity in our most critical areas is not a viable medium to longer term solution. The Rotunda is deeply appreciative of the support of the other Dublin neonatal intensive care units (Coombe Women and Infants University Hospital and National Maternity Hospital) for accommodating Rotunda transfers. Therefore in 2020 we hope to be in a position to gradually increase our ICU/HDU capacity again. As patient safety remains paramount, capacity is reviewed daily, taking into account nursing ratios and overall bed capacity across all three maternity hospitals.

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

**TABLE 1.1:  
ADMISSIONS AND DISCHARGES TO THE NEONATAL UNIT**

	2015	2016	2017	2018	2019
Admissions*	1,311	1,262	1,146	1,116	1,300
Discharged alive	1,273	1,213	1,094	1,114	1,265
Infants > 1,500 grams	1,145	1,089	975	1,097	1,176
Infants Treated on Ward	752	911	773	967	875

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

**TABLE 1.2:  
CATEGORIES OF NEONATAL CARE\***

	2015	2016	2017	2018	2019
Total Number of Intensive Care Days	2,145	2,084	1,855	1,568	1,478
Total Number of High Dependency Care Days	2,463	2,431	2,343	3,403	3,084
Total Number of Special Care Days	6,517	6,264	6,222	5,081	4,954

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

**TABLE 1.3:  
ADMISSIONS TO THE NEONATAL UNIT BY BIRTH WEIGHT**

	2015	2016	2017	2018	2019
<500gms	0	0	2	2	3
500 – 1,000g	46	50	51	44	30
1,001 – 1,500g	82	74	68	63	55
1,501 – 2,000g	143	120	117	128	114
2,001 – 2,500g	175	168	178	160	158
Over 2,500g	827	801	680	719	905
<b>Total discharged</b>	<b>1,273</b>	<b>1,213</b>	<b>1,094</b>	<b>1,116</b>	<b>1,265</b>

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

**TABLE 1.4:  
ADMISSIONS TO THE NEONATAL UNIT BY INDICATION**

	2015	2016	2017	2018	2019
Respiratory Symptomatology	523	497	458	464	447
Prematurity < 37 weeks	346	317	332	401	428
Jaundice	347	294	326	328	365
Low birth weight < 2.5kg	257	237	246	397	360
Hypoglycaemia	196	141	200	184	205
Congenital abnormalities	184	181	174	184	167
Suspected sepsis	40	35	28	36	30
Hypoxic Ischaemic Encephalopathy (HIE)	29	13	25	12	18
Neonatal Abstinence Syndrome(NAS)	28	18	16	21	15
Dehydration	16	14	16	11	10
Seizures	8	12	8	9	9
Social	5	7	8	4	8
Gastro-intestinal symptoms	11	5	3	3	1

\* 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**

	2015	2016	2017	2018	2019
Transient Tachypnoea of the Newborn (TTN)	257	263	209	156	211
Respiratory distress syndrome (RDS)	26	29	27	35	40
Stridor	15	4	4	1	9
Congenital Pneumonia	15	27	19	12	7
Meconium Aspiration Syndrome (MAS)	5	9	14	9	3
Congenital Diaphragmatic Hernia (CDH)	6	2	2	1	3
Laryngomalacia	1	2	0	1	2
Pulmonary Hypoplasia	1	0	1	0	0
Tracheo-Oesophageal Fistula	1	1	2	2	0
Congenital Cystic Adenomatoid Malformation (CCAM)	1	0	1	2	0
Air leak	0	0	0	0	0

**TABLE 1.6:  
CONGENITAL HEART DISEASE IN INFANTS ADMITTED TO THE  
NEONATAL UNIT**

	2015	2016	2017	2018	2019
Dysrhythmia	63	49	38	55	65
Patent Ductus Arteriosus (PDA)	69	68	55	62	53
Persistent Pulmonary Hypertension Of The Newborn (PPHN)	36	41	35	27	25
Ventricular Septal Defect (VSD)	25	23	36	30	21
Atrial Septal Defect (ASD)	21	21	11	13	9
Tetralogy of Fallot	3	2	4	1	8
Transposition Of The Great Arteries (TGA)	5	3	6	6	7
Atrioventricular Septal Defect (AVSD)	3	5	4	2	6
Hypoplastic Left Heart Syndrome (HLHS)	4	4	3	1	1

**TABLE 1.7:  
GASTROINTESTINAL ABNORMALITIES IN INFANTS ADMITTED TO  
THE NEONATAL UNIT**

	2015	2016	2017	2018	2019
Inguinal Hernia	11	8	15	4	6
Isolated Cleft Palate	4	2	7	1	6
Cleft Lip	3	1	2	2	6
Omphalocele	3	10	4	5	4
Imperforate Anus	2	7	4	2	2
Spontaneous Perforation	2	0	2	1	1
Pyloric Stenosis	0	0	0	1	1
Gastroschisis	3	1	0	0	1
Bowel Atresia	0	1	1	1	0
Tracheo-Oesophageal Fistula	1	1	4	3	0

**TABLE 1.8:  
CENTRAL NERVOUS SYSTEM ABNORMALITIES IN INFANTS  
ADMITTED TO THE NEONATAL UNIT**

	2015	2016	2017	2018	2019
Neonatal Abstinence Syndrome (NAS)	28	18	16	21	15
Meningitis	11	7	10	7	10
Seizures not associated with HIE	8	12	8	9	10
Microcephaly	2	3	6	4	1
Hydrocephalus	2	5	3	4	1
Erb's Palsy	0	0	3	2	1
Schizencephaly	3	2	1	2	0

**TABLE 1.9:  
METABOLIC/ENDOCRINE/HAEMATOLOGICAL ABNORMALITIES  
IN INFANTS ADMITTED TO THE NEONATAL UNIT**

	2015	2016	2017	2018	2019
Hypoglycaemia	196	141	200	184	167
Anaemia of Prematurity	93	75	81	72	63
Thrombocytopenia	47	28	39	34	34
Polycythaemia	39	17	36	44	29
Haemolytic Disease Of Newborn	14	13	27	19	27
Hyperglycaemia	19	20	31	29	24
Anaemia (not associated with prematurity)	8	7	8	10	8
Disseminated Intravascular Coagulopathy	19	4	7	0	6
Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH)	6	5	7	17	3
Hypothyroidism	3	4	1	4	3
Galactosemia	1	0	1	2	2

**TABLE 1.10:  
CHROMOSOMAL ABNORMALITIES IN INFANTS ADMITTED TO  
THE NEONATAL UNIT**

	2015	2016	2017	2018	2019
Trisomy 21 (Down Syndrome)	14	22	18	23	15
Trisomy 18 (Edwards Syndrome)	0	0	2	1	2
Trisomy 13 (Patau Syndrome)	0	0	2	1	0

**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
<b>Haemolytic Jaundice</b>					
— ABO Incompatibility	35	14	11	27	16
— Rhesus Incompatibility	6	2	4	5	5

**TABLE 2.1:  
BABIES ADMITTED TO NICU WITH BIRTH WEIGHT  $\leq$  1,500GMS AND/OR  $<$ 29+6 WEEKS' GESTATION**

	2015		2016		2017		2018		2019	
	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 $\geq$ 22+0 weeks gestation	0	0	0	0	0	0	2	2	0	0
Infants 401-500g	0	0	2	1	3	2	2	2	4	3
Infants 501-1,500g	124	108	118	87	111	92	104	94	90	85
Infants $>$ 1,500g but $\leq$ 29+6 weeks gestation	5	5	2	0	1	1	1	1	2	2
<b>Total</b>	<b>129</b>	<b>113</b>	<b>122</b>	<b>88</b>	<b>115</b>	<b>95</b>	<b>109</b>	<b>99</b>	<b>96</b>	<b>90</b>

**TABLE 2.2.1:  
SURVIVAL TO DISCHARGE BABIES BORN  $\leq$  1,500GMS AND/OR  $<$ 29+6 WEEKS' GESTATION - BASED ON GESTATIONAL AGE & INCLUDING INFANTS WITH CONGENITAL ANOMALIES**

	2019 Inborn			2019 Outborn			2019 Total (Inborn & Outborn)			2014-2018 (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	5	0	0
22+0-22+6	2	0	0	-	-	-	2	0	0	19	0	0
23+0-23+6	5	1	20	2	0	0	7	1	14	29	2	7
24+0-24+6	6	3	50	1	1	100	7	4	57	45	24	53
25+0-25+6	14	7	50	-	-	-	14	7	50	43	35	81
26+0-26+6	4	4	100	-	-	-	4	4	100	47	37	79
27+0-27+6	9	8	89	2	2	100	11	10	90	58	50	86
28+0-28+6	8	8	100	1	0	0	9	8	89	101	92	91
29+0-29+6	18	17	94	2	2	100	20	19	95	65	59	91
30+0-30+6	10	9	90	-	-	-	10	9	90	71	68	96
31+0-31+6	4	4	100	-	-	-	4	4	100	50	45	90
32+0-32+6	3	3	100	-	-	-	3	3	100	30	26	87
$>$ 32 weeks	4	3	75	-	-	-	4	3	75	30	29	97
<b>Total</b>	<b>88</b>	<b>67</b>	<b>76</b>	<b>8</b>	<b>5</b>	<b>63</b>	<b>96</b>	<b>72</b>	<b>75</b>	<b>593</b>	<b>467</b>	<b>79</b>







**TABLE 2.2.2:  
SURVIVAL TO DISCHARGE FOR BABIES BORN  $\leq$  1,500GMS AND/OR  $<$ 29+6 WEEKS' GESTATION - BASED ON GESTATIONAL AGE  
& EXCLUDING BABIES WITH CONGENITAL ANOMALIES**

	2019 Inborn			2019 Outborn			2019 Total (Inborn & Outborn)			2014-2018 (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	5	0	0
22+0-22+6	2	0	0	-	-	-	2	0	0	17	0	0
23+0-23+6	5	1	20	2	0	0	7	1	14	28	2	7
24+0-24+6	6	3	50	1	1	100	7	4	57	32	19	53
25+0-25+6	13	7	54	-	-	-	13	7	54	36	30	83
26+0-26+6	4	4	100	-	-	-	4	4	100	37	31	84
27+0-27+6	8	7	88	1	1	100	9	8	89	44	39	89
28+0-28+6	7	7	100	1	0	0	8	7	88	80	79	99
29+0-29+6	17	17	100	2	2	100	19	19	100	58	56	97
30+0-30+6	19	9	100	-	-	-	9	9	100	61	61	100
31+0-31+6	4	4	100	-	-	-	4	4	100	39	39	100
32+0-32+6	3	3	100	-	-	-	3	3	100	22	22	100
>32 weeks	4	3	75	-	-	-	4	3	75	23	23	100
<b>Total</b>	<b>83</b>	<b>65</b>	<b>78</b>	<b>7</b>	<b>4</b>	<b>57</b>	<b>90</b>	<b>69</b>	<b>77</b>	<b>482</b>	<b>401</b>	<b>83</b>

**TABLE 2.3.1:  
SURVIVAL TO DISCHARGE FOR BABIES BORN  $\leq$  1,500GMS AND/OR  $<$ 29+6 WEEKS' GESTATION - BASED ON BIRTH WEIGHT  
& INCLUDING BABIES WITH CONGENITAL ANOMALIES**

Birth weight grams	2019 Inborn			2019 Outborn			2019 Total (Inborn & Outborn)			2014-2018 Aggregate		
	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%
< 501	4	1	25	-	-	-	4	1	25	23	1	0.04
501-600	4	2	50	-	-	-	4	2	50	39	11	38
601-700	13	4	31	4	2	50	17	6	35	42	23	55
701-800	4	2	50	-	-	-	4	2	50	46	30	65
801-900	6	4	67	1	0	0	7	4	57	52	42	81
901-1,000	5	4	80	-	-	-	5	4	57	49	44	90
1,001-1,100	7	6	86	-	-	-	7	6	86	54	46	85
1,101-1,200	11	10	91	-	-	-	11	10	91	60	55	92
1,201-1,300	11	11	100	-	-	-	11	11	100	75	73	97
1,301-1,400	9	9	100	2	2	100	11	11	100	57	51	89
1,401-1500	14	14	100	1	1	100	15	15	100	96	91	95
<b>Total</b>	<b>88</b>	<b>67</b>	<b>76</b>	<b>8</b>	<b>5</b>	<b>63</b>	<b>96</b>	<b>72</b>	<b>75</b>	<b>593</b>	<b>467</b>	<b>79</b>

**TABLE 2.3.2:  
SURVIVAL TO DISCHARGE FOR BABIES BORN  $\leq$  1,500GMS AND/OR  $<$ 29+6 WEEKS' GESTATION—BASED ON BIRTH WEIGHT  
& EXCLUDING BABIES WITH CONGENITAL ANOMALIES**

Birth weight grams	2019 Inborn			2019 Outborn			2019 Total (Inborn & Outborn)			2014-2018 Aggregate		
	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%	n	Survival to Discharge	%
< 501	3	1	33	-	-	-	3	1	33	21	1	0.05
501-600	4	2	50	-	-	-	4	2	50	28	5	18
601-700	13	4	31	3	1	33	16	5	31	34	18	53
701-800	4	2	50	-	-	-	4	2	50	30	23	77
801-900	5	3	60	1	0	0	6	3	50	39	35	90
901-1,000	5	4	80	-	-	-	5	4	57	40	38	95
1,001-1,100	6	6	100	-	-	-	6	6	100	46	42	91
1,101-1,200	10	10	100	-	-	-	10	10	100	51	48	94
1,201-1,300	10	10	100	-	-	-	10	10	100	66	66	97
1,301-1,400	9	9	100	2	2	100	11	11	100	44	43	98
1,401-1500	14	14	100	1	1	100	15	15	100	83	82	99
<b>Total</b>	<b>83</b>	<b>65</b>	<b>78</b>	<b>7</b>	<b>4</b>	<b>57</b>	<b>90</b>	<b>69</b>	<b>77</b>	<b>482</b>	<b>401</b>	<b>83</b>



**TABLE 2.4:**  
**MORBIDITY DATA (INCLUDING BABIES WITH CONGENITAL ANOMALIES)**

	Rotunda 2019 (n=112)			Vermont Oxford Network 2019 Birth Year Comparison Data		Rotunda 2014-2018 Aggregate		
	n	Cases	%	n	%	n	Cases	%
Inborn	97	89	92	62,948	93.5	617	557	90.3
Male	97	53	55	62,901	50.0	617	333	54.0
Antenatal Steroids: All Infants	94	81	86	62,489	85.7	587	499	85.0
Multiple Gestation	97	33	34	62,933	23.2	616	214	34.7
Antenatal Magnesium Sulphate	94	68	72	62,209	63.4	569	361	63.4
Caesarean Delivery	97	67	69	62,906	74.6	615	433	70.4
Any Major Birth Defect	97	6	6	62,918	3.8	613	111	18.1
Small for Gestational Age	97	12	12	62,084	19.6	615	131	22.3
Surfactant Administered in Delivery Room	97	35	36	62,778	14.3	608	345	56.7
Surfactant Administered at Any Time	97	63	65	62,838	57.1	607	388	63.9
Any Ventilation	89	49	55	60,990	55.2	567	299	52.7
Ventilation After Early CPAP	40	7	18	33,508	33.3	210	66	31.4
Conventional Ventilation	89	49	55	60,989	52.9	567	295	52.0
High Frequency Ventilation	16	89	18	60,967	17.1	564	69	12.2
Nasal IMV/SIMV	89	0	0	60,935	32.3	565	19	3.4
Nasal Continuous Positive Airway Pressure (CPAP)	89	73	82	60,960	79.2	568	473	83.3
CPAP Before or Without Intubation and/or Ventilation	75	40	53	51,076	68.0	499	210	42.1
High Flow Nasal Cannula	89	52	58	60,960	79.2	567	229	40.4
Inhaled Nitric Oxide	89	11	12	60,937	2.1	67	569	11.8
Respiratory Distress Syndrome	89	84	94	60,935	75.5	563	510	90.6
Pneumothorax	89	9	10	60,974	2.8	569	47	8.3
Chronic Lung Disease	68	23	34	52,603	20.0	447	82	18.3
Chronic Lung Disease in Infants < 33 Weeks	65	23	35	47,816	21.6	416	80	19.2
Corticosteroids for Chronic Lung Disease	87	13	15	60,881	7.8	565	34	6.0
Early Bacterial Infection	89	2	2	60,972	0.0	565	17	3.0
Late Bacterial Infection	86	11	13	58,213	5.1	539	37	6.9
Coagulase Negative Staphylococcus Infection	86	3	4	58,210	1.4	539	50	9.3
Nosocomial Bacterial Infection	86	11	13	58,210	7.1	539	75	13.9
Fungal Infection	86	0	0	58,196	0.0	540	1	0.0
Any Late Infection	86	11	13	58,213	5.1	539	75	13.9
Necrotizing Enterocolitis (NEC)	89	8	9	60,984	3.1	567	47	8.3
NEC requiring Surgery	89	3	3	60,986	0.0	570	6	1.1
Focal Gastrointestinal Perforation	88	0	0	60,954	0.0	566	2	0.4
Probiotics	89	71	80	60,938	0.0	555	401	72.3
Patent Ductus Arteriosus (PDA)	89	29	33	60,869	21.1	568	210	37.0
Ibuprofen for PDA	89	7	8	60,806	0.9	567	54	9.5

Table continued on next page →

**TABLE 2.4:**  
**MORBIDITY DATA (INCLUDING BABIES WITH CONGENITAL ANOMALIES) (CONTINUED)**

	Rotunda 2019 (n=112)			Vermont Oxford Network 2019 Birth Year Comparison Data		Rotunda 2014-2018 Aggregate		
	n	Cases	%	n	%	n	Cases	%
PDA ligation	89	5	6	60,958	0.0	Data not available for selected years		
Retinopathy of Prematurity (ROP)	69	16	23	43,820	25.0	409	78	19.1
Severe ROP (Stage 3 or greater)	69	2	3	43,820	3.2	409	21	5.1
Anti-VEGF treatment for ROP	89	4	5	60,550	0.0	Data not available for selected years		
Intraventricular haemorrhage (IVH)	85	30	35	54,224	20.8	534	193	36.1
Severe IVH (Grade 3 or 4)	85	9	11	54,281	6.5	534	66	12.4
Cystic Periventricular Leucomalacia (PVL)	85	0	0	54,300	0.9	538	10	1.9
Mortality	96	24	25	62,089	12.5	596	127	21.3
Mortality excluding Early Deaths	87	15	17	59,373	8.7	544	75	13.8
Survival	96	72	75	62,089	87.5	596	469	78.7
Survival without specified morbidities	96	41	43	62,011	61	596	304	51.0

**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**

Measure	Rotunda 2019				Rotunda 2014-2018			
	n	SMR*	Lower 95%	Upper 95%	n	SMR	Lower 95%	Upper 96%
Mortality	88	1.3	0.9	1.9	311	1.2	0.9	1.6
Mortality Excluding Early Deaths	88	1.1	0.9	1.4	300	1.2	0.9	1.6
Death or Morbidity	65	1.3	0.8	1.8	311	1.0	0.8	1.1
Chronic Lung Disease (CLD)	65	1.3	0.8	1.8	245	0.8	0.6	1.0
CLD: Infants < 33 Weeks	62	1.3	0.8	1.8	231	0.8	0.6	1.0
Necrotizing enterocolitis	85	1.4	0.6	2.3	320	1.7	1.2	2.3
Late Bacterial Infection	82	1.4	0.7	2.2	305	1.0	0.6	1.3
Coagulase Negative Staphylococcus	82	0.8	0.2	1.8	305	1.5	1.0	2.1
Nosocomial Infection	82	1.1	0.6	1.7	305	1.1	0.8	1.4
Fungal Infection	82	0.3	0.0	1.9	306	0.1	0.0	0.8
Any Late Infection	82	1.0	0.6	1.7	305	1.1	0.8	1.4
Any Intraventricular Haemorrhage (IVH)	81	1.2	0.8	1.6	303	1.4	1.2	1.7
Severe IVH (Grade 3 or 4)	81	1.1	0.7	1.5	303	1.4	1.0	1.8
Pneumothorax	85	1.4	0.8	2.1	321	1.4	1.0	2.0
Cystic Periventricular Leucomalacia (PVL)	81	0.4	0.0	1.2	302	0.8	0.3	1.4
Retinopathy of Prematurity (ROP)	66	0.9	0.5	1.3	212	0.8	0.6	1.0
Severe ROP (Stage 3 or greater)	66	0.7	0.2	1.4	212	0.9	0.5	1.4

\*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	Apgar scores (1 and 5 minutes, and 10 minutes)	Age at Death	Principal Cause of Death
<b>NO CONGENITAL ANOMALIES</b>					
440	24+6	Caesarean Section	6(1);7(5)	4 weeks	Acute Renal Failure, Evolving chronic Lung Disease, Cholestasis, Cerebellar Haemorrhage
620	23+5	Spontaneous Vaginal Delivery ( Home Delivery)	Not Documented	4 Days	Interventricular Haemorrhage with Associated Intraparenchymal Component Bilaterally; Pulmonary Haemorrhage
680	23+5	SVD ( Home Delivery)	Not Documented	2 Days	Interventricular Haemorrhage with Associated Intraparenchymal Component on Left ; Pulmonary Haemorrhage
650	25+1	Caesarean Section	3(1);8(5)	4 weeks	Respiratory Failure due to severe Pulmonary Interstitial Emphysema
670	24+6	Caesarean Section	1(1);4(5);8(10)	6 Days	Interventricular Haemorrhage with Associated Large Left Intraparenchymal Component
690	23+5	Spontaneous Vaginal Delivery	4(1);6(5);8(10)	3 Days	Interventricular Haemorrhage with Extensive Intraparenchymal Component and Midline Shift
700	23+5	Breech Vaginal Delivery	1(1);1(5);1(10)	17 Minutes	Prolonged Premature Rupture of Membranes at 20 weeks associated with Anhydramnios
700	25+1	Spontaneous Vaginal Delivery	3(1);1(5)	17 Minutes	Premature Prolonged Rupture of Membranes associated with Anhydramnios at 18 weeks
700	25+6	Spontaneous Vaginal Delivery	5(1);7(5)	8 Days	Patent Ductus Arteriosus ; Interventricular Haemorrhage
700	23+6	Caesarean Section	1(1);5(5);8(10)	15 Days	Pneumothoraces; Patent Ductus Arteriosus; Interventricular Haemorrhage with Associated Moderate Intraparenchymal Component on Right
710	23+6	Spontaneous Vaginal Delivery	Not Documented	Day 12	Necrotising Enterocolitis ; Patent Ductus Arteriosus
850	28+0	Spontaneous Vaginal Delivery (Delivery on transit to hospital)	Not Documented	No heart rate on arrival to hospital at 42 mins post delivery	Placental ischemia due to maternal vascular malperfusion/chronic uteroplacental insufficiency
880	25+5	Spontaneous Vaginal Delivery	8(1);9(5)	Day 2	Interventricular Haemorrhage with Associated Intraparenchymal Component Bilaterally, Severe Respiratory Distress Syndrome, Pulmonary Hypertension
990	25+5	Caesarean Section	1(1);5(5);7(10)	Day 29	Acute Renal Failure; Interventricular Haemorrhage with Associated Intraparenchymal Component on Right; Necrotising Enterocolitis
2100	34+2	Breech Vaginal Delivery	0(1);0(5);0(10)	15 Hours	Severe Hypoxic Ischaemic Encephalopathy
3000	40+6	Spontaneous Vaginal Delivery	0(1);0(5);0(10)	32 Hours	Severe Hypoxic Ischaemic Encephalopathy
3180	40+4	Spontaneous Vaginal Delivery	Not Documented(1); 0(5);0(10)	9 Days	Severe Hypoxic Ischaemic Encephalopathy
3280	39+6	Caesarean Section	0(1);0(5);1(10)	48.3 Hours	Severe Hypoxic Ischaemic Encephalopathy
3730	42	Ventouse and Forceps	1(1);1(5);1(10)	32.7 Hours	Severe Hypoxic Ischaemic Encephalopathy
3790	41+1	Ventouse and Forceps	1(1);0(5);0(10)	13.8 Hours	Severe Hypoxic Ischaemic Encephalopathy
3800	40+2	Spontaneous Vaginal Delivery ( Home Delivery)	Not Documented	48 Hours	Severe Hypoxic Ischaemic Encephalopathy

**TABLE 3:  
NEONATAL MORTALITY DATA\* (CONTINUED)**

Birth Weight (grams)	Gestation	Delivery	Apgar scores (1 and 5 minutes, and 10 minutes)	Age at Death	Principal Cause of Death
<b>CONGENITAL ANOMALIES</b>					
700	38+1	Spontaneous Vaginal Delivery	4(1);1(5);1(10)	20 Minutes	Multiple Anomalies including macrocephaly, micrognathia, micro-opthalmia, short limbs, pulmonary hypoplasia with hypoplastic bronchi, hypoplastic stomach, small and large intestines, dislocation of several joints, bilateral talipes. Possible Craniomicromelic Syndrome
1020	30+4	Caesarean Delivery	Not Documented	66 Minutes	Anencephaly
1160	29	Caesarean Delivery	6(1);6(5)	11 Hours	Pulmonary Hypoplasia Secondary to eventration of the Diaphragm
1520	32+1	Caesarean Delivery	7(1);7(5)	38 Hours	Pulmonary Hypoplasia Secondary to bilateral Renal Tubular Dysgenesis
1850	37+1	Spontaneous Vaginal Delivery	1(1)	33 Minutes	Unbalanced translocation of chromosomes 10:18 associated with cardiac abnormalities (large inlet ventricular septal defect, hypoplastic left ventricle, hypoplastic ascending aorta, dominant right ventricle and pulmonary outflow)
1970	38	Induced Vaginal Delivery	7(1);8(5)	37 Hours	Trisomy 18 with large Ventricular Septal Defect; Hypoplasia of the Descending Aorta; Horseshoe Kidney ; Dandy Walker Malformation
2140	35+2	Induced Vaginal Delivery	6(1);3(5)	67 Minutes	Bilateral Multicystic Dysplastic Kidneys with early onset Anhydramnios, Ventricular Septal defect, Double Outlet Right Ventricle
3030	38+6	Spontaneous Vaginal Delivery	8(1);9(5)	Day 2	Complex Cardiac Anomalies
3210	33+4	Induced Vaginal Delivery	6(1);3(5);2(10)	65 Minutes	Pulmonary Hypoplasia secondary to diffuse cystic/multicystic renal dysplasia
3730	41+5	Induced Vaginal Delivery	9(1);10(5)	Day 3	Complex Cardiac Anomalies

\* Stillbirths and babies delivered <23+0 weeks gestation are not included. Table also includes babies born in 2018 who died in 2019.



