# The Rotunda Hospital, Dublin

# Annual Report 2021





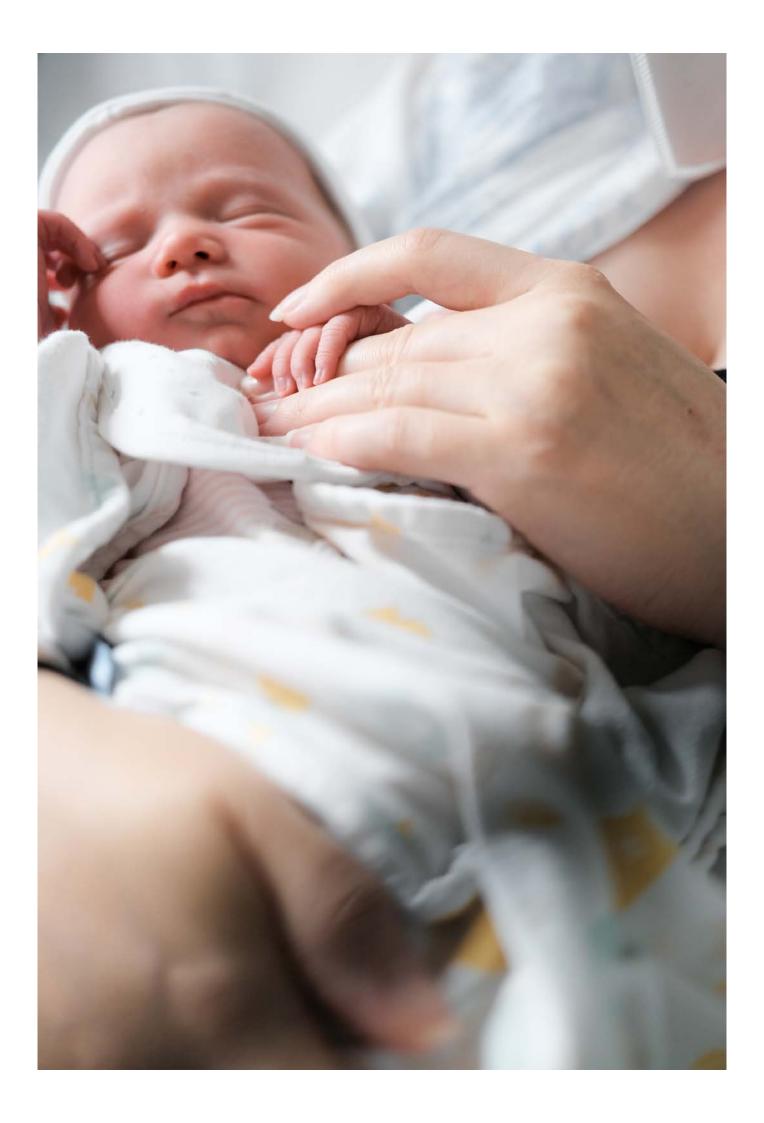




# The Rotunda Hospital Dublin Annual Report 2021







### **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 264 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.

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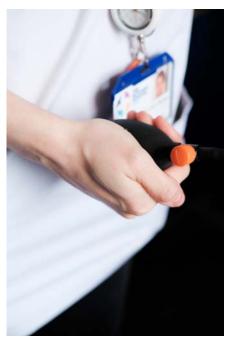
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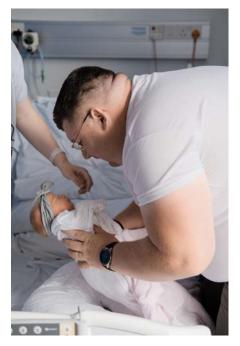