**TABLE 4.1:**  
**HYPOXIC-ISCHAEMIC ENCEPHALOPATHY (HIE)**

	2015		2016		2017		2018		2019	
	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn
<b>Total</b>	15	11	7	9	22	9	13	1	10*	7
Mild (Grade1)	9	2	4	-	12	-	5	-	Not Reported Given Inaccuracy with Case Ascertainment	
Moderate (Grade 2)	6	6	2	8	8	6*	5	1	4	3
Severe (Grade 3)	1	3	1	1	2	3**	3	-	6	4**
<b>Therapeutic Hypothermia</b>	7	10	3	8	10	8	8	1	9***	6
	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.				*Grade 1 Encephalopathy not included ** One infant was not eligible for therapeutic hypothermia due to preterm gestational age ***Therapeutic Hypothermia not commenced in one case as baby did not meet cooling criteria on initial review	

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	Inborn	40+5	V&F	7.35	-7.1	7.45	-9.0	8
2	Inborn	40	Forceps	7.08	-12.1	7.14	-11.8	6
2	Inborn	42	Vaginal	7.11	-11.9	7.32	-9.18	1
2	Inborn	37+4	EMCS	6.73	-23.0	6.79	-20.3	1
2	Outborn	38+1	EMCS	7.13	-10.5	7.08	-10.7	0
2	Outborn	37+1	EMCS	ND	ND	ND	ND	2
2	Outborn	40+2	Vacuum	ND	ND	7.24	-4.6	2
3	Inborn	42	V&F	ND	ND	7.18	-11.3	1
**3	Inborn	37+1	Vaginal	ND	ND	7.3	-6.6	1
3	Inborn	41+1	V&F	6.98	-15	7.12	-12.9	1
3	Inborn	39+3	EMCS	6.7	-22.5	6.8	-17.6	0
3	Inborn	39+6	EMCS	6.82	-21.2	7.04	-11.6	0
3	Inborn	40+4	Vaginal	6.73	-24.6	6.78	-18.9	***ND
3	Outborn	40+6	Vaginal	ND	ND	ND	ND	0
3	Outborn	40+0	Vacuum	7.0	-11.9	7.32	-8.3	1
3	Outborn	40+2	Vaginal	Home delivery – No cord gases; Apgar's not assigned				
3	Outborn	34+2	Vaginal breech	ND	ND	6.5	ND	0

V&F = Sequential Vacuum and Forceps ; EMCS= Emergency Caesarean Section; ND= Not documented


\*Did not meet criteria for therapeutic hypothermia day 1

\*\*Associated with Non-Immune Hydrops

\*\*\* Precipitous delivery clinical condition not witnessed at 1 minute

\*\*\*\*Therapeutic hypothermia not commenced in view of gestation

5 Minute Apgar	Therapeutic Hypothermia	Seizures	Brain MRI	Neurodevelopmental Progress	
				Outcome at Last Review	Age Assessed (months)
6		Yes	Extensive diffusion restriction in the bilateral subcortical white matter, left internal capsule, corpus callosum, midbrain and pons	Right Hemiplegia	9
6		No	Normal	Normal	7
2		No	Normal	Normal	4
1		No	Restricted diffusion within splenium of corpus callosum.	Normal	4
8		Yes	Bilateral watershed injury anteriorly and posteriorly associated with diffuse diffusion restriction through the corpus callosum	Follow Up Locally	
5		No	Normal	Follow Up Locally	
1		Yes	Normal	Follow Up Locally	
1		Yes	Not done	Died at 33 hours	
0		Yes	Small foci of haemorrhage within both cerebellar hemispheres	Mild Gross Motor Delay	13
0		No	Not done	Died at 14 hours	
3		Yes	Increased T1 signal in the basal ganglia and central sulcus bilaterally	Evolving Cerebral Palsy with Poor Visual Response	3
0	Yes	Yes	Not done	Died at 48 hours	
0	Yes	Yes	Not done	Died at Day 9	
0	Yes	Yes	Not done	Died at 31 hours	
3	Yes	Yes	Restricted diffusion in left thalamus	Follow up Locally	
	Yes	Yes	Not done	Died at 48 hours	
0	****No	Yes	Not done	Died at 15 hours	

A portrait of Mr. John O'Loughlin, Laboratory Manager. He is a middle-aged man with short brown hair, wearing glasses, a light blue shirt, and a dark blue suit jacket. He is smiling slightly and looking directly at the camera. The background is a plain, light-colored wall.

**“SINCE THE  
ESTABLISHMENT OF THE  
LAB IN 1901 WE HAVE  
ALWAYS BEEN AT THE  
FOREFRONT OF MATERNITY  
AND NEONATAL  
LABORATORY MEDICINE”**

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# ALLIED CLINICAL SERVICES

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# 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

**Ms. Caroline Bosse**, Laboratory Administration Team Leader

## SERVICE OVERVIEW

The Rotunda Hospital laboratory provides a full suite of tests across the disciplines of haematology/transfusion, histopathology, microbiology and biochemistry. The laboratory also provides a 24/7 Laboratory Testing Service, a Phlebotomy Service, as well as a Point-Of-Care Service. The Mortuary and Post-Mortem Services also are part of the overall Laboratory Service.

The service had a busy year in 2019. ISO 15189 and ISO 22870 accreditation with the Irish National Accreditation Board (INAB) was maintained. The scope of accreditation was extended to include all new tests and analysers. Many areas of the laboratory have experienced dynamic changes in the way samples are analysed. Many areas such as microbiology have moved from relying largely on manual testing methods to molecular testing. This is a pattern that is expected to be seen in other divisions over the coming years.

During 2019, a relatively high turnover of staff was noted in the Laboratory Service. While the employment market for both medical scientists and consultant pathologists remains a very competitive one, the Rotunda continues to attract very good candidates for these roles. This does however remain an area of concern for the Laboratory Service going into the future.

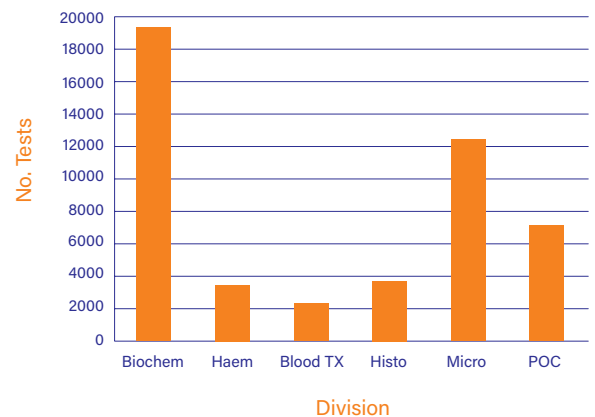
## CLINICAL ACTIVITY

2019 saw a significant increase in workload across all divisions. This increase has put additional pressures on the laboratory infrastructure and the out-of-hours service. After the introduction of the MN-CMS electronic healthcare record system, the laboratory experienced a slight reduction in samples being analysed in 2017 and into early 2018, although significant increases in laboratory workload were noted throughout 2019. This included an 8% increase in microbiology testing, mostly driven by the introduction of novel rapid Group B Streptococcus (GBS) PCR testing. This new testing service has been extremely successful in reducing the incidence of GBS septicaemia in NICU. The Histopathology Division saw a significant increase in workload across all areas including surgical, placental, autopsy and cytology testing. This was largely driven by an increase in outlying clinics, such as the Rotunda-managed Outpatient Hysteroscopy Service at Connolly Hospital, and the increasing workload from the Perinatal Pathology Service in the North East. Haematology and Blood Transfusion also saw significant increases in workload in 2019, as well as a large jump in routine testing, such as coagulation screens and full blood counts. Blood Transfusion saw a significant increase in Group and Screens. Some of this increase was due to the introduction of the new Termination of Pregnancy Service. There was also a significant increase in Biochemistry and Point-of-Care

(POC) workload, as well as a dramatic increase in requests for pre-eclampsia blood testing, Vitamin D levels and free T3 requests.

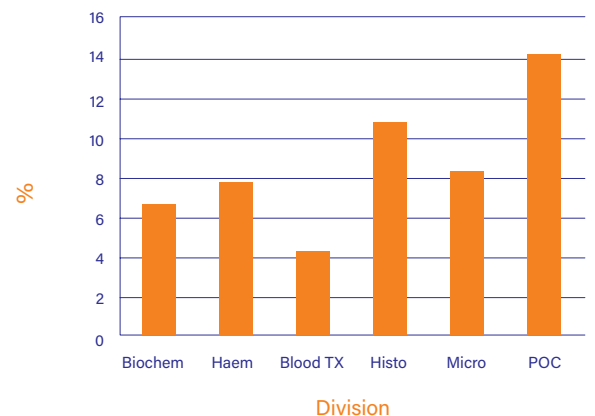
**FIGURE 1: WORKLOAD SUMMARY (TESTS)**

Increased workload 2019 v 2018 – Total Tests



**FIGURE 2: WORKLOAD SUMMARY (%)**

% Increased workload 2019 v 2018



## SUCCESSSES & ACHIEVEMENTS 2019

The Laboratory Service continued to expand its scope of accreditation to ISO 15189 and ISO 22870 standards. All new tests and equipment were added to the scope of practice, to ensure that a fully accredited service is being delivered for all patients and users. A further expansion of the MN-CMS electronic healthcare record system to include gynaecology services also had a positive impact on laboratory services by removing the last paper-based laboratory results.

Several new pieces of laboratory equipment were commissioned in 2019, such as a new Immunostainer and H+E Stainer in Histopathology. New and improved assays and procedures in

Biochemistry and new instruments in Point-of-Care were also introduced. Blood Transfusion saw the introduction of two new blood transfusion analysers. The Laboratory Service upgraded its Laboratory Information Management System (LIMS) server which was a significant project that future-proofs the APEX system until the eventual introduction of the new national MedLIS project.

Microbiology rolled out several new tests and saw an expansion in molecular testing capabilities. Microbiology was also successful at the 2019 national Health Care Awards, winning first prize for machine-learning with Bacterial Vaginosis on the SeeGene platform.

The Point-of-Care Service was expanded to include more blood gas analysers for rapid lactate testing and enhanced back-up for these systems. This is an essential resource for ward-based management of sepsis patients.

### CHALLENGES 2019

The main challenge for the Laboratory Service in 2019 continued to be the ongoing provision of the 24/7 service, in particular as the workload and repertoire of tests has been increasing steadily. Significant enhancements were implemented in 2019, such as improvements to the 'on call' facilities for staff, although workload continues to increase despite efforts for containment. Laboratory Service management had several engagements with unions to try and address issues raised by staff in relation to 'on call'. Staffing continues to be a challenge due to a difficult recruitment market. There is a national shortage of medical scientists and consultant pathologists, which this is likely to remain a challenge over the next few years.

The laboratory infrastructure, both in terms of size and condition, continues to be a major challenge for the service. This has resulted in great difficulty in installing new equipment for validation due to size constraints. It is also coming under renewed pressure due to the significant increase in workload across all divisions. The need to replace some outdated equipment over the next year will also be challenging given infrastructure constraints. The Histology Division has had to send out some testing to external laboratory providers due to on-going instrument issues. In particular, the main biochemistry and serology analysers are coming to the end of their reliable lifespan.

### PLANS FOR 2020

The major plans for 2020 are focussed on new and improved services. It is hoped to review the layout of the laboratory and to make some changes to this layout to improve processes.

In Blood Transfusion, a plan is being rolled out to implement a novel cell-free fetal DNA service with the Irish Blood Transfusion Service (IBTS) to prenatally confirm fetal blood type in Rhesus negative mothers. This new service has the potential to radically reduce the need for Anti-D immunoglobulin prophylaxis to Rhesus negative mothers, by identifying mothers who are carrying a Rhesus negative fetus.

In Microbiology, it is hoped to increase molecular diagnostic testing with the introduction of new assays on the SeeGene, GeneXpert and FilmArray platforms as well as looking to upgrade the serology analyser. It is also hoped to build on the introduction of the MN-CMS electronic healthcare record by expanding research into artificial intelligence and machine learning.

The Biochemistry Service aims to introduce new assays that will improve the performance of some tests, such as Direct Bilirubin. It is also hoped to start the process for replacing the main biochemistry analyser.

Histology will continue to validate new analysers and install a back-up tissue processor.

# DIVISION OF CLINICAL BIOCHEMISTRY AND POINT-OF-CARE TESTING

## 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 Coordinator

## SERVICE OVERVIEW

The Division of Clinical Biochemistry and Point-of-Care Testing provides an extensive range of routine and specialised biochemistry and endocrinology testing for the hospital and external organisations.

## CLINICAL ACTIVITY

**TABLE 1:**

	2018	2019	% Difference
Biochemistry and Endocrinology	299,238	318,228	+6%
Blood gas	14,835	16,343	+10%
Glucose Point-of-Care (POC)	29,384	36,076	+20%
Haemoglobin Point-of-Care (POC)	5,325	4,136	+25%

Highlights for clinical activity in 2019 included:

- A significant increase in pre-eclampsia testing requests (+34%) and urinary PCR testing (+28%)
- A significant decrease in lactate requests (-82%) due to the introduction of more point-of-care blood gas analysers
- Increased requests for Vitamin D testing (+37%) due to its inclusion in infertility investigations
- A significant increase in FreeT3 requests (+38%)

## SUCCESSSES & ACHIEVEMENTS 2019

In 2019, the division had several notable achievements:

- The division retained INAB accreditation for testing for Biochemistry, Endocrinology and Point-of-Care testing
- Introduction of light-protecting carrier tubes for neonates to improve the accuracy of bilirubin measurement
- Introduction of a new generation of TSH assay which is less susceptible to interference from biotin

## ENHANCING PATIENT CARE

- Validation commenced of a new method for direct bilirubin testing, which will reduce the number of samples rejected due to haemolysis

## EDUCATION & TRAINING

Division staff participated in a large range of continuing education and training opportunities, including:

- PALM Study Day, School of Medicine, TCD
- Association of Clinical Biochemists Ireland, Annual Conference
- Irish External Quality Assessment Scheme, Annual Conference
- Regular Journal Clubs held within the Division, each presented by different staff members
- Roche User Group Meeting
- RIQAS 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 commenced in 2018 and continued throughout 2019. This study was led by Consultant Anaesthetist Dr. Anne Doherty and 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 POC Coordinator, Lorna Pentony and IT Coordinator, Ciaran Mooney, co-authored the British Society of Haematology Guidelines for POC testing in Haematology which was published in the British Journal of Haematology in October 2019. These guidelines will be an international reference for POC testing

## CHALLENGES 2019

- The laboratory was advised that interfacing of POC test results to the MN-CMS electronic healthcare record is to become a national project and that the Rotunda cannot proceed to implement this project without the involvement of other sites and the National Back Office. This could mean a delay of several years. It is hoped to implement interfacing of POC results to APEX without interfacing to MN-CMS as an interim measure
- Due to ageing equipment and the fact that the analyser is running at maximum capacity, it was not possible to expand some new testing services in biochemistry and endocrinology
- It was hoped to introduce urine dipstick readers for spot urine protein estimation with a view to automated interfacing of results to APEX and the MN-CMS electronic healthcare record. For it to be practicable there would need to be a reader in each of the consultation rooms in the outpatient setting. Upon review of the device, cross contamination of

samples was noted to be very likely as the dipstick tray in the device needs to be wiped clean of urine after each use. Additionally, quality control checks needed to be run on each device to ensure accuracy of results. Feedback from midwives is that this may not be feasible as it would mean a considerable addition of duties

#### **PLANS FOR 2020**

- To introduce a new method for direct bilirubin which is not as susceptible to interference from haemolysis
- Review the adult reference ranges in line with Pathology Harmony
- Begin the tendering process to replace the current main analyser
- Implement video tutorials for training and proficiency testing of staff in the use of POC devices. Users can access the training videos at a time that is convenient to them and their workload while also ensuring compliance with social distancing. Video tutorials will also be available to consult as a reference at any time

# 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

**Ms. Ellen Lennon**, Senior Medical Scientist

**Ms. Patricia Baynes**, Medical scientist

**Ms. Ita Cahill**, Half Time Medical Scientist

**Ms. Caroline Doherty**, Half Time Medical Scientist

**Ms. Gemma Tyrrell**, Medical Scientist

**Ms. Shauna Devine**, Laboratory Aide

**Mr. Tom Murphy**, Medical Scientist

**Ms. Kavneet Kaur Kainth**, Medical Scientist

**Ms. Meave Fogarty**, 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:**

Location	2018	2019	% difference
Serology	55,753	54,571	-2%
Andrology	4,792	4,403	-8%
PCR	6,744	12,883	+91%
Microbiology	70,809	73,907	+ 4%
Referral	12,825	17,356	+35%
<b>Total</b>	<b>150,923</b>	<b>163,120</b>	<b>+8%</b>

## SUCCESSSES & ACHIEVEMENTS 2019

In 2019, the division had several notable achievements:

- ISO 15189 Accreditation awarded for all new tests introduced into the division and continuation of accreditation for Microbiology, Serology, Molecular Testing and Andrology
- Increased capacity on the GeneXpert to accommodate increasing numbers of samples
- Introduction of GBS PCR Testing on a 24/7 basis for patients requiring induction of labour
- Implementation of FilmArray for identification of organisms in respiratory samples
- Trichomonas vaginalis, Norovirus and confirmation of CPE isolates added to GeneXpert repertoire
- Interface added to the SeeGene platform for both Bacterial Vaginosis and STI PCR testing, which coincided with the introduction of the BV Plus assay to replace the BV Assay

- Success at the National Irish Health Care Awards 2019, in which the Rotunda was nominated for GBS testing on the GeneXpert platform, and also won first prize for machine learning with BV on the SeeGene platform

## EDUCATION & TRAINING

- Continued staff training in the use of mass spectrometry
- Training in the use of alternative molecular assays such as SeeGene.
- Continued professional education for all staff particularly in areas of molecular testing

## RESEARCH

- The division has published a quality improvement paper around the management of pyelonephritis in pregnancy, and also a review of Staphylococcus aureus bacteraemia in the Neonatal Intensive Care Unit

## INNOVATION

- Prize awarded at the Irish Health Care Awards 2019 for best use of Information Technology for a project on interpretation of bacterial vaginosis results

## CHALLENGES 2019

The Division of Clinical Microbiology faced several challenges during the year, which included:

- 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 on an out-of-hours basis, training of non-microbiology staff to provide an effective on-call service has proved difficult

## PLANS FOR 2020

The Division's plans for 2020 include:

- Introduce a second test for Clostridium difficile testing
- Upgrade of the Abbott Architect and water purifying system
- Investigate the possibility of a MediBridge Link with the Children's University Hospital Temple Street
- Formalise the role of a Surveillance Scientist
- Investigate the possibility of expanding test repertoire on the SeeGene platform, such as for ESBL, GBS, and AV



## DIVISION OF HAEMATOLOGY AND TRANSFUSION

### HEAD OF DIVISION

**Dr. Fionnuala Ní Áinle**, Consultant Adult Haematologist

### STAFF

**Ms. Deirdre Murphy**, Chief Medical Scientist  
**Ms. Natasha Drury**, Senior Medical Scientist  
**Ms. Emily Forde**, Senior Medical Scientist  
**Mr. Sarah Kelly**, Senior Medical Scientist  
**Ms. Deirdre O'Neill**, Senior Medical Scientist  
**Ms. Rose O'Donovan**, Haemovigilance Officer  
**Ms. Christine Clifford**, Medical Scientist  
**Ms. Deirdre Corcoran**, Medical Scientist  
**Ms. Catriona Ryan**, Medical Scientist (commenced June 2019)  
**Ms. Edel Cussen**, Medical Scientist  
**Ms. Meabh Hourihan**, Medical Scientist  
**Ms. Elaine O'Leary**, Medical Scientist  
**Ms. Ellen O Connor**, Medical Scientist (commenced Sept 2019)  
**Ms. Lilliana Rasidovic**, Medical Scientist  
**Ms. Suzanne Barrow**, Medical Scientist  
**Ms. Karen Fennelly**, Laboratory Aide  
**Ms. Catherine Conran**, Laboratory Aide

### SERVICE OVERVIEW

The Haematology Department's main workload includes full blood counts (FBCs), coagulation screens, thrombophilia testing and haemoglobinopathy screening in both adult and neonates. In 2019 we saw significant increases in FBCs and Coagulation screens. The Blood Transfusion Department also saw increases in workload in adult samples. Blood Transfusion's main workload includes Group and Screens, antibody testing, Group and DCTs and also crossmatching and issue blood and blood components such as red cells, platelets and prophylaxis Anti-D.

**TABLE 1: BLOOD TRANSFUSION ACTIVITY**

Blood Transfusion Activity	2018	2019	% Difference
Group and Save	6,913	7,399	+7%
Total Blood group tests	54,319	56,543	+4%
Direct anti-globulin tests	3,398	3,313	-3%
FMH estimation by flow cytometry	708	688	-3%

### ACTIVITY 2019

**TABLE 2: HAEMATOLOGY ACTIVITY**

Haematology Activity	2018	2019	% Difference
Coagulation screen	2,329	2,844	+22%
Full Blood Count	38,753	42,167	+9%
Thrombophilia screen	2,31	241	+4%
Cord Blood electrophoresis	1,755	1,843	+6%
Manual differential	1,632	1,047	-36%

### SUCCESS AND ACHIEVEMENTS 2019

The division verified two new blood transfusion analysers, one of which was successfully accredited in 2019. The second is due for INAB accreditation at the next surveillance visit in 2020. These analysers will allow automation of additional tests on-call. Specimen referral was relocated to the Division of Biochemistry to allow utilisation of this area in the main laboratory by the new blood grouping analyser. This benefited both on-call staff and during occasions of reduced routine day staff numbers, by allowing the incorporation of manual and automated blood transfusion into the main laboratory.

In January 2019, as part of the roll-out of the national Termination of Pregnancy Service, the laboratory provided maternal blood group testing for all patients using this service and, where indicated, Anti-D immunoglobulin was issued and administered. The laboratory provided this complete service, including requisition forms, sample containers and sample transport for local GP's providing pregnancy termination services. The laboratory administration staff assisted in the provision of this service.

There was a delay in the implementation of the new EU Falsified Medicine Directive (FMD) in 2019 for batch blood products including Anti-D. An oversight by the HSE Implementation Group failed to take laboratories into account when rolling out the FMD directive in February 2019. Therefore, a deferral in achieving compliance until 2020 was agreed. The required equipment, and relevant training was provided in September 2019. The FMD directive was then implemented in full at the Rotunda.

### CHALLENGES IN 2019

Lack of space and poor general infrastructure continue to be a challenge for the department. This has been further complicated by ongoing issues with the floors in the department. This is proving very difficult to solve as it would require the lab to decant to another location in order to allow maintenance in to fix the sub-surface. The benching and storage in the department are in need of upgrade.

### PLANS FOR 2020

A review of new technology available for full blood count and coagulation testing will be carried out with a view to upgrading the current analysers.

The current laboratory space available for haematology and blood transfusion are very restricted, with significant repairs required for its flooring. Changes to the laboratory layout are anticipated in 2020 following review by a multidisciplinary laboratory team.

# DIVISION OF HISTOPATHOLOGY

## HEAD OF DIVISION

**Dr. Eibhlís O'Donovan**, Consultant Histopathologist

## STAFF

**Dr. Emma Doyle**, Consultant Histopathologist

**Dr. Noel McEntagart**, Consultant Histopathologist

**Ms. Colma Barnes**, Chief Medical Scientist

**Ms. Lorna Thomas**, Senior Medical Scientist

**Mr. Michael Smith**, Senior Medical Scientist

**Ms. Miriam Hurley**, Medical Scientist

**Ms. Tokiko Kumasaka**, Medical Scientist

**Ms. Aderanti Morenigbade**, Medical Scientist

**Ms. Sarah Morris**, 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, such as autopsies. The division also provides a diagnostic cytopathology service for non-gynaecological specimens.

Ms. Lorna Thomas was promoted to Senior Medical Scientist, replacing Ms. Phil Bateson. Mr. Michael Smith's position was upgraded to that of Senior Medical Scientist in January 2019. Ms. Colma Barnes retired as Chief Medical Scientist and was replaced by Mr. Kieran Healy. Dr. Paul Downey and Dr. Deirdre Devaney provided locum consultant histopathologist services, which greatly assisted the team in managing service demands. There continues to be vacancies for a Consultant Histopathologist and a Medical Scientist.

## KEY PERFORMANCE INDICATORS (KPIs)

The Division of Histopathology routinely measures turnaround times on surgical cases and autopsies. The division also participates in the National Quality Assurance Intelligence System – Histopathology, which monitors KPIs and facilitates comparison to other Irish laboratories. Histopathology is accredited to the ISO 15189 standard. The Division of Histopathology participates in several External Quality Assurance schemes such as NEQAS ICC, NEQAS CPT and NORDI QC.

## CLINICAL ACTIVITY

**TABLE 1: CLINICAL ACTIVITY - HISTOPATHOLOGY**

	2017	2018	2019	% diff.
Surgical Cases	4,552	5,120	5,653	10%
Surgical Specimens	6,052	6,726	7,656	14%
Surgical Blocks	11,266	13,040	13,816	6%
Placental Cases	1,367	1,771	1,971	11%
Placental Blocks	5,555	5,739	5,855	2%
Full Autopsy Cases	53	65	91*	40%
Limited Autopsy Cases	12	11	14	27%
Autopsy Blocks	469	454	895	97%
Cytology Cases	61	58	68	17%

Note: Each case represents a clinical event or procedure (e.g. surgery, delivery). One case may have multiple specimens (e.g. right and left fallopian tube). One specimen may generate multiple blocks for histological interpretation (e.g. four blocks from a single placenta), and each block may generate multiple slides.

\* Including 16 autopsies for the Dublin City Coroner and one for the Chief State Pathologist

## QUALITY OBJECTIVES 2019

- Maintain ISO 15189 accreditation
- Assist in the implementation of the MN-CMS electronic healthcare record for gynaecology patients
- Source replacements for aging equipment

## SUCCESSES & ACHIEVEMENTS IN 2019

- Accreditation to ISO 15189 was maintained
- Electronic Order Communications for gynaecology patients was implemented
- Replacements of two important pieces of equipment were procured – a H&E stainer and an Immunohistochemistry stainer

## ENHANCING PATIENT CARE

The division continues to provide a centre for perinatal pathology to the entire North East of Ireland through the RCSI Hospitals Group.

The division has maintained its accreditation status, despite the increasing workload and staffing and equipment challenges.

## EDUCATION & TRAINING

The division continued to participate in the training of student medical scientists and NCHDs. Continuous professional development for staff continues to be supported.

### INNOVATION

With the expansion of the MN-CMS electronic healthcare record for all patients, the workflow around receipt of specimens was re-evaluated. This resulted in more paperless records and being implemented within the division.

### CHALLENGES IN 2019

The Division of Histopathology faced several challenges during the year which included the failure of the main tissue processor, a critical machine in the histology process. The effect of this failure was exacerbated by the lack of an on-site back-up and staffing shortages.

The age of equipment continued to provide a significant challenge, some of the equipment becoming obsolete and no longer being supported for maintenance.

The recruitment of replacement staff continued to be challenging in 2019.

The expansion of the MN-CMS electronic healthcare record with order communications created challenges with full positive identification of specimens, consuming significant of staff resources.

### PLANS FOR 2020

- Maintain ISO 15189 accreditation
- Verify all new equipment and ensuring inclusion in the scope of accreditation
- Re-introduce on-site tissue processing and procurement of an on-site backup
- Recruit and train replacement staff, including up-skilling of laboratory aides to scientists

## 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. Christine Clifford**, Deputy Point-of-Care Testing Coordinator

**Ms. Gemma Tyrrell**, Deputy Point-of-Care Testing Coordinator

**Ms. Aiveen O'Malley**, Health and Safety Officer

**Mr. Michael Smith**, Deputy Health and Safety Officer

**Mr. Ciaran Mooney**, ICT Coordinator

**Mr. John O'Loughlin**, Deputy ICT Coordinator

**Mr. Ciaran Mooney**, Training Officer

**Ms. Niamh Cahill**, Deputy Training Officer

**Ms. Miriam Hurley**, Deputy Training Officer

### ACTIVITY

The Laboratory Medicine Service maintained accreditation in 2019 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 and 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 2019 report was successfully submitted and has been accepted by HPRA.

The service regularly reviews its performance with its end-users. In 2019, a user survey was performed with external hospital laboratories that refer samples to the Rotunda for provision of Feto-Maternal Haemorrhage estimation by Flow Cytometry using Anti-D. The service was deemed excellent with a suggestion that testing for using HbF labelling, instead of Anti-D, to this profile would be beneficial.

The laboratory was part of a hospital-wide review of the Termination of Pregnancy service with GPs using the hospital and laboratory services.

### SUCCESSSES & ACHIEVEMENTS 2019

The laboratory added a number of tests and instruments in 2019 by means of the flexible scope of accreditation. This process presents the laboratory a pathway to include tests within the scope of accreditation, with no assessment fee from INAB. All additions are reviewed at the annual surveillance visit. Additions are noted as follows:

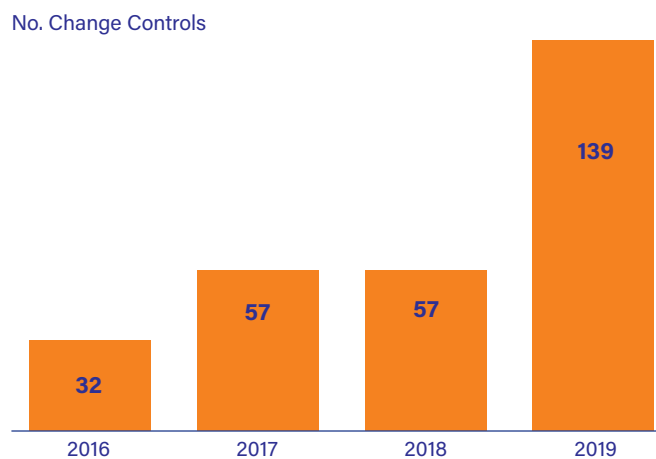
- A number of instruments were made available for Point-of-Care use following request from clinical users in the NICU and the Labour and Delivery Suite
- Increased testing capacity and scope was added to the test repertoire by PCR in Microbiology

- Improved testing in line with best practice was added to the scope of accreditation in Histology, Biochemistry and Blood Transfusion
- A number of senior staff joined the service and comprehensive training in the Quality Management System (QMS) was made available as required

The areas of ICT and POCT are now led by designated coordinators and their deputies. These areas continue to become an integral and important part of laboratory medicine which has improved communication and availability of results with end-users.

The QMS promoted the use of a formal change-control process using Q-Pulse in 2019. Figure 1 below shows the number of change controls raised through the laboratory from 2016–2019.

**FIGURE 1: CHANGE CONTROLS INTRODUCED**



The laboratory raises change controls on Q-Pulse when an opportunity for improving the service, and ultimately improving patient care, is identified in the service. Since Q-Pulse was introduced formally to record change controls, the number of change controls identified has increased exponentially.

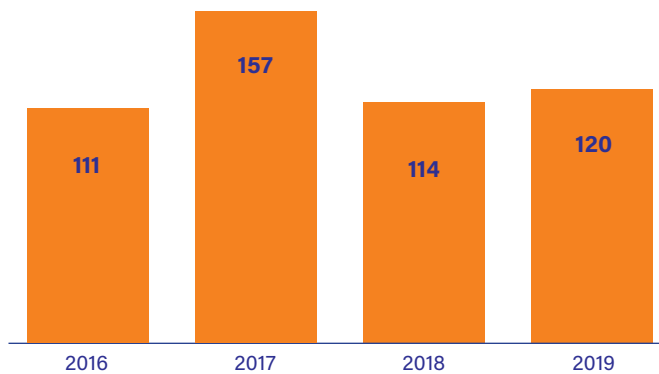
All areas of the Laboratory Quality Management System are audited on an annual basis.

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**FIGURE 2: NUMBER OF AUDITS CARRIED OUT**

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No. Audits Performed



Audits are carried out to ensure all aspects of activities are compliant with relevant standards, EU Directives, and guidelines. Where opportunities for improvement are identified, these changes are also incorporated into the next audit.

The Laboratory Service continues to be committed to providing a service of the highest quality and embracing new technologies, while being aware of, and taking consideration of, the needs and requirements of end-users which is reflected in the quality policy.

**PLANS FOR 2020**

- Streamline training in the Quality Management System
- Increase the number of audits against required laboratory standards



# LABORATORY MEDICINE – INFORMATION AND COMMUNICATIONS TECHNOLOGY

## HEAD OF SERVICE

**Mr. Ciaran Mooney**, Specialist Grade Medical Scientist

## STAFF

**Mr. John O Loughlin**, Laboratory Manager

**Ms. Sharon Campbell**, Senior Medial Scientist – Biochemistry

**Mr. Michael Smith**, Senior Medial Scientist – Histology

**Ms. Deirdre O Neill**, Senior Medial Scientist – Haematology / Transfusion

**Ms. Ellen Lennon**, Senior Medial Scientist – Microbiology

**Ms. Caroline Bosse**, Laboratory Administration

## SERVICE OVERVIEW

The Laboratory Medicine Division of Information and Communications Technology (ICT) oversees the maintenance, troubleshooting and verification of the Laboratory Information Management System (LIMS - Apex), the laboratory MN-CMS Powerchart order communications implementation and maintenance system, GDPR requirements, and ICT security. It also drives innovation through various ICT projects, and business object reporting.

## PROJECT ACTIVITY

**TABLE 1: PROJECT ACTIVITY**

Project	Project Start	Project Completion	Status
MN-CMS GW Order Comms Integration	Jan 2019	Oct 2019	Completed
Cache 2017 Integration	Sept 2018	May 2019	Completed
POC interface to chart and Apex	June 2019	NA	WIP
Online deployment of staff training and education	June 2020	NA	WIP
Apex 6.1 build 009 verification	April 2020	NA	WIP
NIFTY Medibridge – Rotunda	Sept 2019	Jan 2020	Completed

## KEY PERFORMANCE INDICATORS (KPIs)

The Division of ICT periodically monitors the progress of ongoing projects against set timelines, and iASSIT turnaround times.

## QUALITY OBJECTIVES 2019

- Implementation of the MN-CMS electronic healthcare record GW module for all for pathology services
- Implement Cache 2017 database management system for LIMS (Apex) and remove this issue from the hospital risk register
- Replace the AIX Unix server that hosts LIMS (Apex) and remove this issue from the hospital risk register

## SUCCESSES & ACHIEVEMENTS 2019

- Implementation, verification and validation of the Cache 2017 database management system
- Implementation, verification and validation of a new AIX server with Unix OS to host the LIMS (Apex) system
  - Awarded Accreditation for the above projects
  - Removal of the Cache and AIX upgrade from the Hospital risk register

## ENHANCING PATIENT CARE

The upgrade of the Cache and AIX server has minimized the security risk of hosting patient sensitive data on the Rotunda site.

## EDUCATION & TRAINING

Laboratory staff have been provided with in-house and external course training on the use of third-party extraction tools for business object reporting.

Rotunda Hospital staff have been provided with training in the use of the MN-CMS GW order communications module.

## CHALLENGES 2019

- Aging equipment that have increasing potential of failure due to age, such as the AIX server hosting Apex, and the Cache 2017 database management system
- Continued increase in workload due to expansion of the MN-CMS order communications module incorporating a GW platform
- Marked increase in the demand for trouble-shooting both MN-CMS order communications for both national and local issues, and local Apex customization in line with increasing emergence of new interfaces and testing
- Increased testing with new methods requiring Apex customisation and interface integration

## PLANS FOR 2020

- Build machine learning algorithms to predict bacteraemia and sepsis in the adult cohort of Rotunda patients
- Maintain and integrate further assays from the gynaecology module on the MN-CMS electronic healthcare record
- Implement a Healthlink service to GPs
- Implement a POC infrastructure allowing end-to-end result transfer of patient data from a range of devices to the MN-CMS chart
- Upgrade Medibridge server to a 2016WS
- Implement a Children's University Hospital, Temple Street to Rotunda interface via Medibridge
- Install, test, and upgrade of Apex from 5.8 to 6.1
- Implement updates on all third-party middleware hosting in the network VM



# CLINICAL NUTRITION AND DIETETICS

## HEAD OF SERVICE

**Ms. Laura Kelly**, Dietitian Manager

## STAFF

**Ms. Anna-Claire Glynn**, Clinical Specialist Dietitian (Neonatology/ Paediatrics)

**Ms. Alexandra Cunningham**, Senior Dietitian (Obstetrics/ Gynaecology)

## 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 to women with: diabetes in pregnancy, high nutritional risk (e.g. eating disorders, low BMI, post bariatric surgery) or nutritional issues in pregnancy (e.g. hyperemesis gravidarum, anaemia, severe reflux, active weight loss) and limited gynaecology patients (e.g. PCOS, fertility support). Services are predominantly delivered in outpatient settings, telephone clinics and group education.

The Neonatal/Paediatric Dietetic Service is predominantly based in the NICU and prioritised to infants <32 weeks' gestation or those with birthweight <1.5kg. A limited service is available to high-risk outpatients.

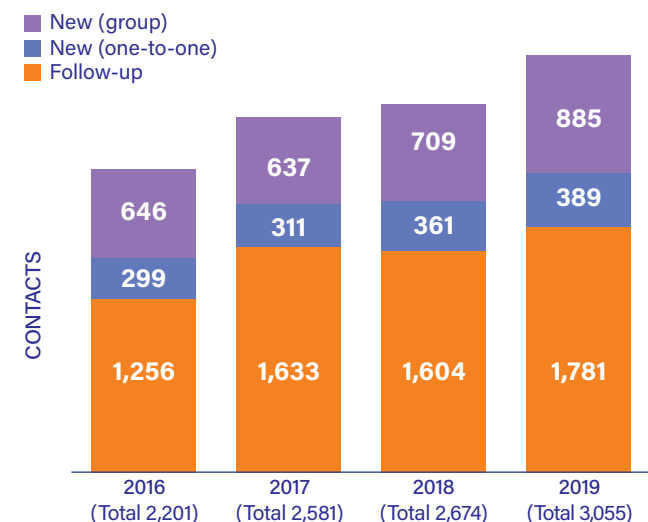
## CLINICAL ACTIVITY

### ADULT SERVICES

Total activity within the adult dietetic services in 2019 was 4,055 contacts – a 24% increase on 2018 (3,268 contacts).

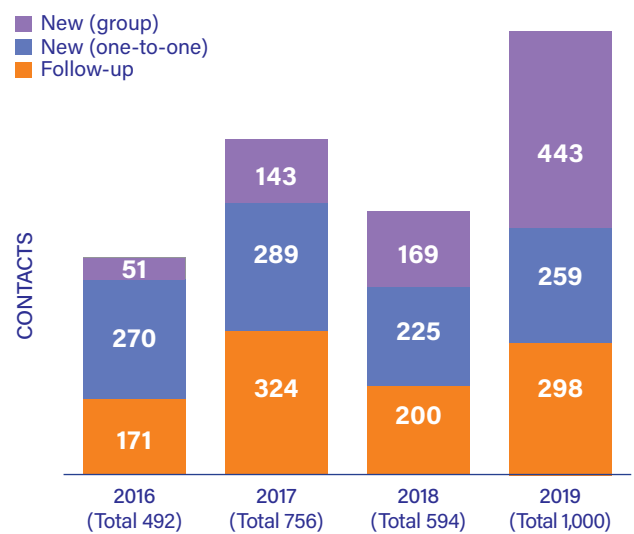
Diabetes activity continues to dominate the service, with a 19% increase seen in new attendances during 2019, due to increasing numbers of women diagnosed with gestational diabetes at the Rotunda (1,063 in 2018 vs 1,254 in 2019).

**FIGURE 1: DIABETES DIETETIC SERVICE ACTIVITY 2016-2019**



In 2019, dietetic activity for general obstetrics and gynaecology services increased for both individual contacts (up 31%) and group education (up 105%) from 2018 levels. This was achieved by introducing measures to further reduce clinic DNA rates to 23% (versus 32% in 2018), utilising more telephone-consultations, and introduction of a dedicated antenatal nutrition class for lower-risk referrals.

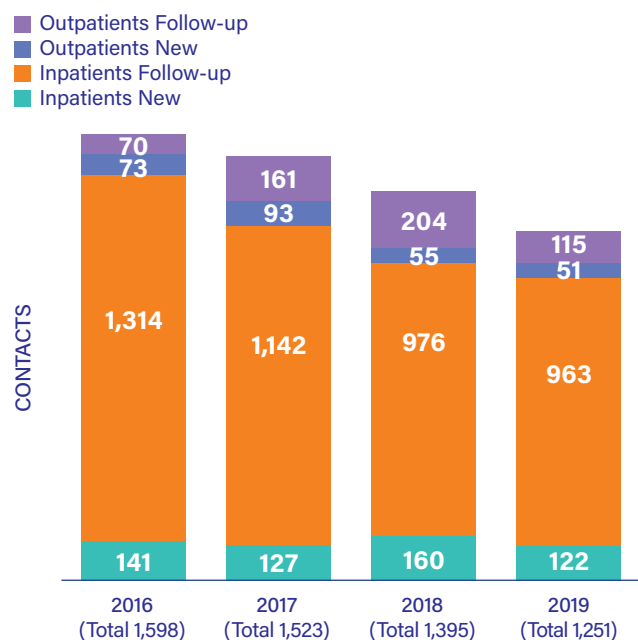
**FIGURE 2: OBSTETRICS & GYNAECOLOGY DIETETIC SERVICE ACTIVITY 2016-2019**



### NEONATOLOGY / PAEDIATRIC SERVICES

Non-clinical demands on the Neonatal Dietitian (teaching on neonatal nutrition, telephone support, guideline development, committee involvement) continued to increase and compete for available time for clinical patient contacts in 2019. Despite the Neonatal Unit running at 60%-70% occupancy in 2019 (for infection control reasons), due to the dietitian's complex case-mix working with the most complex infants, this only translated into 4% reduction in inpatient dietetic activity. Outpatient services for paediatrics were further prioritised due to inpatient demands, resulting in a 35% reduction in activity from 2018 levels.

FIGURE 3: NEONATAL DIETETIC SERVICE ACTIVITY 2016-2019



## SUCCESSSES & ACHIEVEMENTS 2019

### ENHANCING PATIENT CARE

- Completed an audit of hyperemesis services (in collaboration with the Pharmacy Service), which won first place award at the Rotunda bi-annual Audit and Research Meeting
- Introduced a new hour-long antenatal nutrition class, in response to a patient satisfaction survey
- Contributed the nutrition section for the Rotunda Online Hub
- Collaborated with the Catering Department on optimising the nutritional composition of hospital menu and staff nutritional education
- Completed a patient satisfaction survey for the GDM "Lifestyle class" (dietetic student project)
- Secured funding from the Rotunda EMT to professionally print new educational resources for women with GDM
- Developed a new educational resource for women with GDM commencing on insulin therapy, in collaboration with diabetes midwives
- Developed a novel educational resource "Eating well with diabetes at Christmas"
- An audit of the carbohydrate content of the diabetes menu was completed (catering student project)
- Completed an audit of the Dietetic Service care pathway for women with GDM

- Contributed to the sourcing of new "stock" parenteral nutrition for NICU
- Updated/developed guidelines on enteral feeding, nasogastric tube top-ups for breastfeeding infants, and breast milk fortifier administration for NICU
- The Neonatal Dietitian contributed to the FiCare (Family Integrated Care) programme for parents in the NICU

### CONTINUING PROFESSIONAL DEVELOPMENT

- Facilitated a 4-week student placement for undergraduate dietetic students (UCD)
- Contributed to organising a national conference on "Nutrition in Pregnancy"
- Regular nutrition teaching was provided to NCHDs, nurses and midwives, including hyperemesis and neonatal nutrition ("cotside" teaching introduced)
- Shadowing opportunities were provided for neonatal dietitians from other hospitals
- Continued 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, and Neonatal Nutrition Group (N3)
- Dietitians attended multiple CPD education and training events throughout 2019

### CHALLENGES 2019

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

### PLANS FOR 2020

- Submit business case for additional staffing in neonatology, diabetes and maternity leave cover
- Expand online resources, use of social media and develop an enhanced nutrition section for the Rotunda website
- Develop national diet resource for management of pre-gestational diabetes in pregnancy
- Repeat satisfaction survey for Lifestyle Class
- Contribute to update of national hyperemesis guidelines
- Update hospital resources and commence teaching on new Nutrition in Pregnancy guidelines
- Introduce new stock/standardised Parenteral Nutrition bags in the NICU and roll-out relevant staff education

- Coordinate the implementation of new guidelines in NICU, including new HSE/RCPI Parenteral Nutrition guidelines
- Implement routine length measurements for ELBW and VLBW infants in the NICU
- Develop parent information leaflet on post-discharge nutrition for the NICU



## 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

**Ms. Karen McCormack**, Medical Social Worker

**Ms. Rebecca Haughan**, Medical Social Worker

**Ms. Laura Feely**, Medical Social Worker

**Ms. Stefanie Fobo**, Senior 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

#### PREGNANCY OPTIONS SERVICE

The availability of impartial and non-directive counselling for women considering a pregnancy termination is essential. In 2019, a Crisis Pregnancy Medical Social Worker was appointed as part of the multidisciplinary team, to provide confidential support and counselling to women attending the Pregnancy Options Service, which provides pregnancy termination services for patients at the Rotunda. Many of the patients in this setting were affected by issues such as domestic violence, mental health, relationship breakdown and homelessness. For example, the Medical Social Worker met six patients where domestic violence was an issue and three of these patients were referred onwards to Tusla for further assistance. The benefit of a Medical Social Worker being located on-site with midwifery and medical colleagues is that support can be provided to patients immediately, as their needs dictate.

#### CHILD PROTECTION

In 2019, the Medical Social Work Team was involved in 153 child protection cases. The main types of concerns where a referral was made or received from Tusla in 2019 were:

TABLE 1: REASONS FOR TUSLA REFERRAL

Year	2016	2017	2018	2019
Drug Use	56	53	57	46
Underage Pregnancy	38	22	34	14
Domestic Violence	22	34	48	38
Mental Health	15	9	7	8
Previous Children in Care	11	4	9	6
Child Welfare	9	16	24	23
Alcohol Misuse	6	3	1	8
Child Neglect	5	3	3	6
Adoption	2	2	0	2
Learning Difficulty	2	2	1	1
Retrospective Disclosure	0	0	3	1
<b>Total</b>	<b>166</b>	<b>148</b>	<b>187</b>	<b>153</b>

The majority of child protection cases are complex and involve a Medical Social Worker working in partnership with parents, Tusla, and other relevant agencies over a number of months to ensure a baby's safe discharge. When parents are experiencing difficulties, every support should be explored to help them take care of their baby. Only in exceptional cases, should children be separated from their parents after all alternative means of protecting them have been exhausted.

#### DOMESTIC VIOLENCE

On January 1st, 2019, the new Domestic Violence Act 2018 made coercive control a criminal offence in Ireland. Domestic abuse and coercive control is a persistent and deliberate pattern of behavior by an abuser over a prolonged period of time designed to achieve obedience and create fear. While a patient may not experience physical abuse, a controlling partner may shut out her friends and family, control her movements, micro-manage what she eats or wears, restrict her access to money – all the time undermining her confidence and self-respect. The role of the medical social workers is to provide immediate support and advice to women disclosing domestic violence and to introduce women and families to longer-term community-based supports. Though not all incidents of domestic violence warrant the involvement of Tusla, there were 38 cases in 2019 where Tusla social workers were involved with families due to domestic violence. 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.

#### PERINATAL MENTAL HEALTH

For the management of mental health difficulties in pregnancy and up to a year postnatally, women have access to the newly established Specialist Perinatal Mental Health Service (SPMHS). The Medical Social Worker is part of a multidisciplinary team and in collaboration with the mental health midwives, mental health nurses

and perinatal psychiatrists provides appropriate assessment, support and interventions to women, their partners, and families.

#### TEENAGE PREGNANCY SERVICE

Teenagers attending the Rotunda Hospital are offered psychosocial and practical support from the Teenage Pregnancy Service Medical Social Worker. Of the 126 patients who delivered in this clinic in 2019, 110 patients were referred to the Medical Social Worker. 101 patients (80%) availed of the support offered.

Where required, the Medical Social Worker liaised with external services such as Tusla, Public Health Nurses and Community Teenage Parenting Support Programmes, to ensure that the teenagers and their babies had appropriate assistance in place during the pregnancy and following discharge. The Medical Social Worker had contact with Tusla regarding 28 teenagers who delivered in 2019. These referrals were in relation to issues such as underage pregnancy, drug use, domestic violence, and other child welfare concerns. In total, 14 referrals to Tusla were made due to underage pregnancies, compared with 34 referrals in 2018. This reduction from 2018 reflects the commencement of the Children First Act 2015, which introduced certain exemptions from reporting underage consensual sexual activity.

#### 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 2019, information and support was offered to 137 families whose babies required funeral arrangements. The Medical Social Worker met with 79 of these bereaved families, and also offered support to 366 patients who experienced an early pregnancy loss, meeting with 36 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 following the prenatal diagnosis of a fetal abnormality. 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) and Trisomy 13 (Patau syndrome), as well as fetal cardiac malformations. Many patients also receive support as a result of parental anxiety due to a previous fetal abnormality 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 newborn baby. The Medical 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.

The Medical Social Worker provided a service to 331 patients and families whose babies were admitted to the Neonatal Unit in 2019.

#### SUBSTANCE MISUSE

In 2019, the Medical Social Worker attached to the Infectious Diseases Service (DOVE - Danger of Viral Exposure - Clinic) provided emotional and practical support to women attending this specialist clinic. Patients attending this service are women who have an infectious disease diagnosis and/or substance misuse issues. The Medical Social Worker liaises closely with the specialist midwives to provide a comprehensive service for women attending the Infectious Diseases Service. Where required, the Medical 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 2019, 46 women were referred to Tusla by the Medical Social Worker. Referral to Tusla regarding drug misuse also occurred when a patient did not attend the Infectious Diseases Service prenatally, but drug use was identified postnatally. In 2019, Tusla held 14 Child Protection Case Conferences in relation to substance misusing Rotunda patients. These are inter-agency and multidisciplinary 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: NUMBER OF DELIVERIES TO SUBSTANCE MISUSING WOMEN**

Year	2013	2014	2015	2016	2017	2018	2019
Deliveries to substance misusing women	73	68	62	59	62	61	56
Child Protection Referrals to and from Tusla	50	52	52	56	53	57	46
Parent(s) signing baby into voluntary care	1	7	3	1	5	5	3
Babies taken into care under a Court Order	12	8	7	4	1	1	1
Mothers and babies returned home under supervision of non-drug using relative	11	7	8	8	7	10	19

#### SUCCESSES & ACHIEVEMENTS 2019

The introduction of the Health (Regulation of Termination of Pregnancy) Act 2018, which became operational on January 1, 2019, 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 in line with international best practice.

The HSE's Specialist Perinatal Mental Health Model of Care identified 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. A dedicated Medical Social Worker attached to perinatal mental health joined the team in December 2019. Her recruitment contributes to the establishment of an integrated Perinatal Mental Health Service.

A fourth 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. This 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 2019 to enhance their continuous professional development.

The team provided training within the hospital at the Professionals' Bereavement Study Day and at the Specialist Midwifery Service sessions for public health nursing students.

On May 22, 2019, the Head Medical Social Worker hosted graduate and postgraduate social work students from the University of New Hampshire.

On October 10, 2019, the Medical Social Work Team hosted their colleagues from the Coombe Hospital for training on Female Genital Mutation (FGM) given by AkiDwA, who work closely with women who are affected by FGM. In Ireland, the FGM Act 2012 has outlawed this practice but the issue remains a challenge due to its hidden nature. The purpose of the training was to explore how to perpetuate best practice within the hospital going forward.

#### CHALLENGES 2019

A significant challenge faced by the Medical Social Work Service in 2019 was the recruitment and induction of new staff as a result of career breaks, maternity leave and the creation of two additional posts attached to the Pregnancy Options and Perinatal Mental Health Services. To ensure that the newly established Pregnancy Options Service had a counselling service attached to it from the beginning, the Medical Social Work Team worked additional hours until the Crisis Pregnancy Social Worker took up her post.