# Introduction









## **Introduction by the Master**

"The essence of war is fire, famine and pestilence" - so said Dwight D. Eisenhower, and so far in my sixth year as Master of the Rotunda we have had to face each of these (other than famine – yet!). When I commenced my Mastership in 2016, we had to deal with a fire in our over-crowded neonatal intensive care unit, which had to be evacuated and faced a prolonged closure for renovation. The years 2020 and 2021 were of course dominated by the pestilence that is COVID-19. As if those were not sufficient challenges, we were the victims of cyber-warfare in 2021, when a vicious cyberattack targeting the HSE created disproportionate difficulties for the Rotunda as one of only two fully digital/paperless hospitals in Ireland. To successfully cope with this spectrum of external challenges while also managing a 10% increase in clinical volume from 2020 to 2021, speaks volumes of the skill, capabilities and resilience of every single member of the Rotunda team. I am convinced that the Rotunda's ability to react in such a capable and agile way to these demands is in no-small-part due to our independent voluntary status - a highly committed workforce, led by a dedicated management team, and inspired by a diverse Board of Governors, bringing the best of professionalism and volunteerism for the care of our patients. As CEO, I remain in awe of, and deeply grateful for, the efforts of all of our 1.181 Rotunda staff.

#### **COVID-19 PANDEMIC**

While 2020 was the year of learning about COVID, 2021 became the year of living with COVID. Huge optimism in this regard greeted January 2021 when the Rotunda began vaccinating all its staff in the first week of the year, with the vast majority of staff at all grades and in all areas being completely vaccinated by the end of the first quarter of the year. A multidisciplinary team of midwives, nurses, pharmacists, doctors and administrative staff volunteered to set up new vaccination clinics in the Pillar Room complex of the Rotunda to vaccinate all staff, which was then expanded to help provide COVID-19 vaccination to neighbourhood GPs and other front-line personnel. We are very grateful for the enthusiasm, professionalism and dedication of this group of Rotunda staff who rolled-out a novel vaccination programme in a flawless manner.

COVID-19 vaccination was also provided to many pregnant patients at the Rotunda while awaiting the development of regional HSE vaccine administration facilities. Recognising the crucial importance of COVID-19 vaccination in keeping pregnant women and their babies safe, the Rotunda's Pharmacy Service and Communications Team led the way nationally in providing information resources for patients to encourage an initially sceptical population to undergo vaccination. By the completion of 2021, the majority of pregnant patients at the Rotunda had been successfully vaccinated and no significant adverse events relating to vaccination were recorded. It was also notable that, following vaccination, we encountered no significant maternal or perinatal morbidity following COVID-19 infection during pregnancy, thereby demonstrating the efficacy and benefit of these vaccines at keeping pregnant women safe.

Living with COVID throughout 2021 also resulted in the continuation of various good clinical practices that had been first implemented in 2020 in response to the pandemic. Universal wearing of face-coverings in all clinical areas, together with meticulous hand hygiene before and after every clinical interaction, have both combined to make the hospital safer than ever before. The use of virtual clinics has been continued for various clinical services, including select new and follow-up gynaecology appointments, perinatal mental health assessments, physiotherapy, dietetics and social work visits. Virtual health assessments prior to the patient attending for their initial antenatal booking visit have also resulted in more efficient clinical throughput in outpatient areas, which contribute to keeping staff and patients safe while also maximising clinic efficiency.

While visiting restrictions have been maintained throughout 2021 to reduce overcrowding and consequent COVID-19 transmission, this has been greatly improved compared

with the initial mandatory lockdowns seen in 2020. Patients no longer have restrictions on partner access for outpatient visits or for inpatient care around the time of delivery, and pre-pandemic visiting hours for partners have now been restored for all inpatient wards. In accordance with national regulations however, continued limitations remain for broader hospital visiting, with children and larger family groups still not being accommodated for most visiting settings. Given that many of our inpatient wards have large, multi-occupancy rooms with up to 10 mothers in some cases, it is not possible to optimise patient safety by allowing unrestricted visitor access. Feedback received from patients confirm that the vast majority of our patients support the current pragmatic visiting policies that remain in place, with an overwhelming number of patients confirming that they feel safe and secure with our current approach.

The main COVID-19 challenge now for the hospital is in maintaining a high degree of staff readiness and compliance with optimal Infection Prevention and Control practices, as 'fatigue' with regulations is a real potential issue as crisis management becomes endemic in our dayto-day lives. This includes ensuring that all new staff have completed all required vaccinations prior to commencing employment at the Rotunda, continuing to encourage pregnant patients to undergo COVID-19 vaccination, and maintaining vigilance for potential COVID-19 outbreaks during the inevitable peaks and troughs of infection as new variants of the virus emerge. It is now clear that we will continue to co-exist with COVID-19 for the foreseeable future, and we are confident in the Rotunda's ability to keep staff and patients safe irrespective of future challenges in this regard.