The large number of patients presenting to the Medical Social Work Service 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 2020

The Head Medical Social Worker plans to work with her midwifery colleagues to update the Rotunda's Routine Enquiry Policy on domestic violence and to explore the best route to increasing

awareness about how to recognise and respond to domestic violence within the hospital.

There are also plans to further enhance collaboration between the Social Work Teams in the three Dublin maternity hospitals in the context of ongoing professional training as well as advocacy on behalf of those living in direct provision accommodation.







# PHARMACY SERVICE

## HEAD OF SERVICE

**Dr. Brian Cleary**, Chief Pharmacist

## STAFF

**Ms. Elena Fernandez**, Senior Pharmacist

**Ms. Lisa Clooney**, Senior Antimicrobial Pharmacist

**Ms. Fiona Gaffney**, Senior NICU Clinical Pharmacist

**Mr. Fergal O'Shaughnessy**, PhD Scholar/Research Pharmacist/  
Senior Pharmacist

**Ms. Margaret Donnelly**, Pharmacist

**Ms. Claudia Looi**, Pharmacist

**Ms. Grainne McElligott**, Locum Pharmacist

**Ms. Emer Coll**, Pharmaceutical Technician

**Ms. Elaine Webb**, Pharmaceutical Technician

**Ms. Joan Devin**, PhD Scholar/Research Midwife

**Ms. Kamelia Krysiak**, PhD Scholar/Research Pharmacist

## SERVICE OVERVIEW

The Pharmacy Service supports the safe and effective use of medicines for Rotunda patients. 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 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.

The Pharmacy Service conducts 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 (RCTs), Vaccination in Pregnancy, Clinical Informatics and Venous Thromboembolism Prevention.

The annual budget for medications, parenteral nutrition and ready-to-feed baby milk in 2019 was €1.73 million. Approximately 264,000 medication orders are placed each year for inpatients and outpatients, with over 500,000 inpatient medication administrations per year. 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 and to facilitate neonatal RCTs.

## SUCCESSES & ACHIEVEMENTS 2019

There were a significant number of achievements in 2019, across many areas, including:

- The establishment of the Irish Medicines in Pregnancy Service (IMPS) - a multidisciplinary collaboration to support the safe and effective use of medicines in pregnancy and lactation through the provision of medicines information services, advocacy and research. The Pharmacy Service has engaged with national and international networks and has strengthened collaborations with the European Network of Teratology Information Services and the Health Products Regulatory Authority in this regard
- Support to the establishment of the new Pregnancy Options Service, which provides pregnancy termination services at the Rotunda, incorporating clinical guidelines, the MN-CMS electronic healthcare record care plans, medication pre-packs and patient information
- Preparation for an announced HIQA inspection in Phase Two of the Medication Safety Monitoring Programme and successful completion of the inspection process
- Implementation of barcode scanning technology in the Pharmacy Service to ensure the verification of all delivered medications to meet the requirements of the EU Falsified Medicines Directive
- Collaboration with the Information Technology Service, Patient Administrative Services and MN-CMS electronic healthcare record colleagues to implement patient photos in MN-CMS to reduce the risk of wrong patient errors
- Collaboration with the Adult Medication Safety Committee on the implementation of an oxytocin medication safety bundle incorporating standardisation of oxytocin infusions, smart pumps and care plans in the MN-CMS electronic healthcare record to facilitate safe administration of oxytocin
- Quality improvement of postnatal analgesia and encouraging women to play an active role in pain management after delivery
- Development and implementation of the MN-CMS electronic healthcare record gynaecology module at the Rotunda Hospital and support of colleagues at other MN-CMS sites
- Validation of MN-CMS electronic healthcare record prescribing and administration reports, as well as use of these reports to improve medication-use processes
- Optimisation of MN-CMS electronic healthcare record alerts to minimise alert fatigue, optimise medication use processes and reduce the risk of medication errors
- Ongoing optimisation of MN-CMS electronic healthcare record medication processes in collaboration with end-users of the system

- Development of national "Cyclogest/Cytotec" medication safety alert in collaboration with the Irish Medication Safety Network
- Ongoing implementation of the hospital's Medication Safety Strategy
- Ongoing support and optimisation of the Thrombocalc Venous Thromboembolism (VTE) risk assessment tool which has been used to identify and reduce the risk of venous thromboembolism in over 35,000 women
- Implementation of a peripartum VTE alert in the MN-CMS electronic healthcare record to drive consistent VTE risk assessment at delivery in combination with VTE huddles and education sessions
- Development and updating of the Rotunda Antimicrobial Guide App, with continued development of antimicrobial consumption surveillance
- Collaboration on the National Antimicrobial Point Prevalence Survey with the European Centre for Disease Prevention and Control
- Neonatal standard concentration infusion quality improvement project using simulation to standardise and rationalise concentrated electrolyte prescribing processes
- Continued staff development with completion of the RCSI Leadership Development programme and ongoing postgraduate qualifications at MSc and PhD level
- The Rotunda Hospital was selected as a phase 1 site for the Hospital Medicines Management System - a national project to modernise the hospital pharmacy IT infrastructure

#### RESEARCH, AUDIT AND EDUCATION

- Honorary clinical lecturer posts have been established for Pharmacy Service staff and co-ordination of the delivery of women's health education to Pharmacy undergraduates at RCSI, in addition to medicines in pregnancy and medication safety teaching for postgraduate medical, midwifery and nursing students
- 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
- Recruitment of initial patients to the IRELANd trial, a randomised trial of aspirin prophylaxis for diabetic patients to prevent preeclampsia
- Monnine Howlett completed a PhD on the subject of "Impact of Technology on Medication Safety in Paediatric Critical Care".

- Fergal O'Shaughnessy submitted a thesis on "Preventing Postpartum Venous Thromboembolism: Exploring the Impacts of a Systematic Approach to Individualised VTE Prevention" as part of a US Fulbright placement in New York, as well as its presentation at a global thrombosis conference
- Ongoing projects at PhD and MSc level with Kamelia Krysiak, Joan Devin, Margaret Donnelly and Claudia Looi undertaking postgraduate research projects in the areas of neonatal drug delivery and medication safety, health informatics and medication safety, postpartum bleeding and antimicrobial stewardship

#### 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.

#### CHALLENGES 2019

The Pharmacy Service faced several challenges this year which included:

- Planning for Brexit and dealing with recurrent serious medication shortages which can have significant impact on continuity of supply as well as 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

#### PLANS FOR 2020

- Continued development and sharing of Rotunda innovations on thrombosis risk assessment, NICU high risk infusions and medication safety with other hospitals nationally
- Procurement and implementation of new standardised neonatal parenteral nutrition bags
- Establishment of a procurement process for epidural products.
- Improvement of palliative care processes for neonates, including development of care plans, parent education materials and establishment of collaborative multidisciplinary planning processes
- Continuing the development of the hospital's role within the European Network of Teratology Information Services, publicising the role of the Irish Medicines in Pregnancy Service (IMPS)
- Engagement in an EU-wide collaborative project (ConcePTION), with a specific focus on developing a knowledge bank on medication use in pregnancy and

lactation and development of an education resource for health professionals on medication use in pregnancy and lactation

- Development of a business case for refurbishment of the Pharmacy Service physical infrastructure including implementation of automation and pharmacy robotics
- Engagement in a national procurement process for a new pharmacy informatics system to improve medication use processes and enhance business intelligence
- Pilot an electronic “good catch/near miss” reporting system to learn from potential medication safety events and implement high leverage risk reduction strategies
- Optimise insulin prescribing processes in the MN-CMS electronic healthcare record and examine the feasibility of standardised peripartum insulin medication use processes

# PHYSIOTHERAPY SERVICE

## HEAD OF SERVICE

**Ms. Canny Cusack**, Physiotherapy Manager

## STAFF

**Ms. Brona Fagan**, Senior Physiotherapist (NICU)

**Ms. Anna Hamill**, Senior Physiotherapist (NICU)

**Ms. Niamh Kenny**, Senior Physiotherapist

**Ms. Grainne Sheil**, Senior Physiotherapist

**Ms. Paula Donovan**, Senior Physiotherapist

**Ms. Marie Larkin**, Physiotherapist

**Ms. Nora McCreadie**, Physiotherapist

**Ms. Aoife Clarke**, 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 postnatal), 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 gynaecological surgery are reviewed post-operatively.

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. Our physiotherapists are members 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 our women's health service. Preparation for parenthood classes are run in collaboration with the Parent Education Midwifery Team and the community midwifery scheme. Individual classes are also held for special circumstances.

### INPATIENT PHYSIOTHERAPY

TABLE 1: ADULT INPATIENT CLINICAL ACTIVITY

Inpatient Category	2015	2016	2017	2018	2019
Prenatal	133	88	92	109	77
Postnatal	7,249	7,338	7,442	7,690	7,747
Gynaecology	204	179	200	199	203
Urinary Retention	47	42	46	24	43

### OUTPATIENT PHYSIOTHERAPY

The majority of outpatient referrals are for pelvic girdle or low back pain. These referrals are triaged, following which patients attend pelvic girdle classes (48%) and/or individual appointments. Postnatal classes include education on good bladder and bowel health, pelvic floor muscle recovery and exercises to reduce the risk of incontinence. Individual assessment of diastasis of the rectus abdominus muscle (DRAM) and advice on safe return to exercise and fitness is provided, which follows new "Postnatal Returning to Running" guidelines published in 2018. A total of 329 patients were seen for postnatal classes.

Women can self-refer for individualised treatment for pelvic floor dysfunction up to six months post-partum.

TABLE 2: ADULT OUTPATIENT CLINICAL ACTIVITY

Conditions referred	2015	2016	2017	2018	2019
Pelvic Girdle Pain	1,333	1,517	1,566	2,011	2,145
Urinary Incontinence	359	357	392	434	205
Urinary Incontinence in Pregnancy				26	206
Obstetric Anal Sphincter Injury	167	165	138	114	113
Previous Perineal Tear				53	53
Prolapse	76	103	118	115	152
Carpal Tunnel Syndrome	56	77	78	96	37
Dyspareunia/Pelvic Floor Pain	32	53	42	87	134
Faecal Incontinence	11	13	17	26	26

### PAEDIATRIC SERVICE

TABLE 3: ADULT OUTPATIENT CLINICAL ACTIVITY

Paediatric Inpatient*	2015	2016	2017	2018	2019
Head and neck					4
Obstetric brachial plexus injury or upper limb fracture					15
Talipes					27
Trisomy 21				10	14
NICU Referrals				110	145
Paediatric Outpatient					
Plagiocephaly and Torticollis	97	83	75	79	50
Talipes and Lower Limb Problems	94	57	34	52	16
Developmental Delay	66	64	43	38	30
Neuro Developmental followed up from NICU					127
Other Musculo-Skeletal problems					3

\*Changes to neonatal service provision has resulted in changes to referral criteria and more inpatient referrals/treatment

A total of 5,532 outpatient appointments were attended in 2019 compared to 4,223 outpatient appointments in 2018. The new patient DNA rate was 19% and the return DNA rate was 12%.

## SUCCESSSES & ACHIEVEMENTS 2019

### ENHANCING PATIENT CARE

The Physiotherapy Service, in collaboration with the MAMMI (Maternal health and Maternal Morbidity in Ireland) Study Team, were awarded several grants to produce a suite of online resources in 2019.

A series of three online videos were produced using a Science Foundation Ireland grant, called MESSAGES for mothers. Motherhood, Empowerment, Sustainable Self-help – Addressing Gaps in Education through Science (MESSAGES). The videos address pelvic girdle pain (PGP) in pregnancy, by providing education, advice, stretches and exercises. These can be accessed on the Rotunda YouTube channel.

A European Institute of Innovation and Technology grant was used to produce a Massive Open Online Course (MOOC) titled: Women's Health After Motherhood. The course content was based on what women told us 'they wished they had known' about their health after motherhood, and emerged from the Irish longitudinal study looking at the health and health issues experienced by over 3,000 first-time mothers. The four topics provide evidence-based, interactive resources covering; maternal health, physical health, including managing urinary incontinence, mental health and sexual health.

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.' For the mapping of standards of care, a questionnaire was sent to each Director of Midwifery and Physiotherapy Services in each of the 19 maternity units and the study was completed in 2019.

### ADDITIONAL ACHIEVEMENTS

- Provision of six undergraduate specialist lectures for RCSI School of Physiotherapy
- Provision of undergraduate physiotherapy placements for RCSI School of Physiotherapy students
- Participation in the RCSI Leadership Programme, including completion of 'Introduction of virtual gynaecological clinics' project
- Participation in the Rotunda Open Day
- Presentation for GP study evening, 'Multidisciplinary approach to pelvic organ prolapse'
- Participation in filming for the RTE Documentary 'The Rotunda'
- Completion of validating the 'Lacey Assessment of Preterm Infant' (LAPI) tool by auditing physiotherapy outcomes

against neonatal outcomes at the end of the first year of data collection

- Updated obstetric brachial plexus injury pathways
- Organisation of Kangaroo Care awareness Day with lactation consultants
- Completed staff training in Family Integrated Care
- Completed staff training in pessary fitting

### CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD)

Physiotherapy staff actively engage 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:

- Advanced management of Overactive Bladder
- Pessary management for prolapse
- Hosting a National Study Day for obstetric brachial plexus injury, torticollis, talipes and plagiocephaly
- Mothers with Anal Sphincter Injury Conference (MASIC)
- Association of Paediatric Chartered Physiotherapists conference (APCP) UK
- Pelvic, Obstetric, Gynaecologic Physiotherapist (POGP) Bowel course
- Family and Infant Neurodevelopmental Education (FINE) programme for NICU physiotherapists

### PROFESSIONAL WORKING GROUPS

- Voluntary Hospitals Active Risk Management Forum for Minimal Handling Advisory Group
- National Maternity Strategy Steering Group
- Nurture Programme
- Working Group for development of a National Guideline for the Assessment, Promotion and Management of Continence for Adults
- Consultation feedback for Urology Model of Care

### CHALLENGES 2019

One of the key issues for the Physiotherapy Service in 2019 was reduced administration cover as staffing levels had not increased to reflect the increased activities year-on-year. A successful business case submission resulted in additional administrative staffing.

### PLANS FOR 2020

#### GYNAECOLOGY

- Implementation of a Promotion of Continence telemedicine 'Virtual' triage clinic for all new patients performed by a multidisciplinary team consisting of Consultant Gynaecologist Dr. Naomi Burke, Senior Physiotherapist,



Cinny Cusack, and Bladder Care Specialist Nurse, Caroline Hendricken


- Ongoing up-skilling of physiotherapists to teach patients self-management of pessaries
- Introduction of use of the Ashley Balloon Biofeedback system for treatment of constipation and poor bowel control

#### OBSTETRICS

- Implementation of a new educational collaboration with Labour and Delivery Suite midwifery staff to optimise physiotherapy teaching of the second stage of labour in antenatal classes, entitled 'Closing the gap between theory and practice'
- To review the format of physiotherapy-led antenatal classes to streamline content and reduce the number of participants in each class to facilitate a more adult learning style

#### PAEDIATRICS

- Ongoing up-skilling of neonatal physiotherapists by attending Prechtel training in February 2020 and sensory babies integration course in March 2020

A portrait of Ms. Siobhan Enright, a woman with long brown hair, smiling. She is wearing a dark blue patterned top. The background is a plain, light-colored wall.

**“WORKING AT THE  
ROTUNDA IS A REAL  
PRIVILEGE, IT NEVER  
CEASES TO AMAZE ME HOW  
MUCH DEDICATION STAFF  
HAVE TO ENSURING THAT  
THEIR PATIENTS RECEIVE  
HIGH QUALITY CARE”**

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# QUALITY AND SAFETY SERVICES

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# QUALITY AND PATIENT SAFETY DEPARTMENT

## QUALITY AND SAFETY SECTION

### HEAD OF DEPARTMENT

Ms. Sheila Breen, Head of Quality and Patient Safety

### STAFF

Ms. Anna Mooney, Information Governance Manager

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



## DEPARTMENT OVERVIEW

The Rotunda Hospital is committed to the provision of safe, high quality, patient centred care. Maintaining and continuously improving the quality and safety of care requires sustained commitment to continuous improvement from everyone in the hospital.

The Quality and Safety Committee, chaired by the Master, provides oversight, guidance and support for organisation-wide performance improvement and patient safety efforts, in accordance with the organisational values, goals and objectives identified in the Strategic Plan.

## CUSTOMER FEEDBACK

The Rotunda Hospital is committed to ensuring that feedback, comments, compliments and complaints from those using our services is acknowledged, reviewed, acted upon and responded to and that the learning derived from this feedback informs our quality improvement programmes.

Effective handling of service user feedback is fundamental to the provision of a quality service. A summary of all patient feedback received is presented at the monthly Quality and Safety Committee meetings.

## PATIENT EXPERIENCE SURVEY

A survey of inpatients was conducted over a three week period in September 2019. Some of the survey findings include:

- 99% would recommend the Rotunda to a family member or friend
- 98% were satisfied with the service they received
- 99% had confidence in the staff providing care
- 99% were always treated with dignity and respect
- 97% agreed that the food was of a high quality
- 100% rated the overall cleanliness of the hospital as very good or good

Some opportunities for improvement were identified and action plans were developed and implemented over the following months.

The inaugural National Maternity Experience Survey was also promoted amongst women who gave birth in October 2019. They will be contacted by the National Team in early 2020 and invited to participate in the survey.

## COMPLAINTS MANAGEMENT

Efficient and timely management of complaints is a key component of our strategic initiative on establishing a patient service excellence programme. All complaints are reviewed initially by a member(s) of the Executive Management Team and progress with resolving complaints is discussed at their weekly meetings. While there was a 19% increase in the number of complaints received in 2019, 99% were closed within 30 working days.

TABLE 1

	2018	2019
<b>Complaints received</b>	<b>116</b>	<b>138</b>
– Written	99	133
– Verbal	17	5
<b>Complaints closed</b>	<b>119</b>	<b>134</b>
– % closed within 30 days	(100%)	(99%)

Similar to previous years, the most common themes, using the HSE's categorisation, related to 'communication and information' and 'safe and effective care'. Staff are encouraged to aim to resolve issues of concern locally at the time of occurrence and to seek the assistance of a more senior staff member as appropriate.

## OTHER PATIENT FEEDBACK

Comment and suggestion cards are available in all clinical areas and letters, thank you cards and feedback received by email is also collated on a monthly basis. During the year 1,458 items of feedback were logged; 1,429 were positive and 34 opportunities for improvement were identified.

## SUCCESSES & ACHIEVEMENTS

### AUDITS AND INSPECTIONS

1. Health Information and Quality Authority (HIQA) - unannounced inspection regarding the management of obstetric emergencies was undertaken in January. Final report was not released until February 2020. Twenty four standards were assessed relating to leadership, governance & management, workforce, effective care and safe care. We were compliant in twenty two, substantially compliant in one (uptake of mandatory training) and non-compliant in one (infrastructure in the Delivery Suite, Operating Theatres, High Dependency Unit and Neonatal Unit).
2. Irish National Accreditation Board (INAB) - annual laboratory accreditation inspection took place in April. New tests were added to our scope of accredited tests. The laboratory is fully compliant with ISO 15189, and 22870 for Point-of-Care testing.
3. Medical Council - clinical training site inspection was undertaken in April. It was based on 18 standards for clinical sites supporting the delivery of specialist training. Overall, there was 83% full compliance and 17% partial compliance with specialist training standards.
4. Official Languages Act - an audit was undertaken on 30th October to assess the Hospital's compliance with Act. The audit focused on Reception & Admissions, Adult Outpatients and Physiotherapy Department. Overall, the areas were compliant with the key requirements of the Act. Fluent Irish speakers on staff have been identified in the main clinical areas.



5. HIQA - a second announced medication safety inspection was undertaken in November. They visited Theatre, Prenatal and PSNT A and met with medical, midwifery and pharmacy staff. The inspection team commended our sustained strategic approach to medication safety. The official report was received in March 2020.

#### OPEN DISCLOSURE

The revised National Open Disclosure policy was launched in June. Seven additional senior staff completed the Train the Trainer programme to facilitate roll out of mandatory training within the hospital - both briefing sessions and workshop training for identified staff groups.

#### QUALITY IMPROVEMENT PLANS 2019 (QIPs)

All departments identified priority quality initiatives for 2019. The list was collated and reviewed by the Quality and Safety Committee prior to submission to the General Purposes Committee (GPC) for approval. Progress with implementation was reviewed quarterly and updates provided to the GPC. In total, 103 initiatives were identified - 61 were completed, 37 were progressing well and due for completion in early 2020 and 5 were on hold/could not be progressed at the current time.

#### AWARDS AND ACHIEVEMENTS

Our 'Outpatient Managed Midwifery Induction of Labour' initiative was deemed the Quality Improvement Champions 2019 at the National Office of Clinical Audit Conference and it won the Healthcare Initiative Award in the Large Teaching Hospital Group at the Irish Healthcare Centre Awards.

Dr. Richard Drew and his colleagues in the Rotunda Clinical Innovation Unit were awarded the prize for Best Use of Information Technology at the Irish Health Care Awards for their project - 'Use of Artificial Intelligence for Interpretation of Bacterial Vaginosis Molecular Results in Maternity Patients'.

The following projects were also nominated for awards at the Irish Health Care Awards:

- The 'Art of Pregnancy, Birth and Beyond', an art exhibition exploring perinatal research and experiences, organized by the HRB Mother and Baby Clinical Trial Network (CTN) based in the RCSI Rotunda Research Department in the Patient Education Project of the Year category
- The HRB Mother and Baby CTN was nominated and commended, in the Patient Lifestyle Educational Project of the Year category for their 'Debunking The Myths: The Science Behind Women's Health' workshop series for transition year students
- The Clinical Innovation Unit was nominated for Hospital Project of the Year for 'Reducing Invasive Group B Streptococcus Disease in Mothers and Their Babies Using Rapid Molecular Testing on a 24-7 Basis and Theoretical Modelling'
- Brian Cleary's oral presentation on 'Impact of a Medication Safety Bundle on Pharmaceutical Care Issues in a Neonatal Intensive Care Unit (NICU)' won first prize at the RCSI Hospital Group Quality and Patient Safety Conference in May

#### THE ROTUNDA DOCUMENTARY SERIES

Eight episodes of Scratch Films production 'The Rotunda' (Series 2) were broadcast from September—October. The series focused on the day to day life of the hospital and featured patients and staff. Series 1 was shown on More4 in the UK and proved very popular. It also won the Best Factual Entertainment Award at the Celtic Media Festival in Scotland.

#### ENGAGEMENT WITH PRIMARY CARE HEALTHCARE PROVIDERS

During 2019, there were two very well attended GP study evenings and three issues of our GP Connect E-zine. In March, we held a study evening for Practice and Public Health Nurses on 'Hot Topics in Midwifery and Women's Health'.

#### MATERNITY AND NEONATAL APP

The RotundApp was designed to provide easy access to a wealth of information and advice on a wide range of topics from preconception to birth and postnatal care. It complements the maternity information pack, which is provided to each woman at her booking visit.

#### PLANS FOR 2020

- Facilitate the implementation of the National Open Disclosure policy by providing workshops (identified staff groups) and briefing sessions for all other staff
- Participate in the inaugural National Maternity Experience Survey 2020 (women delivered in Oct'19) and develop QIPs when the report is available. This is a collaboration between the Health Information and Quality Authority, the Health Service Executive and the Department of Health
- Introduce a wayfinding system — in the main Hospital initially and then for roll-out to the entire campus
- Celebrate Patient Safety Awareness Week from March 9th - 15th by showcasing recent and ongoing initiatives
- Collate an overview of departmental QIPs, which will be reviewed by the Quality and Safety Committee and submitted to the General Purposes Committee for approval. Update the Committee on progress with implementation throughout the year

## INFORMATION GOVERNANCE SECTION

Key areas of Information Governance include confidentiality, data protection, records/data management, freedom of information, and information security.

Information Governance within the Hospital provides a framework for handling personal information in a confidential and secure manner in accordance with ethical and quality standards. The Hospital aims to safeguard patient and staff confidentiality and maintain data security whilst empowering staff to perform their role using key information governance principles.

### INFORMATION REQUESTS IN 2019

<b>FOI Requests</b>	<b>300</b>
– Personal	273
– Non-Personal	27
<b>Subject Access Requests</b>	<b>1,473</b>
– Routine access	1,210
– General access	151
– Data protection	112

### FREEDOM OF INFORMATION REQUESTS

Under the Freedom of Information Act individuals have a legal right to access information held by the Hospital subject to certain conditions, exemptions and extensions contained in the Act. Whilst overall there was a 3% decrease in the number of requests received compared to 2018, the volume of requests from journalists and media outlets increased by 40%.

### SUBJECT ACCESS REQUESTS

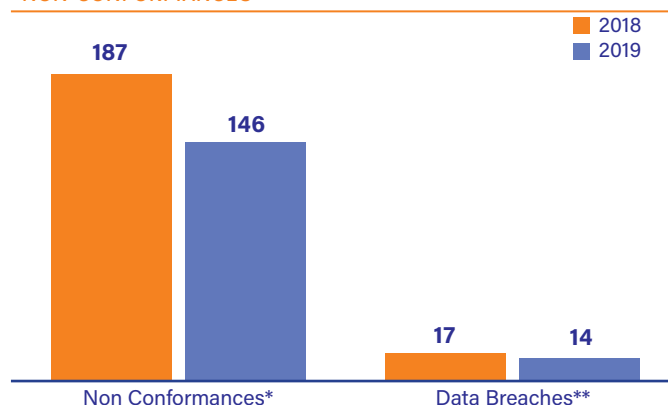
The Hospital is legally obliged to respond to these requests within a defined time period, i. e. a calendar month for routine cases. There has been a 3.4% decrease in the number of requests received in comparison to 2018. Overall, 86% of requests were processed within the legal timeframe.

### DATA PROTECTION

With effect from July 2019, data protection training is mandatory for all Hospital employees. Customised training can be provided for staff groups and departments or the e-learning HSELand module can be completed. The update of training was 48% in December 2019. Training is also provided to all staff as part of the Corporate Induction Programme.

## DATA PROTECTION BREACHES AND NON-CONFORMANCES

FIGURE 1: DATA PROTECTION BREACHES\* AND NON-CONFORMANCES\*



\*Breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorised disclosure of, or access to, personal data transmitted, stored or otherwise processed.

\*\* Data security incident which does not meet the threshold for mandatory reporting to Office of the Data Protection Commissioner.

All staff must report a data breach as soon as possible to the Information Governance Manager, who will investigate the incident and report the breach to the Office of the Data Protection Commission. Learning from the review of data breaches and non-compliances is incorporated into data protection training.

The 14 data breaches reported relate to:

- 9 breach of patient confidentiality
- 4 consent/confidentiality/communication
- 1 other

### SUCCESSES & ACHIEVEMENTS IN 2019

- Data protection audits were conducted throughout the Hospital in both clinical and non-clinical areas. This involved a brief visit to the area, speaking with the staff on duty and completing a data security checklist. The audits are well received and are an effective mechanism for increasing awareness of data protection requirements and also of recording and sharing good practice
- The Internal Auditors reviewed the hospital's compliance with the General Data Protection Regulation (GDPR) in 2019. The focus was on the governance structures, documentation, procedures and technical controls in place to meet the regulation.
- Work continued on the review of 3rd party contracts, the processing of personal data and completing the Hospital's data inventory

- A presentation was made to the Risk Committee on Information Governance including implementation and Hospital compliance with GDPR
- Regular updates/practical tips were provided to staff on key components in ensuring that personal information is protected appropriately

**PLANS FOR 2020**

- Develop a strategy for the retention and destruction of corporate and healthcare records
- Introduce a software system for the release of records electronically via virtual cloud
- Maximise compliance with data protection legislation by providing ongoing education and training, monitoring of data breaches and non-conformances and review of 3rd party contracts

# 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 Midwife

**Ms. Alva Fitzgibbon**, Infection Control Midwife

**Ms. Anu Binu**, Infection Control Midwife

## SERVICE OVERVIEW

The Infection Prevention and Control Team (IPC) works with colleagues across all areas of the hospital to ensure that the risk of patients acquiring healthcare-associated infection (HCAI) is minimised.

In January 2019, the IPC Midwife/Decontamination Coordinator left the role to pursue career opportunities in other areas. A review of the job description and needs analysis of the service highlighted the hospital’s need for increased emphasis on decontamination of reusable invasive devices. A decision was taken to recruit for a Decontamination Coordinator who would have experience in a dedicated hospital decontamination/sterile services facility and report to the Hospital Secretary.

## SERVICE ACTIVITY

The IPC Team’s main workload involves provision of expert advice on infection prevention and control matters. To this end the IPC Team undertakes daily ward rounds and participate in a weekly antimicrobial stewardship round. The IPC Team contributes to a number of hospital management Committees including Quality and Patient Safety, Drugs and Therapeutics, and Outbreak Control Teams as necessary. In 2019, the team also provided IPC input to the project team overseeing the construction of the new three-storey theatre building.

The IPC Team is actively involved in education, training and review of policy, procedures and guidelines. In addition, the IPC Team 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, multi-drug resistant organisms and caesarean site infections.

The IPC Team reports to the Rotunda Hospital’s Infection Prevention and Control Committee on a quarterly basis.

## SUCCESS & ACHIEVEMENTS 2019

- Implementation of a quality improvement programme “Spread the word, not the bug” to improve communication on the topic of multi-drug resistant organisms (MDRO) and raise awareness of the risk of invasive aspergillosis during construction work. The project resulted in the development of a suite of information leaflets, improved staff knowledge and streamlined communication pathways with GP colleagues

- High levels of staff engagement with education and training sessions on IPC issues including monthly training days and the annual hand hygiene awareness event
- Achieving greater than 90% hand hygiene compliance in the national hand hygiene audits which took place in May and October 2019
- Involvement in the multidisciplinary initiative to implement a new Group B Streptococcus screening programme and supporting the introduction of the neonatal sepsis calculator

## CHALLENGES IN 2019

The major challenges for the service in 2019 were:

- Managing an outbreak of ESBL-producing Klebsiella pneumonia in the Neonatal Intensive Care Unit, during which infrastructural deficits were identified as a key factor
- Ongoing high levels of antimicrobial resistance with approximately 40% of Group B Streptococcus isolates being found to be resistant to erythromycin, and high rates (approximately 40%) of co-amoxiclav resistance in E coli Isolates

## PLANS FOR 2020

- Further expansion of a quality improvement project on the theme of “Back to Basics” with renewed focus on hand hygiene and appropriate use of Personal Protective Equipment
- Implementation of the National Hand Hygiene “Train the Trainer Programme”
- Promote improved vaccine uptake for Influenza and Pertussis







# 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.

## SERVICE 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 and Research Meetings and Interim Results Meetings.

## SUCCESSSES & ACHIEVEMENTS 2019

### ENHANCING PATIENT CARE

#### Register of Clinical Audit

In total, 78 clinical audits were registered in 2019 (53 first time audits and 25 re-audits), representing an increase of 50% on the number registered in 2018.

In the same period, 55 clinical audits were completed, which was the same number completed in 2018 (Table 1).

**TABLE 1: NUMBER OF COMPLETED CLINICAL AUDITS 2015-19**

Audit type	2015	2016	2017	2018	2019
First audits	34	38	34	41	38
Re-audits	21	13	15	14	17
<b>Total</b>	<b>55</b>	<b>52</b>	<b>49</b>	<b>55</b>	<b>55</b>

#### Clinical Audit Group Weekly Meeting

The core group within the Clinical Audit Service continues to meet on a weekly basis to discuss and approve audit applications. All reports and action plans received are also reviewed at that 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 2019.

#### HIQA Inspections

The Clinical Audit Service provided an extensive report on clinical audits on the topic of obstetric emergencies for an unannounced HIQA inspection in January 2019. In addition, a

list of relevant audits was provided for the HIQA Medication Safety Inspection in November 2019.

## EDUCATION AND TRAINING

The clinical audit team regularly delivers in-house educational sessions on the clinical audit cycle for all disciplines. This includes speciality-specific sessions in obstetrics, paediatrics and anaesthesia for both NCHD intakes each year as well as general information sessions suitable for all staff. In recent years, these sessions have been attended by newly appointed clinical audit staff from other hospitals. In addition, an education session was delivered to Trinity College Dublin MSc Midwifery students.

Two Biannual Clinical Audit and 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, 23 audits were presented in detail 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, February 2019
- Clinical Audit and Quality Improvement Symposium. Tallaght Hospital, April 2019
- RCSI Hospitals Group Inaugural Annual Quality and Patient Safety Conference, RCSI, May, 2019
- St. James's Hospital 12th Annual Multidisciplinary Research, Clinical Audit and Quality Improvement Meeting, May 2019
- Irish Clinical Audit Network (ICAN) Meeting, Children's University Hospital Temple Street, June 2019
- Children's University Hospital Temple Street Biannual Research and Audit Meeting, June 2019
- NOCA GDPR & Clinical Audit Information Session, RCSI, November 2019
- The National Patient Safety Conference, Dublin Castle, November 2019

A number of audits were presented at national meetings in 2019, which include:

1. *Impact of a Medication Safety Bundle on Pharmaceutical Care Issues in a Neonatal Intensive Care Unit (NICU)*, Brian Cleary, Oral presentation winner at the RCSI Inaugural Quality and Patient Safety Conference, RCSI, May 2019 (Oral presentation winner)
2. *Outpatient Managed Midwifery Induction of Labour*, Julie Horgan, RCSI Inaugural Quality and Patient Safety Conference, RCSI, May 2019

3. *Developmental Positioning in the Neonatal Intensive Care Unit (NICU) Quality Improvement Project*, Anna Hamill, RCSI Inaugural Quality and Patient Safety Conference, RCSI, May 2019
4. *The Use of Methotrexate in the Management of Ectopic Pregnancy*, Jenny Stokes, RCSI Inaugural Quality and Patient Safety Conference, RCSI, May 2019
5. *SBAR Assessment of Pager Communication Between Midwives to Paediatric SHO's during On Call Hours for Attending Deliveries and C-Sections*, Muhammad Gulzar, RCSI Hospitals Group Neonatal Network Group, RCSI, June 2019
6. *The Implementation of Outpatient Midwifery Induction of Labour*, Julie Horgan, Winner of the Healthcare Initiative in a Large Level 4 Teaching Hospital, Irish Healthcare Awards, Dublin, September 2019
7. *An audit of prenatal genetic testing results*, Catherine Finnegan, National Patient Safety Conference, Dublin Castle, November 2019
8. *Developmental positioning in the Neonatal Intensive Care Unit*, Brona Fagan and Anna Hamill, National Patient Safety Conference, Dublin Castle, November 2019
9. *An audit of prenatal genetic testing results*, Catherine Finnegan, Junior Obstetrics and Gynaecology Society (JOGS), Galway, November 2019
10. *Red Cell Transfusion: Is Two Too Many?*, Suzanne Smyth, Junior Obstetrics and Gynaecology Society (JOGS), Galway, November 2019
11. *Remifentanyl Patient Controlled Analgesia (PCA) for Labour Analgesia*, Salah Al-Nahdi, Junior Obstetrics and Gynaecology Society (JOGS), Galway, November 2019
12. *Re-evaluation of prolonged jaundice assessments carried out in the Paediatric Outpatients Department*, Dhruv Kapoor, 10th Annual Neonatal Research Symposium, Dublin, November 2019
13. *Use of emergency O Rhesus negative blood in the NICU*, Parijot Kumar, 10th Annual Neonatal Research Symposium, Dublin, November 2019
14. *Audit of the use of neonatal platelet transfusions in a tertiary NICU*, Claire Murphy, 10th Annual Neonatal Research Symposium, Dublin, November 2019
15. *To re-assess the completeness of documentation regarding shoulder dystocia in the maternity chart*. Khadeeja Alnasser, The Rotunda Hospital Charter Day, November 2019
16. *Audit of compliance with Hepatitis B vaccination and IgG administration*, as recommended by local and National guidelines. Aoife Flynn, The Irish Paediatric Association Annual Meeting, Athlone, December 2019
17. *SBAR Assessment of Pager Communication Between Midwives to Paediatric SHO during On Call Hours for Attending Deliveries & C-Sections*, Muhammad Gulzar, The Irish Paediatric Association Annual Meeting, Athlone, December 2019

## CHALLENGES 2019

- **Dissemination of findings**  
Ensuring clinical audit findings are disseminated throughout the organisation is an ongoing challenge. The Bi-annual Audit and Research Meetings, the Interim Results Meetings and email are invaluable in this regard. The Clinical Audit Facilitator attends the quality and patient safety meetings to present recent audit results and recommended immediate actions as agreed by audit supervisors. The inclusion of an NCHD representative at clinical audit meetings supports result and action dissemination
- **Overcoming barriers to audit**  
The MN-CMS electronic patient record and access to secure folders on the hospital network set up on several designated PC's in the hospital supports timely data collection whilst complying with GDPR and Data Protection Legislation
- **Clinical Audit Steering Group**  
The presence of the Clinical Audit Facilitator and/or Clinical Audit and Surveillance Scientist at bi-annual Departmental Patient Safety Meetings has replaced The Clinical Audit Steering Group in an effort to tailor audit topic selection and results, outcomes and actions discussions with the key stakeholders from each clinical area.
- **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 completed the HSEland online training course in GDPR so that the best advice is provided to audit leads.

## PLANS FOR 2020

- Networking and Leadership
- The inclusion of an NCHD representative and ASPIRE Fellow to Clinical Audit Team meetings will support assist with audit topic planning and dissemination of audit results. Linking with the hospital IT lead to develop an e-learning platform that may also be incorporated into the induction day for new staff and would also promote distance learning for all members of staff.
- The Clinical Audit Service will continue to facilitate peers on a national level and within the RCSI group to develop a network and share audit tools and educational documents.

# CLINICAL RISK AND PATIENT SAFETY SERVICE

## HEAD OF SERVICE

**Ms. Siobhan Enright**, Clinical Risk and Patient Safety Manager

## STAFF

**Ms. Eimear Brennan**, Clinical Risk Co-ordinator

**Ms. Juliana Clarke**, Clinical Risk Co-ordinator

**Ms. Brid Leahy**, Clinical Risk and Claims Administrator

## SERVICE OVERVIEW

The Clinical Risk and Patient Safety Service is responsible for the ongoing development of a comprehensive clinical risk management programme across the hospital. The service provides day-to-day management of all clinical risks and incidents in compliance with the appropriate legal and regulatory requirements of the National Incident Management System (NIMS), HSE and HIQA. This includes requirements for the management and reporting of Serious Reportable Events (SREs).

All clinical incidents that fulfil the reporting criteria for SREs and Serious Incidents (SIs) are recorded on NIMS. Figure 1 provides a monthly breakdown of the total number of incidents reported to the Clinical Risk and Patient Safety Service and reported onwards to NIMS for 2019.

## CLAIMS MANAGEMENT

Claims management relating to clinical incidents is also a key function within the service. The Clinical Risk and Claims Administrator and the Clinical Risk and Patient Safety Manager work collaboratively with the State Claims Agency from initial notification of a new legal claim through to final resolution of cases. The service analyses claims data for future learning. In 2019, there were seven medico-legal claims settled and 11 new proceedings were served.

## PATIENT SAFETY

The service works collaboratively with multidisciplinary teams to improve the patient safety culture within the hospital. This is achieved by working with staff members to identify and improve patient safety issues including providing regular reports of incidents, sharing learning from the causes of incidents after analysis, and sharing examples of good practice as well as successful risk mitigation initiatives. As an example, patient safety huddles were introduced in early 2019, which involve Clinical Risk staff leading short multidisciplinary briefings in various clinical areas. Topics covered during these huddles included incidents reported from the individual clinical areas that pose a risk to patient safety.

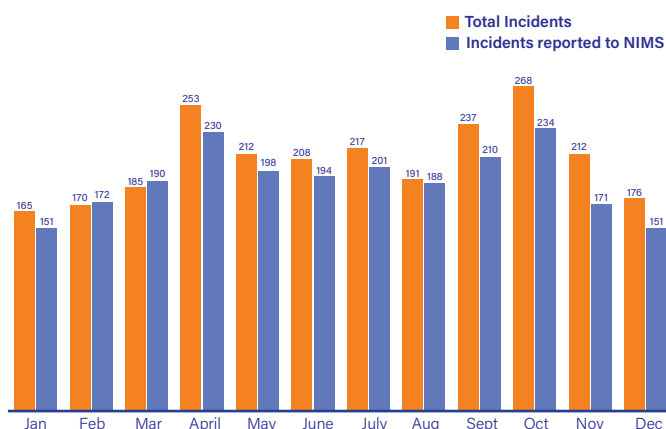
## INITIAL INCIDENT REVIEW MEETINGS (IIRM)

All reported clinical incidents at the hospital are reviewed on a weekly basis at an Initial Incident Review Meeting (IIRM). The service facilitates these weekly multidisciplinary Initial Incident Review Meetings, which are chaired by Senior Consultant Obstetrician, Prof. Sam Coulter Smith, and include other senior clinical staff, including Ms. Geraldine Gannon (Assistant Director of Midwifery/Nursing), Professor Fionnuala Breathnach (Consultant Obstetrician and Gynaecologist), Dr. Breda Hayes (Consultant Neonatologist), Dr. Anne Doherty (Consultant Anaesthetist), the Assistant Masters and Clinical Risk representatives.

The purpose of this weekly meeting is to provide a rapid and timely review of all Serious Reportable Events (SREs) and Serious Incidents (SIs), to find out what happened, why it happened, and whether lessons can be learned. Through systematic analysis of clinical incidents, key learnings are identified and disseminated to clinical staff. In 2019, there were 138 such IIRM cases reviewed, which were completed to the standard of a Concise Desktop Review. Typical clinical cases that are reviewed include stillbirth, postpartum haemorrhage, shoulder dystocia, neonatal encephalopathy, and unplanned return to the operating theatre. There were 22 Serious Reportable Events reported for 2019. The outcome of these reviews is presented to the hospital Executive Management Team at weekly meetings, at which time decisions are taken on need for further review or whether risk mitigation steps need to be implemented. This can include a decision to perform a detailed Comprehensive or Concise Systems Analysis Review (See Figure 2), with or without external staff members. Feedback of the outcome and learning from reviews is delivered to patients by a senior clinician, and also to all relevant staff. Following completion of the weekly IIRM reviews and subsequent weekly Executive Management Team reviews, all SREs and SIs are then presented monthly to the Rotunda Hospital Board, initially through its General Purposes Committee and ultimately at the main Rotunda Board of Governors monthly meetings. Additionally, a summary of the learnings from SREs and SIs are shared with the Board throughout the year.

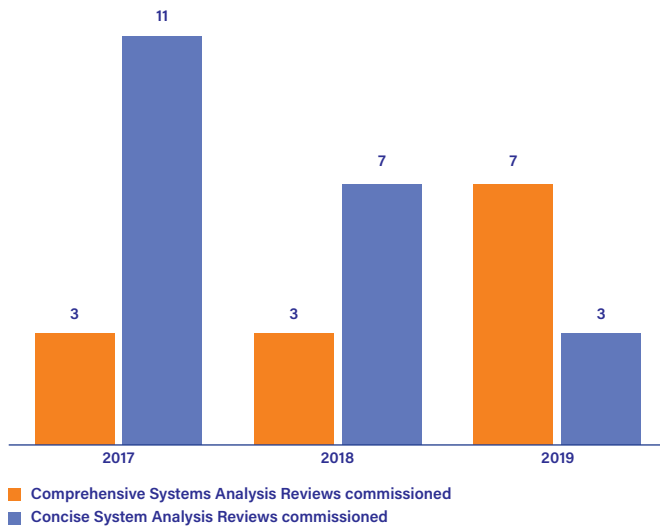
Information on clinical incidents that meet the criteria for Serious Reportable Events or Serious Incidents are also shared each month at the RCSI Hospitals Group Senior Incident Management Forum (SIMF) meetings to support distribution of learning from

**FIGURE 1: NUMBER OF CLINICAL INCIDENTS REPORTED PER MONTH IN 2019**

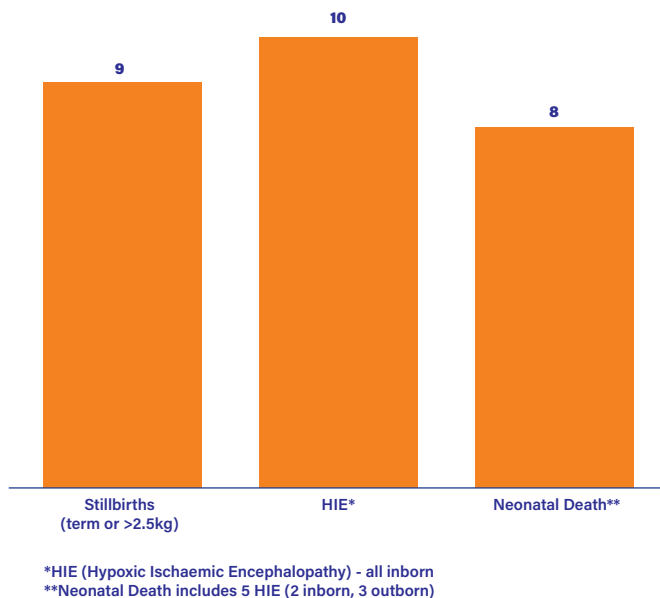


relevant cases across all Group hospitals. There were 41 such cases presented at these SIMF meetings in 2019.

**FIGURE 2: COMPREHENSIVE AND CONCISE SYSTEMS ANALYSIS REVIEWS PERFORMED 2017-2019**



**FIGURE 3: SERIOUS REPORTABLE EVENTS 2019**



- A total of 15 quality improvement plans were initiated in 2019, including those related to medication, the MN-CMS electronic healthcare record, and patient communication. Improvements were achieved in all areas in collaboration with relevant multidisciplinary staff
- All incident reviews were completed in line with the requirements of the HSE Incident Management Framework (2018)

**PLANS FOR 2020**

- Celebrate Patient Safety Awareness Week March 9th - 15th 2020 as a dedicated platform to maintain a growing awareness about patient safety and recognising the work already being done throughout the Rotunda in this area
- Implement the standards outlined in the Incident Management Framework in relation to timeframe for undertaking Systems Analysis Reviews
- Share the learning from incident reviews to help minimise the risk of repeat incidents. This will be achieved through patient safety huddle updates and additional follow up meetings that take place with key staff members in order to disseminate information
- Ensure all staff attending Coroner’s and Legal hearings have adequate support

**SUCCESSSES & ACHIEVEMENTS 2019**

- Introduction of patient safety huddles in local clinical areas to promote the principles of patient safety and to provide feedback to targeted clinical areas on the recommendations from relevant incident reviews
- Introduction of a Clinical Incident Electronic System for collating information relating to all clinical incidents



## CLINICAL INFORMATION DEPARTMENT

### 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

**Ms. Marian Barron**, Vermont Oxford Network Administrator

### SERVICE OVERVIEW

The Clinical Reporting Department 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 Hospital In-Patient Enquiry System (HIPE). There are routine periodic reports produced for hospital Executive Management, 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 Purpose 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 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)

### SUCCESSSES & ACHIEVEMENTS 2019

There were 11,020 day cases and 14,193 inpatients coded during 2019.

### CHALLENGES 2019

There were challenges in meeting coding deadlines due to retirements and resignations of experienced Hospital In-patient Enquiry (HIPE) coders. During 2019 all posts were filled, as a result coding deadlines were improved on 2018.

An IT Midwifery role has been incorporated and expanded into the Clinical Information Department 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 2019 is delivering substantiated business intelligence from MN-CMS. There have been ongoing challenges in development and roll-out of reports from MN-CMS. Without the backup of other systems (HIPE & IPIMS) it would be impossible to provide the information required for external and internal reports.

### PLANS FOR 2020

- To develop an efficient mechanism to identify infants receiving care and treatment on postnatal wards
- To ensure that all reports are appropriately validated before issuing internally or externally
- To ensure that reports are produced in a timely fashion
- To meet all HIPE deadlines for coding
- To integrate MN-CMS and Vermont Oxford Network (VON) to facilitate the automated extraction of data



A portrait of Prof. Fionnuala Breathnach, a woman with blonde hair, smiling. She is wearing a pink cardigan over a dark blue collared shirt. The background is a plain, light-colored wall.

**“WE STRIVE NOT JUST  
TO FOLLOW BEST  
PRACTICE, BUT TO LEAD,  
DEVELOP AND IMPROVE  
BEST PRACTICE IN  
OBSTETRIC CARE”**



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# ACADEMIA

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## DEPARTMENT OF RESEARCH

### HEADS OF DEPARTMENT

**Dr. Joanna Griffin**, Director of Research and Clinical Innovation (Rotunda)

**Dr. Liz Tully**, Director of Obstetrics and Gynaecology Research, National Clinical Network Manager (RCSI)

### STAFF

**Mr. Cormac McAdam**, Communications Manager

**Ms. Fiona Cody**, Research Sonographer

**Dr. Patrick Dicker**, Biostatistician

**Ms. Alma O'Reilly**, Operations Manager

**Mr. Mark Kerins**, Graphic Designer

**Ms. Andrea Lydon**, Research Manager

**Ms. Ruth Ennis**, Research Manager

**Mr. Oliver Feeney**, Research Coordinator

**Ms. Niamh Redmond**, Research Manager

**Ms. Lucy Murphy**, Research Coordinator

**Ms. Emma Gorman**, Research Coordinator

**Ms. Ashwini D'Souza**, Research Coordinator

**Ms. Christine Dalton**, Research Coordinator

**Ms. Elisa Belmonte**, Communications Officer

**Mr. James Keyes**, Operations Assistant

### 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 2019. This integrated approach alongside RCSI with shared staffing and resources, has allowed a substantial increase in the Rotunda's funding streams and portfolio of research studies and clinical trials.

### NETWORK COLLABORATIONS

#### 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 2019

- 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. PARROT ended recruitment in May 2019 with a total of 278 patients recruited in the Rotunda, and 2,313 nationally.

- IRELANd – multicentre RCT investigating the role of Aspirin in pregnancy outcomes of women with pre-gestational diabetes launched in October 2019 in the Rotunda Hospital, the Coombe and the National Maternity Hospital
- HIGHLOW – RCT comparing different doses of low molecular weight heparin (LMWH) to prevent recurrence of potentially life-threatening blood clots in pregnant women. A total of 66 patients were recruited to the study by the end of 2019 at the Rotunda. Additional recruitment sites at the Coombe Women and Infants University Hospital, the National Maternity Hospital and Limerick Regional Maternity Hospital were launched
- MINT – pilot study to assess the feasibility of a multi-centre definitive intervention trial of milrinone therapy in newborns with persistent pulmonary hypertension (PPHN) recruited patients at both the Rotunda Hospital and Cork University Maternity Hospital in 2019. Plans are underway to extend recruitment to an additional site in the Netherlands in 2020
- Big Medilytics – The pilot for this H2020 European Union Grant began in 2019, with the aim to develop a complete monitoring system for gestational diabetes, including a mobile app connected to glucometers to ease data collection, and a web portal to present the data to the medical team

### 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 2019, The RECIPE study completed recruitment with over 600 first time mothers enrolling in this study.

### CLINICAL INNOVATION UNIT

In 2019, the Clinical Innovation Unit continued to develop and grow. Key milestones included the licencing and production of the Rotunda Umbifunnel by Key Plastics, an engineering company based in Bray. Umbifunnel was featured at the Med Tech in Ireland showcase at the Royal Dublin Society in October 2019 and was approved for use in the hospital.

Another Clinical Innovation Unit project entitled 'Use of Artificial Intelligence for interpretation of Bacterial Vaginosis Molecular Results in Maternity Patients' won the 'Best Use of Information Technology' category at the Irish Healthcare Centre Awards in September 2019. In addition, another project entitled 'Reducing Invasive Streptococcus B Disease in Mothers & their Babies using Rapid Molecular Testing on a 24-7 basis and Theoretical Modelling'



was shortlisted for 'Hospital Project of the Year' at the Irish Healthcare Awards meeting.

### TECHNOLOGY PARTNERSHIPS

In collaboration with RCSI, the Rotunda has been working with leading information and communication technology (ICT) 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 2019, the team attended international meetings in Valencia and Eindhoven focusing on the development of an app for gestational diabetes after receiving funding from a H2020 European Union Grant in 2018.

### RESEARCH COMMUNICATIONS

In 2019, the Research Department continued to manage and develop the Rotunda Hospital website. Rotunda.ie had over 916,000 page views in 2019, and over 295,000 users, with 77% of visitors accessing www.rotunda.ie on mobile devices.

Based on the high levels of mobile users, the 'RotundApp' was launched in 2019. The Rotunda Maternity Information App was developed with IBM whereby the paper-based Maternity Information Pack received by patients during their booking visit, was transferred into a digital format. This allows the information to be more accessible and versatile for women who want to keep informed during their pregnancies.