#### **HSE CYBER-ATTACK**

As one of only two fully digital/paperless hospitals in Ireland, with an integrated electronic healthcare record system spanning every part of the hospital, the Rotunda has developed a very sophisticated internal Information Technology Department which constantly monitors computer-based activity across the campus. When suspicious activity was noted on some computer terminals at 04.00am on the morning of Friday May 14, 2021, our IT team immediately launched appropriate counter-measures to both contain the unauthorised intrusion and protect the integrity of remaining systems. A Rotunda Emergency Response Team was on-site in the hospital by 05.00am to prepare contingency plans for maintaining hospital functions despite a complete shut-down of all electronic systems. By 07.00am, the Rotunda was in a position to alert the general public and wider health service as to the likely implications of this cyberattack. It was subsequently discovered that this was an example of Conti ransomware

deployed by a criminal gang from outside Europe and which was actually introduced into HSE systems in mid-March 2021, before becoming apparent on the morning of May 14, 2021.

It is a testament to the agility and crisis-management capabilities of the Rotunda team that by 08.00am on the morning of May 14, 2021 we were in a position to assure full clinical continuity of all inpatient services, including Delivery Suite, Operating Theatre, and Neonatal Intensive Care Unit using paper-based systems. This included full laboratory capabilities and pharmacy/medication prescribing systems. Over the next few weeks, elective outpatient services were gradually brought back on stream and by June electronic systems were restored with newer, more robust security systems. A formal after-action review was commissioned to analyse the impact and responsiveness of the Rotunda to the HSE cyberattack, and a number of constructive areas for improvement have already been implemented.

It is difficult to rationalise or understand the thinking behind the individuals responsible for this most serious cyber-warfare attack ever inflicted on the Irish people. To attack the main healthcare infrastructure of the entire country at a time when the health system was already under incredible strain from the COVID-19 pandemic, and to attempt to hold the country to ransom, demonstrates a callousness that is almost impossible to comprehend. Thankfully, good people doing good work on behalf of the entire population won out in the end, and ensured that crime ultimately did not prevail.

#### HOSPITAL INFRASTRUCTURE

The Rotunda's limited physical infrastructure has been the single biggest risk to clinical services for many years, and has been highlighted as such in both internal and external reports. Thankfully 2021 resulted in significant improvements in the physical facilities available for our patients. This included:

- The opening of two new state-of-the-art operating theatres, one dedicated on the Delivery Suite for obstetric emergencies, and one on the main surgical floor for elective gynaecologic procedures
- The complete renovation of the Delivery Suite, with expansion of two new delivery rooms to provide a new eleven-bedded Delivery Suite, including labour pool, meeting room, and staff facilities
- The expansion of the Emergency and Assessment Unit, with new patient evaluation and monitoring areas

- The opening of a new state-of-the-art Ambulatory Gynaecology Unit, on the site of the old HARI / Fertility Unit, with its own dedicated reception area, 10 consultation suites, gynaecologic ultrasound unit, outpatient hysteroscopy theatre, surgical recovery area, urodynamics suite, andrology suite, preoperative assessment suite, and phlebotomy facilities
- Expansion of Private Clinic facilities with new consultation rooms and ultrasound suites