In 2019, the Research Department expanded the social media reach of the Rotunda Hospital on Facebook and Twitter. The Rotunda Hospital gained over 1,000 new followers on Twitter, with a total of 3,600 followers over the course of 2019. The Rotunda Hospital Facebook community grew by over 1,400 members in 2019, resulting in a total of 8,500 followers. An Instagram account was launched in May 2019, with a total of 2,300 followers by the end of December.

### RESEARCH EVENTS

#### CREATE

Funded by the Health Research 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. 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. CREATE was displayed in Dublin in 2018, but following its success in the Science Gallery, which hosted around 3,000 visitors, the exhibition moved to the Rotunda Hospital during Culture Night and in 2019 the project toured to venues nationwide including St. Peter's in Cork, University Hospital Galway and the NUIG campus. The exhibition welcomed over 14,000 visitors in ten months during 2019.

### DEBUNKING THE MYTHS

A number of 'Debunking the Myths' workshops were created to examine the research behind the science of women's health. The workshops offer a safe space for teenagers to ask qualified professionals about these topics. Using evidenced-based information to educate teenagers, they are being given the tools to make informed decisions about their health and wellbeing.

A series of workshops were held at the Rotunda Hospital during the Spring of 2019, facilitating attendances of over 200 students. The feedback from each school highlighted the success of the workshops, and it is hoped to launch a second phase in 2020 with the support received by the Rotunda Foundation.

### 'REAL TALK WITH REAL MUMS'

The 'Real Talk with Real Mums' podcast series discusses the issues of everyday pregnancy with medical professionals and the real women who have gone through the pregnancy journey. Each episode tackles a different topic. The podcast series which launched in March 2019 tapped into a new medium of dissemination for research findings. The podcast has accrued over 13,000 streams across three continents and the final recording was a live event hosted by Louise McSharry, which was held in the Pillar Room of the Rotunda Hospital in December 2019 with over 100 attendees.

### BREAKFAST CLUB COMIC

'The Breakfast Club' is a weekly, serialized, online graphic novelette, which follow the lives of women with diabetes in pregnancies. The aim is to tell a story that resonates with women with diabetes in their pregnancies, their partners and families, as well as highlighting the condition with the wider public. Artist Fiona Carey illustrated this story.

'The Breakfast Club' project is linked to the 'IRELANd' randomized trial. The programme includes a dedicated Outreach page which includes blogs, animated videos and interviews and is supported by social media outreach.

### MATERNITY OPEN DAY

The Research Department took part in the second Rotunda Hospital Maternity Open Day in 2019. Members of the team engaged with expectant parents in the Pillar Room of the Rotunda Hospital to discuss the current portfolio of research projects and their importance. Outreach Projects were also showcased to highlight the need for women to get involved in creative research.

### RESEARCH ETHICS COMMITTEE

The Research Department plays an important role in assisting the hospital Research Ethics Committee in both an advisory and an administrative capacity. In 2019, a total of 31 applications were reviewed by the hospital's Research Ethics Committee and a further 11 applications for retrospective chart reviews were reviewed by a subgroup of the Committee (Research Advisory Group).

## FUNDING SUCCESS

In 2019 research funding was secured from a wide variety of sources, both national and international. A total of €1.1 million in funding was awarded by the Health Research Board (HRB) and the European Commission for the study of diabetes in pregnancy. The Rotunda's communications programme secured more than €100,000 from both the HRB Conference and Events Scheme and the HRB Knowledge Exchange and Dissemination Scheme (KEDS) to enable the continuation of outreach initiatives. Sourcing new research equipment and assisting research activity continues to be generously supported by the Rotunda Foundation. This allows for the progression of research in the hospital and the dissemination of communications projects.

## CHARITABLE ACTIVITIES

The Research Department raised much needed funds for "Outhouse" on Capel Street, Dublin, an organisation which works with LGBT youth during PRIDE week.

The 'Debunking the Myths' team was awarded funding at the Rotunda Hospital Charter Day, which was used to buy sanitary products for the 'Homeless Period Charity.'

The Research Department also organised a Christmas food drive and all proceeds were donated to St. Vincent De Paul.

## AWARDS & ACHIEVEMENTS

'CREATE: the Art of Pregnancy, Birth & beyond' was nominated for Patient Education Project of the Year at the Irish Healthcare Centre Awards 2019.

'Debunking the Myths: The Science Behind Women's Health' was commended for Patient Lifestyle Education Project of the year at the Irish Healthcare Centre Awards 2019.

'Clinical Innovation Unit – Use of Artificial Intelligence for Interpretation of Bacterial Vaginosis Molecular Results in Maternity Patients' was recipient of the Best Use of Information Technology Award at the Irish Healthcare Centre Awards 2019.

'CREATE', 'Debunking the Myths' and 'Real Talks with Real Mums' podcast were all finalists for SciComm 2019.

## CHALLENGES 2019

- Ongoing challenge of maintaining and growing diverse funding streams
- Adequate 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 2020

- Continued roll-out of two national multi-centre clinical trials; HIGHLOW and IRELANd at multiple hospital sites around the country

- Continued support of obstetric, neonatal and midwifery research in the hospital
- HRB Mother & Baby Clinical Trials Network showcase event to be held in Spring 2020. Guests and invited speakers will be joining from across the country for this exciting event
- Continued provision of new online webinars, optimising communication skills and research development.
- Funding applications for research communications workshop event around gender bias in research as well as a planned Rotunda Research and Innovation Showcase later in 2020

## RESEARCH ETHICS

### HEAD OF COMMITTEE

**Prof. Michael Geary**, Chairman

### COMMITTEE MEMBERS

**Dr. Mona Abdelrahman**

**Dr. Helena Bartels**

**Dr. Sharon Cooley**

**Dr. David Corcoran**

**Dr. Deirdre Daly**

**Dr. Anne Doherty**

**Dr. Emma Doyle**

**Dr. Richard Drew**

**Dr. Richard Duffy**

**Dr. Joanna Griffin**

**Ms. Fiona Hanrahan**

**Ms. Richard Horgan**

**Mr. Colin Kirkham**

**Dr. Cathy Madigan**

**Prof. Fergal Malone**, Master

**Ms. Anna Mooney**

**Dr. Claire Murphy**

**Dr. Fionnuala Ni Ainle**

**Ms. Kristina Odum**

**Mr. John O'Loughlin**

**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.

### ACTIVITY

During 2019 Dr. Cathy Madigan, Ms. Kristina Oldum, Dr. Mona Abdelraham, and Dr. Richard Horgan left the Committee. Their hard work and contribution to the Committee over many years is acknowledged and appreciated. A number of new members joined the Committee during the year, including Dr. Helena Bartels, Dr. Anne Doherty, Dr. Richard Duffy and Dr. Claire Murphy.

The Research Ethics Committee met on 8 occasions in 2019. There were 31 Research Ethics Committee (REC) applications considered during the year, 25 of which were approved to commence. There were 11 Research Advisory applications considered by the Research Advisory Group (RAG) and 7 of these were approved and brought to the attention of the Research Ethics Committee.

### CHALLENGES

In 2018, we reported that the biggest challenge to commencing new research studies was the introduction of the General Data Protection Regulation (GDPR). This was adopted by the European Union in April 2016 and became enforceable on May 25th 2018. This is a regulation in EU law on data protection and privacy for all individual citizens of the European Union. 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, although the Department of Health in Ireland has taken a much more restrictive approach to GDPR interpretation relating to clinical research.

During 2019 the hospital had to put on hold retrospective chart reviews which did not have the explicit consent of the patient. At the time, Ireland were the only country within the EU that had taken this very restrictive approach to retrospective research. The Research Ethics Committee had initially taken a pragmatic approach which was to approve such retrospective studies under the broad approach of 'legitimate interest' of quality improvement and patient safety. Subsequent to this approach further external advice indicated that explicit consent must be obtained from all patients for any of these types of retrospective studies. Obtaining this type of explicit consent in many cases can be difficult and quite impractical, in particular when re-analysing existing databases that can be many years old. As a result of this approach, there were few of these types of these retrospective studies approved in 2019.

A working group led by RCSI and University College Cork, under the umbrella group of Corporate Enabling of Clinical Research, looked at the main issues around clinical research in Ireland and interpretation of GDPR. The group had further talks with the Department of Health and the Health Research Board. As a result of this engagement, fortunately towards the end of 2019 a more pragmatic approach was taken and retrospective chart reviews were again allowed, once a nominated senior clinician was identified to act as a Gate Keeper for the research project. The expectation is that it will be possible to return to normal business in relation to these important retrospective chart reviews after 2019.

### PLANS FOR 2020

The Committee increased its membership during 2019. It is hoped that further expansion of membership will look at the possibility of adding a Clinical Fellow Representative, a role that would be a very positive development for the Committee.

We are grateful to all of the Committee Members for their hard work and commitment during the year and to Margaret Griffin for providing administrative support to the Committee.









# ROYAL COLLEGE OF SURGEONS IN IRELAND DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

## HEAD OF DEPARTMENT

**Prof. Fergal Malone**, Professor & Chairman

## STAFF

**Prof. Fionnuala Breathnach**, Associate Professor

**Dr. Naomi Burke**, Senior Lecturer

**Dr. Bridgette Byrne**, Senior Lecturer

**Dr. Karen Flood**, Senior Lecturer

**Dr. Ronan Gleeson**, Senior Lecturer

**Dr. Carmen Regan**, 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. Sahar Elhadi Ahmed**, 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. Ann McHugh**, Maternal Fetal Medicine Subspecialty Fellow

**Dr. Sieglinde Mullers**, Maternal Fetal Medicine Subspecialty Fellow

**Dr. Catherine Finnegan**, Specialist Registrar / Tutor

**Dr. Niamh Murphy**, Specialist Registrar / Tutor

**Dr. Sarah Nicholson**, Specialist Registrar / Tutor

**Dr. Suzanne Smyth**, Specialist Registrar / Tutor

**Ms. Ann Fleming**, Midwife Sonographer

**Ms. Claire O'Rourke**, 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 2019, a total of 4,897 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 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

176 medical students participated in the RCSI Obstetrics & 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

The RCSI Department has enjoyed a strong collaborative relationship with the Rotunda Hospital research partner over the past number of years. This year saw a further integration of our shared research endeavors with the Rotunda Hospital, encompassing perinatal research both at local site and national levels. Further details on this collaboration is described in the chapter on the Rotunda/RCSI Department of Research (see page 158).

### SUCCESSSES & ACHIEVEMENTS 2019

In 2019, the department published 43 scientific articles in international publications 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 in February 2019.

Eight postgraduate research theses were in progress in 2019. One MD and one MSc in Leadership were awarded in 2019, with an additional five PhD projects and one MD underway.

A dedicated Research Ultrasound Suite (The SoundStart Suite) was opened in the RCSI Department with support from MIS Healthcare Samsung. New technologies in advanced Fetal Echocardiography will be evaluated in the first study initiated through this facility, which commenced in October 2019.

The inaugural 'Robert F Harrison Medal' was awarded to Tishelle Boodoo, an RCSI Senior Cycle medical student for an essay competition which is intended to continue as an annual event run through the RCSI Biological Society.

### CHALLENGES 2019

The main challenge for the department in 2019 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 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 2020**

- Expansion of the use of the York Street Simulation Centre to RCSI faculty and students attending allied teaching centres at the National Maternity Hospital, Midland Regional Hospital Mullingar and Our Lady of Lourdes Hospital Drogheda.
- Progression of a high quality research portfolio undertaken by the RCSI Department, including initiation of Horizon 2020-funded Innovation projects exploring telemedicine-focused artificial intelligence solutions for gestational diabetes management, a national randomized control trial of aspirin use in diabetic pregnancy, and a randomized trial that seeks to establish the optimal method for induction of labour.

## LIBRARY & INFORMATION SERVICE

### HEAD OF SERVICE

**Ms. Anne M O Byrne**, Head Librarian

### STAFF

**Ms. Noreen McHugh**, Senior Library Assistant

**Ms. Elaine Peppard**, Senior Library Assistant

### SERVICE OVERVIEW

The Library and Information Service (LIS) of the Rotunda Hospital, provides reference/study facilities, electronic access, and computer facilities to all staff of the hospital. In addition, it provides facilities for medical students from the Royal College of Surgeons in Ireland who use the 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 personal computers) and Wi-fi access
- 24-hour reading room facilities
- book return facilities
- integrated print and photocopy services
- access to electronic journals and medical databases through the "Rotunda Discovery Platform"
- 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 2019, a number of key developments were put in place to aid service development.

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 2019, Library and Information Service staff attended two training events: the Annual Health Science Libraries Conference (in February 2019) and the Annual Academic and Special Libraries Training Event (in March 2019). In addition, they attended a further CPD event (in September 2019), which promoted research and writing for publication. 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 an Introduction to the Discovery Platform designed for laboratory staff at their request. Feedback from users was quite positive. Prescribed literature searching and

systematic reviews are provided by request and facilitated by appointment.

### SUCCESSES & ACHIEVEMENTS 2019

In support of the hospital's Strategic Plan, the Librarian continued to Chair the Historical Committee to co-ordinate planning for the 275th anniversary celebrations scheduled for March 2020.

Forward planning and reporting to the Board was essential in creating events to mark this important milestone in the Rotunda's history. The work of this Committee continued in 2019, including the successful hosting of Culture Night, on September 20<sup>th</sup>, 2019.

This was the second time that the Rotunda Hospital contributed to this open night event and hospital access was given to members of the public for a series of lectures and Chapel visits. Volunteers from all communities in the Rotunda supported this effort by assisting 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.

### PUBLICATIONS & PRESENTATIONS

The Hospital Librarian contributed an article entitled "World Class Maternity Care" which was published in the Public Sector Magazine Issue: Dáil Centenary Celebrations, 100 Years.

In November 2019, the Librarian gave a presentation to the Rotunda RCSI Leadership Group on the history of Dr. Bartholomew Mosse, our founder. This type of promotional activity advances the recognition of the Rotunda Hospital as the oldest maternity hospital in the world.

"Heritage", the Library's Management system moved to remote hosting with IS Oxford. This has advantages of speedier access for all users through internal and remote access.

### CHALLENGES 2019

As in previous years, staffing has been subject to change. The assistance and support of Noreen McHugh, who joined the LIS team in May 2018, was invaluable and continued until she was promoted to a different role in July 2019. Noreen was replaced in September by Elaine Peppard, who had previously worked in a school's library. The LIS Team approach enables optimal achievement of the service developments as described.

Staff access to training continued in 2019 and it can be challenging to release staff for training. Space for collections is an ongoing issue. New NCHD staff, new midwifery and new student groups present an ongoing challenge regarding record-keeping and compliance with GDPR.

### PLANS FOR 2020

In accordance with the hospital's Strategic Plan, the Historical Committee is planning a number of events to commemorate the Hospital's 275th anniversary beginning in March 2020. Submissions for funding to support events have been requested in order to support activities.

This will include the hosting of the third Culture Night. Volunteers from staff will again support access to the event. The Rotunda will also enter a submission to Dublin City Council Plaques Committee to ensure that the site of the original Lying-in Hospital is appropriately identified.

A musical event is planned for March 2020 in co-operation with the "Musical Medics" group, under the directorship of Proinnius O'Doireann.

# THE ROTUNDA FOUNDATION



## HEAD OF DEPARTMENT

Ms. Sheila Costigan, General Manager

## STAFF

Mr. Chetan Chauhan, Marketing & Business Development Executive

Ms. Carla Glynn, Communications Consultant

## BOARD OF DIRECTORS

Mr. Andrew Wortley, Chairperson / Director

Mr. Colm Reilly, Secretary / Director

Ms. Sylvia Graham, Director

Dr. Mary Holohan, Secretary/Director

Ms. Marie Malone, Director

Ms. Margaret Philbin, Director

## OVERVIEW

The Rotunda Foundation is the official fundraising arm of the Rotunda Hospital and operates as a registered charity (CHY20091). It was originally 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 20079529).

The Charity has a firm commitment to transparency, accountability and an adherence to good governance, best practice and performance. It publishes annual accounts with the Charities Regulatory Authority (CRA) audited by KSi Faulkner Orr Accountancy.

The Foundation relies on revenue it generates annually from fundraising activities, corporate sponsorship and donations.

## SUCCESSSES & ACHIEVEMENTS 2019

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. In total in 2019, the Foundation awarded €99,904 in research grants:

- **Determination of the Infrared Thermographic response to Neuraxial Anaesthesia in Obstetrics**  
Principal Investigator: Dr. Brian Murphy  
Grant Awarded - €8,000
- **Safeguarding the brain of our smallest children – Infrared Spectroscopy monitoring versus treatment as usual in Premature Infants**  
Principal Investigator: Prof. Afif EL-Khaffash  
Grant Awarded - €11,904
- **Debunking the Myths – The Science Behind Women's Health**  
Principal Investigator: Prof. Fergal Malone  
Grant Awarded - €12,000

- **NICU Antimicrobial Stewardship – Identifying diagnostic markers and risk factors to aid in antimicrobial selection & duration of therapy in late-onset sepsis**  
Principal Investigator: Dr. Seán Armstrong  
Grant Awarded - €25,000
- **HOME Induction Trial – A Comparison of Induction Methods at 39 Weeks in the Outpatient Setting**  
Principal Investigator: Prof. Fergal Malone  
Grant Awarded - €40,000
- **Medication Safety in Neonatal Care**  
Principal Investigator: Kamelia Krysi  
Grant Awarded - €3,000

Additionally, the Foundation received multiple generous donations throughout 2019 which were used to purchase equipment for various Hospital services. The Foundation distributed €89,591 from donations during 2019, as follows:

- **Neonatal Intensive Care Unit** SoundEar 3-300
- **Neonatal Intensive Care Unit** Premature 'Anne' Manikin Twin Pack
- **Neonatal Intensive Care Unit** Blanket Warming Cabinets x 2
- **Neonatal Intensive Care Unit** Retrofit Digital Imaging Solution
- **Neonatal Intensive Care Unit** Tucson Clinical Recliner Chairs x 12
- **Neonatal Intensive Care Unit** Divider Screening
- **Neonatal Intensive Care Unit** Electric Breast Pumps x 10
- **Bereavement Support Services** 4 Shuggle Easy Moses Baskets
- **Bereavement Support Services** A5 + A6 We Remember Condolence Books
- **Bereavement Support Services** White Stormproof Umbrellas for Mortuary

## SUPPORTING THE HOSPITAL

The Foundation has used donations in the best possible way by continuing to fund initiatives within the Rotunda that supports improved patient care programmes:

- Beads of Courage Programme in the NICU
- Aidan and Donnacha's Wings – Ceramic Hand and Foot Prints for bereaved parents
- Tentacles for Tinies Initiative in the NICU
- Rotunda Knitters & Crocheters' Baby Gift Packs
- The Journey Initiative in the Fetal Assessment Unit
- The Rotunda's Pastoral Care Packaging and Mortuary Chapel Supports



- Supporting the Miscarriage Association of Ireland
- The Rotunda's Medical Social Work Services

### FUNDRAISING AND EVENTS

The Foundation does not receive any State funding and has generated its revenue 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*
- Rotunda Sky Dive
- Community Sky Dive
- Supermarket Bag Packing
- Christening Party Fundraisers
- Afternoon Tea Fundraisers
- Charity Golf Fundraisers
- Coffee Morning Fundraisers
- Birthday Party Fundraisers
- Sponsored Charity 5K, 10K Walks/Runs
- VHI Women's Mini Marathon
- Hell & Back Challenge
- SSE Airtricity Dublin City Marathon
- New York City Marathon
- Sale of Easter Eggs
- Coin Box Collections and Raffles
- 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
- In-house Conferences & Training Courses
- Charity Collaborations
- Charity Partner Collaborations with Lord Abbett USA, Park Rite Parnell Street Car Park, Tesco Community Fund, Dublin Bus Community Spirit Award, Bank of Ireland and VHI Healthcare
- Corporate Giving Fundraisers
- GoFundMe Christmas Fundraising Campaign for a new ECHO Machine

### MERCHANDISING

To increase fundraising opportunities, the Foundation merchandises a number of items, including Tentacle for Tinies Hand-Crocheted Octopus Keyrings, and re-usable shopping bags.

### THE PILLAR ROOM

The Foundation manages the Pillar Room complex within the Rotunda Hospital campus for commercial lettings which generate an additional source of revenue that supports the work of the Charity. The complex is also extensively used by the hospital for in-house conferencing, teaching and examination purposes.

### 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, which are received as a donation to the Foundation in aid of the Rotunda's Medical Social Work. Tours are made by appointment only.

### VOLUNTEERING

*The Rotunda Knitters & 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 Patrick's Day, Spring Awakening, Summer Joy, Winter Warmth and Merry Christmas.

### MOTHER AND 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 2020

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 concerned with the need to improve the hospital's physical infrastructure. The Foundation plans to continue this support throughout 2020.

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 your valued donations, time and evermore inventive ideas.

A portrait of Mr. Ray Philpott, a middle-aged man with short, graying hair and blue eyes, smiling warmly. He is wearing a dark blue suit jacket over a light blue checkered shirt and a dark blue tie. The background is a plain, light-colored wall.

**“THE ROTUNDA’S  
CULTURE ENCOURAGES  
ACHIEVEMENT  
THROUGH INNOVATION  
AND DIVERSITY OF  
OPINIONS”**

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# CORPORATE SERVICES

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# HUMAN RESOURCES DEPARTMENT

## HEAD OF DEPARTMENT

**Mr. Kieran Slevin**, Human Resources Manager

## STAFF

**Ms. Cathy Ryan**, Deputy Human Resources Manager

**Ms. Catherine Keating**, Senior Human Resources Officer

**Mr. Ciaran Dunleavy**, Human Resources Officer

**Mr. Teresa Grace**, Human Resources Officer

**Ms. Anton Nesterenko**, Human Resources Officer

**Ms. Anne Leen**, Human Resources Administrator

## SERVICE OVERVIEW

The Human Resources Department continued throughout 2019 to provide HR corporate services across the hospital for Medical, Midwifery/Nursing, Allied Health Professional, Patient Care, Management/Administrative and Support Services staff. Integral to the continued provision of a corporate wide Human Resources Service, the Human Resources Department continues to uphold the principles of Accountability, Confidentiality and Trust.

The Human Resources Team endeavours to deliver services as outlined in our Human Resources Charter. The charter outlines the service commitments to our staff and is located on the hospital intranet. The charter outlines what staff can expect in relation to telephone services, written communications and personal callers. We encourage and welcome suggestions and feedback in relation to the service provided.

## SERVICES PROVIDED

Below is a table and list of functions/ services provided by the Human Resources Team



## KEY METRICS

- Recruitment Competitions: 197 recruitment competitions
- WTE December 2019: 892 WTE
- Average Absence 2019: 3.7%

## RECRUITMENT

The Human Resources Team recognises the consistent challenges in attracting highly talented professionals to the hospital across all disciplines. In particular there is a shortage of qualified midwives, nurses and doctors. A number of recent improvements have been implemented to assist in the recruitment process.

## RECENT IMPROVEMENTS IN RECRUITMENT PROCESS

- Increased slots on Irishjobs website to match increased activity enabling faster advertising
- Introduced Recruitment Portal in July 2019 to streamline and automate the recruitment process
- Expanded search locations for candidates and engaged with agencies
- Enhanced branding of the Rotunda Hospital via increased social media activities
- Improved career page on the Rotunda Hospital website outlining benefits and hospital culture
- Encouraged internal candidates to apply for senior opportunities (support via Training & Development initiatives)
- Attended job/career fairs in Ireland, UK and Italy
- Usage of video of Rotunda documentary to demonstrate to candidates our environment and culture
- Managing Manpower/Succession Plan development to have a talent pipeline

The department also conducts Exit Interviews. When an employee is voluntarily leaving their position they can help us understand why they are leaving. Identifying the reasons for a staff member leaving may assist us with trend analysis and reduce voluntary turnover.

## ABSENTEEISM

The average absence rate in 2019 was 3.7%. This demonstrates the overall commitment of staff and continuous effective management of absence.

## CHANGE MANAGEMENT

We focused on change projects that reflect safer better healthcare and the services that are valued by our staff. The focus was on the following technology projects and platforms – TMS, Q-Pulse, Recruitment Portal and Employee Self Service (ESS). Using technology options has helped increased efficiency and progress practices.

The Human Resources Department has implemented a dedicated recruitment portal. This portal creates a strong efficient talent acquisition engine whereby HR can identify and process the recruitment of talented professionals more efficiently.

### THE RCSI PEER REVIEW

In August 2019, the HR team participated in a Peer Review Group Quality Initiative. The purpose of the review was to identify and encourage good practice and identify challenges and how to address them. The Peer Review Group visited the Rotunda Hospital from 1st – 3rd October 2019 and held meetings with all HR stakeholders. These stakeholders comprised of employees, managers, unions, RCSI Hospitals Group, HSE and other agencies. The Peer Review Group comprised of national and international experts. Prior to the review group being on site, the Human Resources Department prepared a Self-Assessment Report (SAR) and supporting documentation on HR practices. Once the review was completed a comprehensive report was submitted to Human Resources outlining commendations and recommendations. This report will assist the HR Department to position itself to add strategic value to the hospital.

### SUCCESSSES & ACHIEVEMENTS 2019

- Offered permanent contracts to all our graduate midwives
- Introduced Recruitment Portal
- Introduced preventative measures in relation to bullying and harassment
- Conducted organisation wide staff survey. Outcomes and feedback formed basis for improvements
- The hospital consistently has one of the lowest rates of absence within the RCSI Hospitals Group
- 100% Garda Vetted
- 848 HSELand e-learning users
- 50 employees attended RCSI Leadership Programme
- Established Q-Pulse Super User Forum consisting of 15 departments

### EMPLOYEE DEVELOPMENT

A wide range of training and development programmes were provided during 2019, 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 2019:

- Mandatory Training – Hand Hygiene, Fire Safety and Manual/Patient Handling
- Monthly Staff Induction Programmes – Rotunda and External RCSI Hospitals Group
- Policy and Procedure Training such as Dignity at Work, Attendance Management, Grievance and Disciplinary Management. The Rotunda Hospital is committed to protecting dignity and respect across the organisation
- Employee Wellness Initiatives as reflected by staff responses in the recent staff survey

- Interview Techniques training was developed and rolled out with great success to encourage our employees to interview for internal promotional opportunities

### PLANS FOR 2020

Through the Peer Review process and other audits undertaken recently, it is clear that in the future we must constantly evolve. With that at the forefront of what we do, below are some actions for 2020:

- Implement recommendations from the Peer Review Group Report
- Reconfigure the department to implement business partnerships for all departments
- Aim to improve staff engagement and information provision to our employees
- Collaborate with IT Department to enhance Information and Communications Technology
- Introduction of the People and Strategic Development Manager role to develop a strategy for the hospital to ensure that this drives organisational learning and development
- Continued participation in Town Hall Meetings to support the improvement of communications hospital wide



## FINANCE DEPARTMENT

### HEAD OF DEPARTMENT

**Mr. Peter Foran**, Head of Finance and Procurement

### STAFF

**Mr. Alan Holland**, Finance Manager

**Mr. Seán Williamson**, Procurement and Supplies Manager

**Mr. Yoichi Hoashi**, Procurement and Supplies Manager

**Ms. Pauline Brady**, Payroll Manager

**Mr. Edward Smith**, Patient Accounts/Accounts receivable Manager

**Mr. Philip Ryan**, Pensions Manager

**Ms. Denise Rogers**, Accounts Payable Supervisor

**Ms. Vivienne Fitzpatrick**, TMS Project Implementation Lead

**Ms. Rebecca Lenihan**, Management Accountant

### SERVICE OVERVIEW

The Finance Department consists of a Finance Section as well as a Procurement Section. The Finance Section is responsible for financial and budgetary management, treasury management, financial reporting and control in the Rotunda Hospital.

The Procurement Section is responsible for sourcing and supplying medical and surgical consumables for the hospital and providing general Procurement support to hospital departments.

### DEPARTMENTAL ACTIVITY

In February 2019, a new Head of Finance and Procurement, Mr. Peter Foran, was appointed. The principal objective for the new Department Head was to ensure that the Finance and Procurement functions continued to develop as a service department to support the hospital in all matters pertaining to finance and procurement support.

During 2019, Finance and Procurement reviewed their systems and processes to check adequacy. Finance upgraded the finance system 'Exact' to ensure it was in service. Finance also began the implementation of a new purchasing system 'SAP Concur.'

### SUCCESSSES & ACHIEVEMENTS 2019

#### FINANCIAL/MANAGEMENT ACCOUNTING

The hospital achieved a surplus in 2019 of €0.4m. This was achieved through prudent budgetary management, value for money initiatives and good cost control practices. We also worked collaboratively with the RCSI Hospitals Group to address budget shortfalls and source additional funding. Financial break-even was achieved without impacting on quality and safety of patient services, which is critical in a demand-led service.

TABLE 1: FINAL BUDGETARY OUT-TURN 2018

Category	€'000
Deficit Carried Forward	(665)
Pay	65,360
Non-Pay	16,654
Income	(15,915)
<b>Net Position for year</b>	<b>66,099</b>
HSE Budget	(66,538)
<b>Surplus/(Deficit) in 2019</b>	<b>439</b>
<b>Cumulative Surplus/(Deficit) at Year End 2019</b>	<b>(226)</b>

The hospital continued to work with the RCSI Hospitals Group and the National Women and Infants Health Programme to source funding to augment current services and develop new services. In 2019, a new model of care was introduced for termination of pregnancies, for which an additional allocation of €0.8m was provided, and for the development of a Perinatal Mental Health Network programme, for which an additional allocation of €0.5m was provided.

In 2019, devolved budgeting was introduced into the hospital. This is in line with the hospital's quality improvement plan aligned to the HIQA National Standards for Safer Better Maternity Services (2016).

The Finance Team rolled out cost-centre management packs for each cost centre manager to review the expenditure attributable to that area. Towards the latter part of 2019, the budget-setting process for 2020 gave managers an opportunity to input into the budgets provided in 2020. The introduction is making good progress and is allowing for better and more informed decision making at a managerial level and at a local level. To manage and support this process we have created a Management Accountant role within the department which has been developed internally.

#### PAYROLL/TMS

In 2019, management of the Payroll section changed, with Ms. Pauline Brady being appointed manager in August 2019. The hospital continued to enact circulars from the HSE regarding Consultant Contract Settlements, Nursing Agreements, rollback of FEMPI measures and other agreements.

In 2019, the 'Time Management System' (TMS) continued to be rolled out throughout the hospital across all disciplines including medical, nursing and midwifery, support and administrative areas. In all areas where TMS has been implemented, significant advantages have accrued to employees, enabling greater transparency on pay, rotas and attendance.

#### PENSIONS

The Rotunda Hospital recruited a dedicated Pensions Manager, Mr. Philip Ryan, in November 2018. The function has continued to improve the pension service provided to employees including pension presentations to staff, increased information on the

Intranet and improved information to single pension scheme staff in particular.

#### ACCOUNTS PAYABLE

The Accounts Payable function developed in sometimes difficult circumstances in 2019. Restricted cash flow meant that not all obligations were met as expediently as may have been hoped for. However, the team liaised with all internal stakeholders, surmounted a backlog of invoicing and liaised with creditors to keep them abreast of any delays to ensure continuation of supply.

Towards the end of 2019, the Finance Department introduced a new purchasing system 'SAP Concur' which will enable more efficient purchasing, transparency and invoicing in the future.

#### ACCOUNTS RECEIVABLE/CASH MANAGEMENT

The Accounts Receivable function (Patient Accounts) is responsible for ensuring the maximum level of patient related income is collected by the hospital. At a macro level, insurance income has declined in the past few years making it more essential that the hospital captures all possible income.

In 2019, the Accounts Receivable Team worked closely with internal stakeholders to minimise cases where insured income was not correctly captured.

#### PROCUREMENT AND SUPPLIES

In 2019, the hospital bid farewell to a stalwart, Mr. Seán Williamson, as Head of Procurement. The massive vacancy left by his retirement was filled by Mr. Yoichi Hoashi in June 2019, which has resulted in a continuation of the development of the Procurement Section. This includes progressing a Corporate Procurement Plan with the intent that the Procurement Section becomes a vital support to all other Department Heads in sourcing and achieving value for money in procurement and tendering.

#### CHALLENGES 2019

##### CASH FLOW MANAGEMENT

This has been noted continually as a risk for the organisation. In 2019, significant effort was provided in Finance to assuaging suppliers and other creditors that the Rotunda would meet obligations. This ensured continuation of supply of critical items in that period.

This risk is a top priority to mitigate for the hospital as if the hospital was to be put on hold by some critical suppliers, this could have an adverse effect on the delivery of safe patient care.

The mitigations for this are to continue to seek extra budgets from funders, carefully manage allocation of available resources and maximise generation of our own income.

##### INADEQUATE CAPITAL FUNDING

The Rotunda Hospital campus is a site with a significant heritage value. Along with age comes a constant requirement to maintain facilities and ensure they meet current standards for healthcare service provision. In 2019, the initial minor capital budget allocation

for infrastructural upkeep works provided by the HSE was only €130k. This represents a fraction of the amount required to maintain the site. The hospital has built a good relationship with HSE Estates and did manage to secure extra funding of €180k in 2019 to address infrastructural risks.

#### MEDICAL EQUIPMENT REPLACEMENT PROGRAMME

In 2019, the hospital secured €0.8m of funding for medical equipment replacement from the HSE. There are always significant requirements to update and modernise equipment. Thankfully, the hospital has also been able to obtain equipment through its annual allocation from the HSE, the Rotunda Foundation or Ancillary funds.

#### MAINTAINING VALUE FOR MONEY

As with any organisation, there are always opportunities to review expenditure and make savings to divert money to higher value activities. The team in Procurement has begun looking at high value contracts with local area management to see if support can be given to run a tender for the service. Also, the hospital's Procurement Committee is beginning to consider alternatives to incumbent products so as to achieve potential savings.

#### FINANCIAL RISKS IN 2019

- Funding Shortfall – Initial budgets provided were inadequate
- Cash Flow management
- Lack of funding for capital works or equipment

#### FINANCE KEY PERFORMANCE INDICATORS FOR 2020

- Ensure appropriate funding to provide safe quality services
- Ensure sufficient cash flow to meet all obligations owing
- Source funding for essential medical equipment replacement and minor works programmes
- Manage 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 sub-ledgers to the Finance system to produce more timely and relevant information
- Progress Pension function to deliver timely information to all staff
- Progress rollout of Time Management System to as many staff as possible

# INFORMATION TECHNOLOGY DEPARTMENT

## HEAD OF DEPARTMENT

**Mr. Cathal Keegan**, IT Manager

## STAFF

**Mr. Gerard Payne**

**Mr. Martin Ryan**

**Mr. Derek Byrne**

**Ms. Fiona Quill**

**Mr. Anthony Shannon**

**Mr. Eoin Garland**

## SERVICE OVERVIEW

The Information Technology (IT) Department support the development and maintenance of the IT function throughout the hospital. To facilitate this, we provide Helpdesk support for over 800 users and manage an estate of over 1500 connected devices. Whilst our main activity is the support of our users, we are divided into a number of functional areas, namely Infrastructure Management, Project Management and Service Support. We continuously review industry best practice to provide optimal service reliability and monitor technological advancements to see how best they can be leveraged to improve our service. Data security is essential in a healthcare setting and we have 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.

## SUCCESSSES & ACHIEVEMENTS IN 2019

This year saw the long anticipated upgrade to our laboratory system from DXC. Following a number of months of testing and validation by our laboratory colleagues, the system was deemed ready for production in early March. This upgrade encompassed a complete replacement of all server and storage hardware which promises to offer improved redundancy and resilience. This brought us in line with the configurations used by other HSE sites and has opened the possibility of access to a central disaster recovery platform should it be required in the future. In conjunction with the hardware upgrade, the system and application software was also upgraded to the most current versions. This necessitated the validation and rebuilding of all system interfaces and a redeployment of access client settings to all hospital PCs. Our collaboration with Ciaran Mooney, the Pathology IT Manager greatly contributed to this deployment being a success.

Staying with the laboratory, 2019 also saw a lot of work in the deployment of Point-Of-Care devices which can speed up the access to diagnostic results and in turn improve patient care. In collaboration with Roche and Lorna Pentony from the laboratory, a number of wireless glucose meters were deployed for trialling. Initial testing found them to be an improvement over the previous static devices in use as they allowed care to move to the patient bedside. This success has allowed the project to be expanded to encompass more devices and locations. Work is continuing with Roche to interface these devices with other hospital systems which aim to assist with positive patient identification and reduction in transcription errors.

The successful implementation and adoption of the MN-CMS electronic healthcare record in late 2017 identified a number of efficiencies and advantages of having obstetric patient records in an electronic format. Almost immediately post MN-CMS implementation a requirement to include some of our gynaecology charting function in an electronic format was identified. To this end, members of the local implementation teams from the first go-live sites worked in conjunction with the national team and Cerner to identify, specify and build the workflows required to facilitate a gynaecology charting function. From an IT perspective this required the sourcing and installation of additional hardware to facilitate access to the electronic chart in these areas as well as assisting in the configuration and testing of interfaces to our other clinical systems. The culmination of a number of months testing and configuration came in late September with the go-live of the gynaecology module. With the exception of some normal teething issues, the system has worked as expected and has identified other areas of interest that could benefit from inclusion (i.e. capture of clinical imagery in theatre).

As well as the projects listed above we also aided a number of other service developments and upgrades across a variety of departments, some of the most notable listed below.

- Upgrade to Finance and Stock management system
- Facilitating infrastructure to aid with Digital Radiography implementation in our NICU
- IT retrofit of NICU bed spaces post redevelopment works to aid with infection control
- Network reconfiguration to facilitate the provisioning of a VOIP phone system

This year also saw one of our long standing colleagues Eimear Mcloughlin leave to take up a position closer to home. We'd like to thank Eimear for all her contributions to the IT Department over the past 14 years and wish her all the best in her future endeavours.

To fill the vacancy left by Eimear's departure, we've recently recruited Eoin Garland as our new Support Analyst and wish him every success in this new role.

## PLANS FOR 2020

January 2020 will see both Microsoft Windows 7 and Microsoft Windows Server 2008 operating systems reach their end of life support dates. Whilst they will continue to function, it means that both these operating systems will no longer receive any security or software updates going forward which has the potential to increase our susceptibility to compromise by malware/viruses. A large portion of our estate is already using the newer Windows 10 operating system so we plan in conjunction with the HSE OoCIO to upgrade\ migrate remaining devices as soon as feasible.

We will also be seeking funding to upgrade our core Storage Area Network to meet with the growing demand for new servers and services. Our existing infrastructure dates back to 2011 – 2013 and

provides the backbone to our Disaster Recovery solution through SAN to SAN replication and failover capability. We would hope to upgrade this to utilise the newer solid state technology available and to facilitate a number of year's storage growth.

# SUPPORT SERVICES DEPARTMENT

## HEAD OF DEPARTMENT

**Mr. Ray Philpott**, Support Services Manager

The following departments are under the remit of the Support Services Department:

**CAPITAL PROJECTS OFFICE**  
**CATERING DEPARTMENT**  
**CLINICAL ENGINEERING DEPARTMENT**  
**CENTRAL STERILE SERVICES DEPARTMENT (CSSD)**  
**HEALTH AND SAFETY**  
**HOUSEHOLD DEPARTMENT**  
**HOUSEHOLD LINEN DEPARTMENT**  
**NON-CLINICAL CLAIMS MANAGEMENT**  
**PORTERING SERVICES**  
**TECHNICAL SERVICES DEPARTMENT**  
**TELECOMMUNICATIONS SYSTEMS**  
**WASTE MANAGEMENT SERVICES**

## INTRODUCTION

In 2019, Support Services has evolved and developed to meet demand-led activities. The following overview of 2019 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 now in 2019 and also into the future.

## TECHNICAL SERVICES DEPARTMENT

### HEAD OF DEPARTMENT

**Mr. Brendan Memery**

### SERVICE OVERVIEW

#### THREE STOREY BUILD

2019 proved to be another busy year for the Technical Services Department. This is illustrated by the fact that the three-storey building project began, which will include a brand new Operating Theatre and the complete refurbishment of the Labour and Delivery Suite.

Pre-contract works and investigations meant that the Technical Services Team was working not only to accommodate this build but also to address the day-to-day requirements of the services of the department to support the smooth operations of the hospital. These works will continue until 2021.

A number of other critical projects were completed during 2019, including:

#### **Replacement of electrical boards in the basement of the main Hospital and the Outpatients Department**

These works required the co-operation of a multi-disciplinary team to address the clinical requirements of the hospital, while planning the required downtime to allow replacement to proceed and ensuring consistency of clinical services. This also required input from the Infection Prevention and Control Team in order to address the installation in a live clinical environment. These works were required to address old infrastructure with electrical boards that were at end of life.

#### **SATU Refurbishment**

Complete refurbishment of the Sexual Assault Treatment Unit was successfully completed in 2019.

#### **Perinatal Mental Health Services**

The Perinatal Mental Health Service was re-located out of the main hospital building to a new modular structure in the centre of the hospital campus. This has been a great success, improving the quality of patient care in a modern facility to accommodate service need.

## SUCCESSSES & ACHIEVEMENTS 2019

During 2019, the Technical Services Department received and completed 2,738 requisitions. The breakdown of the various requests is as follows:

### TECHNICAL SERVICES DEPARTMENT REQUISITIONS 2019

Carpenter	479
Plumber/Fitter	940
Electrician	519
General Operative	500
Foreman	319
<b>TOTAL</b>	<b>2,757</b>



## PLANS FOR 2020

During 2020, the Technical Services Department will continue to support the development of the new three storey build, which will provide additional Operating Theatre and Emergency Assessment Unit capacity, as well as significantly improved Labour and Delivery Suite services.

## CATERING DEPARTMENT

### HEAD OF DEPARTMENT

**Ms. Deborah Cullen**

### SERVICE OVERVIEW

Food Safety and Health and Safety are key operational priorities, with the Catering Department being committed to providing the highest standard of food hygiene and safe working practices. In 2019, the Catering Department continued to build on the many changes and improvements achieved in the previous year. Mr. Yoichi Hoashi, the former Catering Manager, left in 2019 to develop his career in procurement for the Rotunda. I would like to take this opportunity to thank him for all his support in helping us achieve our team goals in the department over the last number of years, and wish him every success in his new venture. I would also like to thank the entire team in the Catering Department for their unrelenting efforts to meet and exceed patient and customer expectations.

### SUCCESSES & ACHIEVEMENTS 2019

- Maintained a distinction in the Food Safety Assurance Award accreditation operated by the Food Safety Professionals Association for our Food Safety Management system
- Achieved further improvement on the 2019 Patient Experience Survey in the department. When patients were asked if they were satisfied with their meals, 90% said "Yes, always", which was a significant increase from 82% in 2018. In contrast, only 0.7% of patients indicated that they were not satisfied with their meals
- Continued to invest in staff development, with one team member achieving L6 HACCP Designing Food Safety Management Systems training
- Continued with improvement in the staff restaurant quality and continued growth in restaurant income and footfall
- Refurbished part of the staff restaurant area with funding received from the Occupational Health Department, through the influenza vaccination program
- Rolled out the electronic food ordering system for patients, bringing benefits and improved allergen safety to inpatients and day care patients
- Introduced Debitrac and UNIPOS till system, providing efficiencies and additional service to customers in the staff restaurant
- Eliminated the use of single use plastics in the staff restaurant and issued "keep cups" to all hospital staff

### CHALLENGES 2019

- A number of senior members left the team and replacements are ongoing

- At times, absences are higher than average but we support our employees' needs through the Human Resources and Occupational Health Departments
- Gynaecology patient feedback indicates some room for improvement and will be actioned in 2020

#### PLANS FOR 2020

- Infant Form electronic food ordering system roll-out was delayed in 2019 as it required further software development. We expect this to bring benefits including improved traceability to Infant Formula Milk distribution in 2020
- We hope to continue to improve the service in the staff restaurant, introducing new offerings and improved service
- Introduction of a recipe booklet available to patients on the Rotunda website
- 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 all medical equipment in the Rotunda Hospital.

### DEPARTMENTAL ACTIVITY

There has been a significant number of new medical equipment replacements, including the main X-Ray machine in the Radiology Department, two ultrasound machines in the Fetal Medicine Service, five ultrasound machines in the Outpatients Department, Emergency and Assessment Unit and the Operating Theatres, and various pieces of equipment in the Laboratory Department.

### SUCCESSES & ACHIEVEMENTS 2019

The National Equipment Replacement Three Year Programme was updated and funding allocation for the following year will be considered by the HSE. Implementation of the HSE National Equipment Management System is in progress.

### CHALLENGES 2019

2019 was another challenging year because of resource challenges within the Clinical Engineering Department. However, despite these pressures, the department met all of its obligations successfully.

### PLANS FOR 2020

- To continue to provide efficient and reliable service within its current resources
- To fully implement the internet-based work requisition system across the hospital
- To continuously seek adequate funding from the HSE to upgrade or replace critical medical equipment

## CENTRAL STERILE SERVICES DEPARTMENT

### HEAD OF DEPARTMENT

Mr. John Oyedeji

### SERVICE OVERVIEW

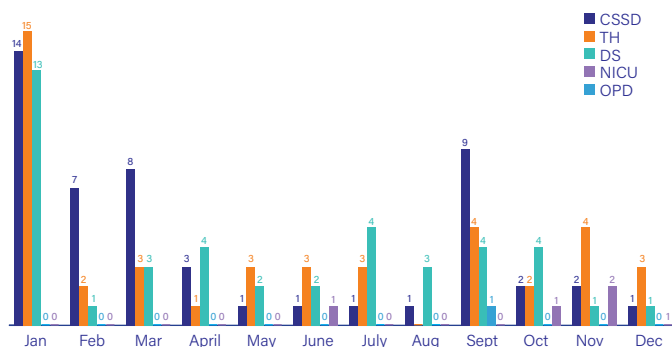
The Central Sterile Services Department (CSSD) is the core department within the hospital in which re-usable medical devices, both sterile and non-sterile, are decontaminated.

The staff employed 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. The department provides cleaning and disinfection, inspection and sterilization of all re-usable invasive medical devices. The department influences hospital purchases and healthcare practices by ensuring that patient equipment is available and sterile for use at all times.

### DEPARTMENTAL ACTIVITY

The department reprocess RIMDs for both onsite and outside Rotunda clinics. During 2019, 70,745 reusable invasive medical devices were reprocessed, including 28,329 trays and 42,416 single RIMDs in the department. All our decontamination equipment was validated and periodically tested by outside contractors, and all validation reports were adequately audited quarterly. A total of 143 non-conformances were recorded, which is in-line with the relevant HSE Code of Practice. Follow-up action was taken and all issues raised were resolved accordingly.

FIGURE 1: TREND OF CSSD NON-CONFORMANCES FROM VARIOUS HOSPITAL DEPARTMENTS THROUGHOUT JANUARY TO DECEMBER 2019



Improvements identified were as follows:

- Two new Instrument Management Systems were installed on washer disinfectors for better record keeping and monitoring of all cycle parameters

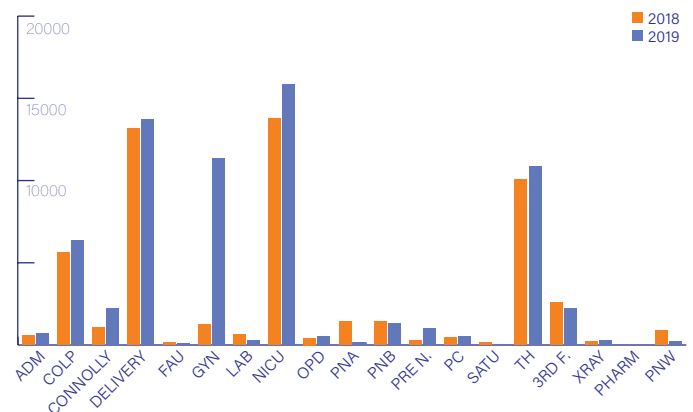
- Procurement of two additional computers for tracking systems to make all single reusable invasive medical devices easier for marking
- Strong staff participation in Quality Improvement Programmes organised by the HSE
- Regular departmental quality improvement meetings

### CHALLENGES 2019

Marking all surgical instruments is a challenging task, with the increase in service volume making it very difficult to delegate staff for marking all surgical instruments. While some single RIMDs have been marked, there remain others still unmarked.

The department is too small for the volume of RIMDs that need to be re-processed due to the increase in service volume, and it is not possible to increase the number of staff due to space constraints.

FIGURE 2: RIMDS SUBMITTED FROM VARIOUS HOSPITAL DEPARTMENTS 2018 TO 2019



### PLANS FOR 2020

- To continue to provide a high quality standard of practice in the decontamination and sterilization of re-usable invasive medical devices
- To continue to interact efficiently with all personnel from various specialty areas while providing a service of the highest possible standard

## 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 and ongoing building projects, 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 Committee Workplace Inspections were conducted with recommendations for improvement. Five new Health and Safety Committee members were elected. Work continued on the integration of the Health and Safety Authority (HSA) five-year plan and the HSA Safety and 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 during the year.

Following the hospital wide fire audit/risk assessment (which was conducted by an external fire consultant), further scoping and specification reports were commissioned with recommendations for improvement to the emergency lighting and fire detection system.

The Dublin Fire Brigade conducted an inspection of the Pillar Room, while an external consultancy service conducted a risk assessment with recommendations for improvement.

#### SECURITY

Monthly meetings were held with Noonan Security Hospital Group Manager to ensure the provision of the highest possible quality service. A new Security Group Manager was appointed to the hospital. Additional access control, intruder alarms and CCTV were installed in response to accident or security incidents, and building expansion.

#### INCIDENT INVESTIGATION

Staff are encouraged to report any incident that has caused, or has the potential to cause, a health and safety problem. During 2019, 104 such incidents were investigated, many of which triggered improvements to health, safety and security systems in order to prevent or manage the hazards identified. All incidents were discussed at the Health and Safety Committee and the Quality and Patient Safety Committee meetings. Three incidents were reported to the Health and Safety Authority.

### CHEMICALS

One Dangerous Goods Safety Adviser (DGSA) audit was conducted by an external agency, 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 & ACHIEVEMENTS 2019

There were several successes/achievements for the hospital within the area of Health and Safety in 2019 including:

- Twelve scheduled days of Fire Awareness Training
- The hospital's Dangerous Goods Safety Advisor (DGSA) provided four on-site training sessions and an external agency, EcoOnline, provided a further three days of in-house training
- The goods elevator and a staff elevator were replaced
- Contactless card readers were installed to the front and back carpark barriers
- Panic alarm, access control and CCTV were extended to additional clinical areas
- Extra panic alarm codes were configured for Day Assessment Unit and the Emergency Assessment Unit
- Demonstration of HSE contract beds as part of the replacement process

### CHALLENGES 2019

The department faced challenges throughout the year, which included:

- Managing the impact of reduced car parking (front and back car parks) on patients and staff during ramp realignment and building enabling works
- Managing the impact of the three storey theatre extension on hospital business

### PLANS FOR 2020

The department plans for 2020 include:

- Conduct a new tender for Security Services
- Conduct a Radon survey of key hospital locations
- Extend panic alarm, access control and CCTV to the outpatients department
- Update CAD drawings for all hospital campus buildings
- Fire Brigade inspection of Fire Roads
- Install a Staff Pedestrian Gate (Front Carpark)
- Safety Week Promotion for staff and patients involving security, chemical, manual handling and fire sessions

## HOUSEHOLD DEPARTMENT

### HEAD OF DEPARTMENT

Ms. Catherine L'Estrange

### SERVICE OVERVIEW

The Household 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, with supervisory audits being undertaken, which ensure that a standard check is performed in all areas on a frequent basis, resulting in a higher consistent standard throughout the hospital. The average score achieved was 94%. The 'action required' reports are circulated to the appropriate household staff members and once completed they are signed, dated and returned to a household supervisor. The patient satisfaction survey results for hygiene were 100% for 2019.

While 2019 proved to be another challenging year, we successfully restructured household hours to keep in line with service needs. This included increased clinics and late clinics, as well as new modular structures requiring cleaning.

### STAFF

The Household Department staff complement dropped to below its whole time equivalents approval during the year. However, this was resolved later in the year by working with the Support Services Manager and the Human Resources Manager to speed up the recruitment process. In 2019, 14 staff left the service, while five new staff commenced. A number of staff remain on long term sick leave. Because of difficulties in recruiting new staff, it has been a challenging year for the Household Department. I would like to thank all the staff of the Household Department for their relentless efforts in ensuring that hygiene is maintained to the very highest standard.