However, the major infrastructure improvement project that remains ongoing is the continued progression of the much-needed Critical Care Wing on the west side of Parnell Square. This will involve the construction of a 6,000m<sup>2</sup>, five storey inpatient facility on the site of the current outpatients department, which will link with the existing operating theatres, delivery suite and inpatient wards. It will provide a completely new Neonatal Intensive Care Unit over two floors, an extension to the Delivery Suite, a new postnatal inpatient ward, and a Central Sterile Services Department (CSSD). A major challenge for this project is to source an interim building to house the outpatients department and other services during the construction of the Critical Care Wing. In 2021, the Rotunda team identified a vacant 5,000m<sup>2</sup>, five storey building on the east side of Parnell Square which would be an ideal facility in which to decant outpatient services as well as optimising the use of the existing Parnell Square building infrastructure. Following extensive analysis and proposals to the HSE, in December 2021 the Board of the HSE gave formal approval to the Rotunda to progress with the long-term lease of this additional building and to appoint a multidisciplinary Design Team to begin the Critical Care Wing development project. This project will likely take three years to complete, but will radically transform the Rotunda's current Parnell Square campus, with most outpatient services being delivered from a newly renovated state-of-the-art building on the east side of the square, and all inpatient services being provided in the main Parnell Square buildings.

#### **CLINICAL ACTIVITY**

As in 2020, the Rotunda continued to buck the trend in 2021 of falling birth-rates by successfully coping with a 10% increase in clinical volume. This included an increase of 800 women to 10,715 pregnancies registered for care in 2021 compared with 2020, leading to 821 more deliveries and 831 more babies to be cared for in 2021. This increase within an already constrained physical infrastructure and an ongoing hospital construction project created particular challenges for patients and midwifery staff, such that in the month of July 2021 alone, 43 mothers had to deliver their babies in the Prenatal Ward setting without being able

to secure a bed in the Delivery Suite. Delivering a baby in the multi-occupancy room environment of the Prenatal Ward, without the one-to-one care of a single assigned midwife in the Delivery Suite, creates serious clinical risk for both mother and baby while also resulting in a less than satisfactory patient experience, and significant staff stress. Thankfully, this particular pressure eased after the summer months once the Delivery Suite renovation project was completed, resulting in an additional two delivery rooms being available for patient care. Thanks to the dedication and skill of our midwifery and medical staff, no adverse outcomes occurred relating to the failure to provide intrapartum care to these patients in the Prenatal Ward environment rather than the Delivery Suite.

Gynaecology clinical activity also increased significantly in 2021, with an average of 600 new GP referrals per month of gynaecology patients compared with 400 per month in 2020. By opening the new Ambulatory Gynaecology Unit building and expanding consultant clinical capacity, despite this marked increase in demand, the Rotunda has managed to significantly reduce its outpatient gynaecology waiting list from 3,113 patients at the end of 2020 to 2,861 at the close of 2021. In addition, the number of patients waiting more than 12 months for a gynaecology outpatient appointment has been reduced by 97% to only six patients in 2021. This waiting list is actively triaged on a regular basis to ensure that patients with the highest clinical risk are prioritised for early care. The drop in outpatient gynaecology waiting would have been even more impressive if not for the negative impact of the HSE cyberattack causing two months of impaired clinical throughput. It is hoped to markedly reduce this waiting list further in 2022 as the full benefit of the Ambulatory Gynaecology Unit and expanded consultant sessions have maximal impact.

Specialist Gynaecology services have also been expanded to cater for this surge in gynaecology demand. Funding was received from the National Women and Infants Health Programme (NWIHP) to expand secondary level fertility services, with three specialist clinics every week now dedicated to this area. This has ensured that no couple seeking care for subfertility currently needs to wait more than six weeks for an initial appointment. The Outpatient Hysteroscopy Service has also expanded to five days per week, increasing its clinical throughput by 60% between 2020 and 2021, thereby providing a highly efficient 'see-and-treat' service for common benign gynaecologic complaints. Colposcopy services remain challenged by the lack of appropriately trained gynaecologists certified in colposcopy and the lack of nurse colposcopists. Despite this difficulty, the Colposcopy Service managed 2,444 new patients in 2021, more than 50% more than in 2020, and

it is hoped to increase capacity further such that national targets in this regard are improved in 2022.

The Rotunda's neonatal care programme remains one of the busiest in Ireland, with 1,255 infants admitted to the NICU in 2021, a 5% increase compared with 2020. Bed occupancy remains very high, with average daily occupancy having increased from 76% to 82% between 2020 and 2021, which continues to cause significant challenges as the COVID-19 pandemic persists. One of the main challenges for the neonatal care programme, as with all clinical services at the Rotunda, is difficulty in recruiting and retaining sufficient nursing personnel. Ongoing recruitment efforts in this regard remains a top priority for hospital management.