### TRAINING AND DEVELOPMENT INITIATIVES

Clean Pass carried out refresher training for three Household Supervisors in 2019.

In-house staff training was carried out throughout the year by all supervisors. These topics included manual tasks, method in cleaning all elements, colour coding, the use of equipment, health and safety, infection control, hand hygiene, and cleaning of isolation rooms. Staff also undertook training on detergent usage, manual handling, fire safety training, Children First training and Data Protection.

## HOUSEHOLD LINEN DEPARTMENT

### HEAD OF DEPARTMENT

Ms. Catherine L'Estrange

### SERVICE OVERVIEW

The Household 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 risks of infection are minimized by implementing best practice recommendations in relation to linen services. A major challenge in 2019 was persistent difficulties with the linen supply from our supplier, in which the contract is managed through the HSE. This resulted in periodic shortages of linen. In response, the hospital engaged with the tendering officer for the HSE on a number of occasions for advice and support. A new Linen/Household supervisor commenced and training was given in relation to managing the linen stock order and distribution of linen to all areas.

### QUALITY ASSURANCE

The Household Linen Department undertakes a comprehensive schedule of daily and weekly audits including:

- Linen delivery truck
- Green 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

The linen audit tools and checklists were updated in 2019. All supervisors were trained in the management of the department, which will ensure continuity of linen services. Despite continual challenges, 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.

I would like to thank the Household Services management team and staff for their support and hard work in going above and beyond their daily duties. Thank you also to the porters, midwives and maternity care assistants for their ongoing support and co-operation.



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## **PORTERING SERVICES**

### **HEAD OF DEPARTMENT**

**Mr. Paul Shields**

### **SERVICE OVERVIEW**

The Portering Services Department provides 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. Our waste streams have maintained a good level of recycling and composting which is down to the regular training provided and it is hoped to increase in the coming year.

### **PLANS FOR 2020**

It is hoped to increase recycling and compost streams, which should further reduce the amount of waste that goes to landfill, thereby reducing costs. We will continue to hold waste awareness days to update all staff in relation to the correct procedures for certain waste. Due to additional clinics and services, we will seek to increase our complement of staff so that we should be able to keep up with the service demands of the hospital.



## PATIENT ADMINISTRATIVE SERVICES

### HEAD OF DEPARTMENT

**Ms. Niamh Moore**, Patient Services Manager

### TEAM LEADERS\*

**Ms. Lisa Dunne**, Deputy Patient Services Manager

**Ms. Jacinta Core**, Deputy Patient Services Manager

**Ms. Susan Daly**, Colposcopy Unit

**Ms. Denise Gleeson**, Adult Outpatients

**Ms. Kathy Hayes**

**Ms. Carol Marmion**, Paediatric outpatients

**Ms. Yasmin Mc Evoy**, Paediatric Outpatients

**Ms. Julie Mc Evoy**, Admissions/Reception

**Ms. Jacinta**, Core Laboratory Medicine

**Ms Caroline Bosse**, Laboratory Medicine

**Ms. Louise O'Hara**, Healthcare Records & Ward Clerks

**Ms. Noeleen Costello**, Central Appointments & Gynaecology Outpatients

**Ms. Donna O'Connor**, Central Appointments & Gynaecology Outpatients

**Ms. Rita O'Connor**, SATU

**Ms. Moira Carberry**, SATU

**Ms. Catherine Finn**, Anaesthetics & Maternal Medicine

\*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 administrative support to ensure the smooth operation of scheduled and non-scheduled patient appointments, admissions of all patients and management of patient's medical 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 providing vital support to patients and front-line clinical colleagues.

### SUCCESSSES & ACHIEVEMENTS 2019

The department successfully transferred the Healthcare Records Library to a smaller location within the hospital due to the reduction in requirement to house hard copy healthcare records, following the implementation of the MN-CMS electronic healthcare record system in late 2017. Whilst it was hoped that by the end of 2019, no hard copy healthcare records would remain on-site, this continues to be a work in progress. The department will continue to work with clinical colleagues to reduce the need to refer to hard copy charts. This move afforded the department additional space to create a public Central Appointments Office and increases the number of staff available daily to receive live calls from patients. The Call Centre deals with approximately 150-200 calls per day. The management of referrals for public obstetrics and gynaecology waiting lists and appointments are dealt with in this Call Centre. The digital telephony system funded by the Board in 2018 has proven successful in

reducing patient complaints with communications significantly improving in relation to scheduling / cancelling or re-scheduling hospital appointments.

The department was delighted to be involved in the roll-out of the new model of care for a Pregnancy Options Service in January 2019. From 2nd January 2019, a dedicated helpline manned five days per week to support providing this service and to support front line clinics for this service twice weekly was implemented.

The customer service and telephone techniques training course developed in 2018 has been rolled out in 2019 to all Patient Administrative Services staff. It is hoped to work with HR business partners in 2020 to identify, develop and roll-out continuous customer service training throughout the year.

Implementation of a Patient Photograph identification to be placed on the MN-CMS electronic healthcare record at the patient's first visit was a quality improvement initiative lead out by Mr. Brian Cleary, Chief Pharmacist. This initiative was successfully rolled out to all gynaecology patients when the MN-CMS gynaecology module went live in November 2019.

In April 2019, the department worked with colleagues in the NTPF to validate the gynaecology waiting lists. This work took two months to complete with a removal of 30% of patients from these lists, who's initial medical complaints had already been resolved elsewhere. For patients who were removed from the waiting lists, in each instance communication was provided to the referring GP and re-instated patients at their request, if deemed necessary. This approach meant that the good working relationships between our GP colleagues and the Rotunda were maintained throughout the process.

The department was also audited by the Rotunda's Independent Internal Auditors, BDO with a review of waiting list management and protocols. This audit identified some minor weaknesses which have been addressed in management responses.

### CHALLENGES 2019

Retention and motivation of staff remains a constant challenge. The department has found that training is a key factor in keeping staff motivated and informed about the evolving changes in the service provided and in service developments. Internal Patient Administrative Services staff have been identified who will develop and roll-out continuous training courses on the hospital databases to ensure that staff are upskilled to provide administrative support outside of their current roles, which is essential to ensure full cover across the campus at all times.

The full optimization of the gynaecology electronic healthcare module on MN-CMS remains a work in progress and continued work with clinical colleagues and is expected in 2020 to optimise and complete full implementation in 2020.

### PLANS 2020

The department plans on using the administrative capacity gained by full optimization of the hospital databases to assist with the

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implementation of the inpatient day-case waiting lists across the hospital in 2020. The department also plans to use the additional space in the Call Centre to create an inpatient scheduled care administrative team to support this initiative.

While the department commenced the roll-out of the TMS clock in/out system in 2019, it is hoped to continue to work with Finance and HR to ensure full compliance and utilization of this system by the end of 2020.

The digital telephony system will be rolled out throughout the hospital campus in 2020, including at the Main Reception desk. This will remove the 'old' switchboard and it will be replaced by a digital system. Once fully implemented, this will provide the opportunity of transferring the answering of the switchboard to a location away from Main Reception during core hours and improve the customer service experience for patients at the front desk.

Further collaboration with NTPF colleagues will be provided again in 2020 to further validate waiting lists.



A close-up portrait of Mr. Jim Hussey, a middle-aged man with short, graying hair, smiling warmly. He is wearing a blue pinstriped dress shirt and a dark tie. The background is a plain, light-colored wall.

**“WHAT MAKES THE  
ROTUNDA SPECIAL  
IS THE POSITIVE  
ATTITUDE AND TEAM  
SPIRIT OF ALL THE  
STAFF”**



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# GOVERNANCE

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## 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 2019

**Dr. David Abrahamson**  
**Dr. Maria Wilson Browne**, Chairman  
**Dr. Cliona Buckley**  
**Mr. Cedric Christie**  
**Prof. Sam Coulter Smith**  
**Dr. Frederick Falkiner**  
**Ms. Niamh Gallagher** (start Oct. 19)  
**Dr. Jimmy Gardiner**  
**Prof. Michael Geary**  
**Dr. Mary Henry** (retired Nov. 19)  
**Cllr. Neasa Hourigan** (start Sept. 19)  
**Dr. Mary Keenan**  
**Prof. Tom Matthews**  
**Mr. Richard Nesbitt**  
**Mrs. Kristina Odlum**  
**Ms. Hilary Prentice**  
**Mr. Denis Reardon**  
**Mr. Ian Roberts**  
**Mr. Stuart Switzer**  
**Dr. Melissa Webb**  
**Mr. Michael Wickham Moriarty**  
**Ms. Lucinda Woods** (start Dec. 19)

### EX-OFFICIO OFFICERS

**His Excellency, The President of Ireland**  
**Most Reverend Dr. Michael Jackson**,  
**The Dean of St. Patrick's, The Very Rev. Dr. William Wright Morton**  
**The Venerable David Pierpoint**  
**The Lord Mayor of Dublin**  
**Cllr. Teresa Keegan**, DCC Nomination (retired May 19)







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# APPENDICES

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## APPENDIX 1

### Rotunda Hospital Clinical Summary Data 2019

1. Total Mothers Attending	Totals
Mothers who have delivered babies weighing >500 grams	8,262
Mothers who have delivered babies weighing <500 grams {including miscarriages}	1,809
Hydatidiform Moles	39
Ectopic Pregnancies	90
<b>Total referrals</b>	<b>10,200</b>

2. Maternal Deaths	Totals
Maternal Deaths	0

3. Births	Totals
Singletons	8,116
Twins	284 (142 sets)
Triples	6 (2 sets)
Quadruplets	4 (1 set)
<b>Total Babies delivered weighing 500 grams or more</b>	<b>8,410</b>

4. Obstetric Outcome	Totals	%
Spontaneous Vaginal Delivery	4,015	49%
Forceps	392	5%
Ventouse	971	12%
Caesarean Section	2,884	35%
Induction of Labour	2,893	35%

5. Perinatal Deaths	Totals
Antepartum Deaths	43
Intrapartum Deaths	0
Stillbirths	43
Early Neonatal Deaths	22
Late Neonatal Deaths	8
Congenital Anomalies	24

6. Perinatal Mortality Rate (per 1,000 births)	Totals
Overall Perinatal Mortality Rate	7.7
Perinatal Mortality Rate Corrected For Lethal Congenital Anomalies	4.8
Perinatal Mortality Rate Including Late Neonatal Deaths	8.6
Perinatal Mortality Rate Excluding Unbooked Cases	7.0
Corrected Perinatal Mortality Rate Excluding Unbooked Cases	4.1
Perinatal Mortality Rate in Normally formed babies >2,500g	1.4

**7. Age of Women**

	<b>Nulliparous</b>	<b>Multiparous</b>	<b>Total Mothers Delivered &gt;500g</b>	
<20 yrs	138	22	160	2%
20-24 yrs	502	240	742	9%
25-29 yrs	744	726	1,470	18%
30-34 yrs	1,316	1,453	2,769	33%
35-39 yrs	740	1,744	2,484	30%
40+ yrs	176	461	637	8%
<b>Total</b>	<b>3,616</b>	<b>4,646</b>	<b>8,262</b>	

**8. Parity**

	<b>Totals</b>	<b>% from Total Mothers Delivered &gt;500g</b>
Para 0	3,616	44%
Para 1	2,828	34%
Para 2-4	1,710	21%
Para 5+	108	1%
<b>Total</b>	<b>8,262</b>	<b>100%</b>

**9. Country of Birth / Nationality (from Mothers Delivered >500g)**

	<b>Totals</b>	<b>%</b>
Irish	5,322	64%
EU	1,402	17%
Non Eu	1,488	18%
Unknown	50	1%
<b>Total</b>	<b>8,262</b>	

**10. Birth Weight**

	<b>Totals</b>	<b>%</b>
< 500 g	2	0.02%
500 - 999 g	44	0.6%
1,000 - 1,499	53	0.7%
1,500 - 1,999	106	1%
2,000 - 2,499	325	4%
2,500 - 2,999	1,170	14%
3,000 - 3,499	2,899	35%
3,500 - 3,999	2,719	32%
4,000 - 4,499	963	11%
4,500 - 4,999	117	1%
>5,000	14	0.2%
<b>Total</b>	<b>8,412</b>	

**11. Gestational Age**

	Nulliparous	Multiparous	Totals	%
<26 weeks	21	7	28	0.3%
26 - 29 weeks + 6 days	22	24	46	0.6%
30 - 33 weeks + 6 days	48	48	96	1%
34 - 36 weeks + 6 days	149	241	390	5%
37 - 41 weeks + 6 days	3,310	4,323	7,633	92%
42 + weeks	66	3	69	1%
<b>Total</b>	<b>3,616</b>	<b>4,646</b>	<b>8,262</b>	

**12. Perineal Trauma after Vaginal Deliveries**

	Nulliparous	Multiparous	Totals	%
Episiotomy & Extended Episiotomy	1,105	327	1,432	27%
First Degree Laceration	241	559	800	15%
Second Degree Laceration	666	976	1,642	31%
Third Degree Anal Sphincter/Mucosa	84	29	113	2%
Fourth Degree	1	2	3	0.1%
Other: Includes all Lacerations/Grazes	99	415	514	10%
Intact	125	749	874	16%
<b>Totals</b>	<b>2,321</b>	<b>3,057</b>	<b>5,378</b>	<b>100.0%</b>

CS Deliveries not included in the above.

**13. Third or Fourth Degree Tears\***

	Nulliparous	Multiparous	Totals
Occurring Spontaneously	38	25	63
Associated with Episiotomy	40	4	44
Associated with Forceps	4	2	30
Associated with Ventouse	12	3	15
Associated with Ventouse & Forceps	8	0	8
Associated with O.P. position	10	4	14
<b>Total 3rd &amp; 4th Degree Tears</b>	<b>85</b>	<b>31</b>	<b>116</b>

\* 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.

**14. Perinatal Mortality in Antepartum Normally formed Infants**

	Nulliparous	Multiparous	Totals
Placental Causes	5	8	13
Cord Accident	2	5	7
Infection	4	0	4
Abruption	1	0	1
Prematurity	6	1	7
Feto Maternal Haemorrhage	1	2	3
Unexplained	3	3	6
<b>Total</b>	<b>22</b>	<b>19</b>	<b>41</b>

**15. Perinatal Mortality in Congenitally Malformed Infants**

	Nulliparous	Multiparous	Totals
CNS Lesions	0	3	3
Cardiac	3	2	5
Renal	3	3	6
Chromosomal	2	4	6
Other	3	1	4
<b>Totals</b>	<b>11</b>	<b>13</b>	<b>24</b>

**16. Early Neonatal Deaths in Normally Formed Infants**

	Nulliparous	Multiparous	Totals
Prematurity	4	1	5
Infection	3	0	3
Placental	0	1	1
Unexplained	2	1	3
<b>Totals</b>	<b>9</b>	<b>3</b>	<b>12</b>

**17. Hypoxia Ischaemic Encephalopathy\***

Grades	Grade 2	Grade 3
	4	6

\* Inborn babies only

**18. Severe Maternal Morbidity**

	Totals
Massive Obstetric Haemorrhage	30
Acute Renal or Liver Dysfunction	9
Pulmonary Oedema/Acute Respiratory Dysfunction	5
Severe Sepsis	5
Uterine Rupture	3
Pulmonary Embolus	3
Emergency Hysterectomy	2
Eclampsia	1
Cardiac Arrest	1
Transfer to ICU/CCU	15

<b>19. Body Mass Index (kg/m<sup>2</sup>)</b>				
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Underweight: <18.5	175 (2%)	169 (2%)	98 (1%)	156 (2%)
Healthy: 18.5 - 24.9	4,407 (52%)	4,224 (51%)	2,674 (32%)	4,328 (47%)
Overweight: 25 - 29.9	2,307 (28%)	2,333 (28%)	1,669 (20%)	2,751 (30%)
Obese class 1: 30 - 34.9	923 (11%)	989 (12%)	671 (8.0%)	1,181 (13%)
Obese class 2: 35 - 39.9	306 (4%)	309 (4%)	259 (3%)	467 (5%)
Obese class 3: >40	129 (2%)	120 (2%)	115 (1%)	177 (2%)
Unrecorded	160 (2%)	82 (1%)	2,873 (34%)	91 (1%)
<b>Total Deliveries/Bookings</b>	<b>8,405</b>	<b>8,226</b>	<b>8,359</b>	<b>9,151</b>
	Delivered	Delivered	Booked	Booked

2016 & 2017 were taken from Delivered patients - Old system

2018 & 2019 were taken from Booking patients - MN-CMS



## APPENDIX 2

### Comparative Summary Results for Ten Years

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Babies born	8,792	9,319	9,041	8,841	8,980	8,538	8,589	8,409	8,514	8,410
Perinatal Deaths	69+5*	59+2*	66+2*	63+6*	68+2*	71	54+5*	51+1*	45+1*	59+6*
Perinatal Mortality Rate	8.4	6.5	7.5	7.8	7.7	8.3	6.9	6.2	5.4	7.7
Corrected Perinatal Mortality Rate	5.7	3.7	4.9	4.5	4.5	4.8	4.1	3.6	3.0	4.1
Mothers Attending	9,594	10,547	10,397	10,314	10,814	10,078	10,024	9,915	9,760	10,200
Maternal Deaths	3	3	2	3	2	1	0	0	0	0
Caesarean Section %	28	29	29	31	31	32	35	34	34	35
Vacuum/Forceps %	201	19	18	17	17	17	16	16	16	16
Epidural %	47	46	48	47	47	47	45	48	45	48
Induction %	27	29	28	29	30	29	29	31	31	35

\* Unbooked

## APPENDIX 3

### Perinatal Deaths 2019

#### GESTATIONAL AGE AT DELIVERY (WEEKS)

Still Births		
20 0/7 - 23 6/7	2	5%
24 0/7 - 27 6/7	9	21%
28 0/7 - 31 6/7	10	23%
32 0/7 - 36 6/7	15	35%
37 0/7 - 39 6/7	4	9%
>= 40 0/7	3	7%
<b>Total</b>	<b>43</b>	<b>100.0%</b>

Early Neonatal Deaths		
20 0/7 - 23 6/7	4	18%
24 0/7 - 27 6/7	4	18%
28 0/7 - 31 6/7	3	14%
32 0/7 - 36 6/7	3	14%
37 0/7 - 39 6/7	5	23%
>= 40 0/7	3	14%
<b>Total</b>	<b>22</b>	<b>100.0%</b>

#### WEIGHT AT DELIVERY (GRAMS)

Still Births		
500 - 999g	11	26%
1,000 - 1,499g	5	12%
1,500 - 1,999g	10	23%
2,000 - 2,499g	5	12%
2,500 - 4,999g	12	28%
>= 5000g	0	0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>

Early Neonatal Deaths		
500 - 999g	10	46%
1,000 - 1,499g	2	9%
1,500 - 1,999g	3	14%
2,000 - 2,499g	1	5%
2,500 - 4,999g	6	27%
>= 5000g	0	0%
<b>Total</b>	<b>22</b>	<b>100.0%</b>

## APPENDIX 4

### Outpatient Activity Data 2019

Outpatient Activity Data - 2019			
Description	New Attendences	Return Attendences	Total
Antenatal & Postnatal	12,167	34,160	46,327
Gynaecology	2,706	4,901	7,607
Colposcopy	2,034	3,886	5,920
Paediatrics	4,997	3,540	8,537
Endocrinology	463	2,210	2,673
Gastroenterology	37	15	52
Haematology	203	260	463
Anaesthesiology	1,267	19	1,286
Nephrology	295	633	928
Psychiatry	1,299	300	1,599
Infectious Diseases	170	186	356
Allied Health Clinics	6,729	10,452	17,181
Diagnostic Clinics	3,560	16,344	19,904
<b>Total</b>	<b>35,927</b>	<b>76,906</b>	<b>112,833</b>

## APPENDIX 5

### Financial Information

#### THE ROTUNDA HOSPITAL, DUBLIN

#### NON CAPITAL INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 2019

	2019 €'000	2018 €'000
<b>PAY</b>		
Salaries	60,506	54,926
Pensions	4,854	6,043
	<u>65,360</u>	<u>60,969</u>
<b>NON-PAY</b>	6,826	6,193
Direct patient care	6,343	5,685
Support services	3,485	3,471
Financial and administrative	<u>16,654</u>	<u>15,349</u>
<b>TOTAL EXPENDITURE FOR THE YEAR</b>	82,014	76,318
Income	<u>(15,915)</u>	<u>(16,794)</u>
<b>NET EXPENDITURE</b>	<u>66,099</u>	<u>59,524</u>
HSE Funding for year	<u>(66,538)</u>	<u>(59,478)</u>
<b>SURPLUS / (DEFICIT) FOR THE YEAR</b>	439	(46)
<b>DEFICIT CARRIED FORWARD</b>	<u>(665)</u>	<u>(619)</u>
<b>DEFICIT BROUGHT FORWARD</b>	<u>(226)</u>	<u>(665)</u>

## APPENDIX 6

### Clinical Audits Completed In 2019

Title of Audit
<b>Anaesthesiology</b>
A retrospective audit of anaesthesia for high risk cardiac obstetric patients
Efficiency and Effectiveness of preoperative anaesthesia clinic for gynaecological cases in Rotunda hospital - 2018
Remifentanyl Patient Controlled Analgesia (PCA) for Labour analgesia
<b>Gynaecology</b>
Audit of interval between colposcopic procedure and histological result/management plan letter to patients
Compliance with NCCS guidance regarding excisional treatments
Audit of glandular cytology referrals
Reaudit of the management of postpartum haemorrhage in the delivery suite of the Rotunda hospital
<b>Infection Control</b>
Compliance with Hospital Policy on MDRO Screening
<b>Mental Health</b>
Perinatal Mental Health Service
<b>Neonatology - Medical</b>
Audit of the Postnatal Management of Infants at High Risk of Haemolytic Disease of the Newborn
Discharge Follow up from postnatal wards of late preterm infants (34-37 weeks) to paediatric outpatient department
Breastfeeding within first hour: Are we adhering to this practise in Infants > 36 weeks Gestation?
Incidence of hypoglycaemia in at risk neonates >34 weeks and our compliance with national guidelines in the management of these infants.
The rates of intubation of preterm infants at the Rotunda Hospital
Re-audit of: Timing of administration of first dose antiretrovirals to infants born to HIV positive mothers in the Rotunda Hospital
Parental refusal of Vitamin K in the Rotunda Hospital
How are we treating newborn jaundice? Evaluating adherence to Rotunda Guidelines and the use of different devices for newborn jaundice treatment.
Audit of compliance with Hepatitis B vaccination and IgG administration, as recommended by local and National guidelines.
Are we missing Anorectal Malformations?
SBAR Assessment of Pager and handover communication Between Midwives To Paeds SHO during On Call hours for attending Deliveries & C-Sections
Analysis of unsuccessful intubation attempts in Rotunda
Re-audit of: Timing of administration of first dose antiretrovirals to infants born to HIV positive mothers in the Rotunda Hospital
Timing of imaging in Hypoxic Ischaemic encephalopathy
Use of early onset sepsis calculator to reduce septic screen in neonates- a quality improvement audit
Audit of documentation of neurological status in the first 6 hours after birth in newborns treated with therapeutic hypothermia
Completion of Aseptic Non Touch Technique Course
Use of emergency O Rh neg in NICU
Re-evaluation of prolonged jaundice assessments carried out in the Paediatric Outpatients Department
Audit of the use of neonatal platelet transfusions in a tertiary NICU
<b>Neonatology - Nursing</b>
To determine that current prescribing practices of ionising radiation by the RANP with prescriptive authority are in line with best practice standards.
Ambient noise exposure in the Neonatal Unit
Audit on Emergency Trolleys checklist in NICU
Re-audit on Emergency Trolleys checklist in NICU



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**Title of Audit (continued)**
**Nursing/Midwifery**

Re audit of compliance in respect of the timing and checks for written consent to elective treatment

Auditing theatre nursing/midwifery in urinary catheterization practice

To assess the documentation in EPAU ultrasound reports

Open Disclosure

Blood transfusion administration documentation in NICU – a quality improvement project

To assess the quality of the documentation in the EPAU ultrasound reports

Compliance with 4 hourly newborn observations on the postnatal wards

**Obstetrics**

Hb levels at booking - 28 weeks delivery

Booking Visit Dating Scan – An Audit of dating pregnancies at the booking visit

Perinatal Outcome of Prenatally Diagnosed Cystic Hygroma

Management of Women with PET

A re-audit of the use of methotrexate in the management of ectopic pregnancy

Screening for Group B Streptococcus (GBS) at labour onset using PCR

Audit of Obstetric Cholestasis Management

To re-assess the completeness of documentation regarding shoulder dystocia in the maternity chart.

An audit of prenatal genetic testing results

Re-audit of Tocolytic Treatment in Pregnancy in the Rotunda Hospital

Pre-Intervention and Post-Intervention Audit of Midwife Led Inductions of High Risk Patients

Late third-trimester ultrasound scans in The Rotunda Hospital: Defining the population, indications and outcome

**Pharmacy**

Re-audit Hyperemesis

**Physiotherapy**

Developmental Positioning in NICU QIP

Radiology

Audit of HSG Pack Contents Received from CSSD

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## APPENDIX 7

### Staff Research Publications 2019

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## APPENDIX 8

### Staff List

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Prof. Fergal Malone

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**GP LIAISON/HOSPITAL RELATIONSHIP MANAGER**

Ms. Eleanor Power

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Ms. Sinead Devitt (Head Medical Social Worker)

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Ms. Anne O'Byrne (Head Librarian)

Mr. Kieran Slevin (Human Resources Manager)

Mr. Sean Williamson / Mr. Yoichi Hoashi (Materials Manager)

**SUPPORT DEPARTMENT HEADS**

Mr. Les Corbett (Health and Safety Manager)

Mr. Henry Gelera (Clinical Engineering Manager)

Mr. Yoichi Hoashi / Ms. Deborah Cullen (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)

**CHAPLAINS**

Rev. Alan Boal

Ms. Ann Charlton

Ms. Susan Dawson

Rev. David Gillespie

Rev. Dr. Laurence Graham

Fr. John Walsh O.P.

## APPENDIX 9

# Organisational Structure





**The Rotunda Hospital,**  
Parnell Square,  
Dublin 1,  
DO1 P5W9

Tel: 01 817 1700  
[www.rotunda.ie](http://www.rotunda.ie)  
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