We had previously noted an increase in the number of cases of hypoxic ischaemic encephalopathy (HIE) at the end of 2020. In response to this finding, the Executive Management Team worked with clinical leads throughout the hospital to establish a HIE Taskforce to analyse potential contributing factors. A number of such factors were identified, and multiple process improvements were implemented in late 2021, including:

- Additional consultant-led ward rounds in the Delivery Suite at 23.00pm every night, to optimise decision-making, in response to the finding that 80% of HIE cases occur at night
- Expanding midwifery staffing in the Delivery Suite and Prenatal Ward to ensure similar staffing on a 24-hour basis
- Improving the use of the MN-CMS electronic healthcare record to ensure correct use of the Partogram and standardisation of fetal heart rate monitoring documentation

It is expected that the first full year following implementation of these HIE Taskforce improvements will see significant reductions in HIE cases in 2022.

#### **NOTABLE EVENTS**

For many years, the Rotunda has been a recognised leader nationally in the provision of patient education to help fulfil its public health service role. In this regard, we again hosted a highly successful virtual Maternity Open Week in which thousands of women and their families learned about the various clinical services available at the Rotunda. In keeping with COVID-19 restrictions, a virtual GP Study Evening was again held, with nearly 200 local GPs participating in a targeted educational event. Three additional editions of the much lauded GP Connect E-zine

were also published electronically. The Rotunda's various social media platforms again proved highly effective at disseminating information for patients, in particular as COVID-19 restrictions and vaccination protocols evolved.

In 2021, the third series of the highly acclaimed 'The Rotunda' television series was transmitted on RTÉ. As with the first two series, this highly sensitive and extremely informative production reached peak viewership figures of up to 90,000 people tuning-in for each of the six episodes, with many thousands more catching up later using the RTÉ Player. While some unfair negative commentary appeared in some media channels expressing concerns regarding the appropriateness of filming a healthcare documentary during COVID-19 pandemic restrictions, the vast majority of feedback was highly positive and complimentary. Filming was largely performed with remotely controlled, fixed-rig cameras, and much face-to-face interviews were conducted outside of the hospital. The results in terms of feedback from participating families and viewers confirmed again the importance of such public health education efforts by the Rotunda.

During 2021, we said goodbye to a number of long standing friends and colleagues who retired after long and dedicated service to the Rotunda, including Mr. Denis Aylmer (Theatre Porter), Dr. Carole Barry (Consultant Obstetrician Gynaecologist), Ms. Margaret Condron, Ms. Bridget Kerrigan, Ms. Gillian Lane, Ms. Yap Siew Hong (Clinical Midwife Managers in the Delivery Suite), Ms. Bernie McPhilips (Clinical Midwife Manager in the Lillie Suite), Ms. Marie Longworth (Clinical Placement Co-Ordinator), Ms. Margaret Merrigan Feenan (Clinical Midwife Manager Parentcraft Education) and Mr. Kieran Slevin (Human Resources Manager).

Sadly, our former Master, Dr. George Henry, passed away on July 30, 2021. Dr. Henry provided nearly 40 years of service to the Rotunda, including serving as Master from 1981 to 1987. He pioneered many improvements in services and infrastructure at the Rotunda, including opening Ireland's first dedicated Sexual Assault Treatment Unit, expanding the Pillar Room conference and teaching facility, and commencing the renovation of inpatient wards, operating theatres and delivery suite. His legacy includes making the Rotunda one of the most forward-thinking maternity hospitals in Europe while also being recognised as one of the best hospitals in which to work in Ireland. Our sincerest condolences to his wife Hilary, children, Rachel and Jonathan, and his five grandchildren.

The constant cycle of change and renewal is however ongoing at the Rotunda. In 2021, we welcomed the recruitment of a new consultant obstetrician gynaecologist, Dr. Meena Ramphul, and a new Director of Human Resources, Ms. Johanne Connolly.

Crucial to this cycle of renewal is a vibrant and forwardlooking hospital strategic plan. Driven by a team of Rotunda Board Governors and following multiple workshops with internal and external stakeholder involvement, a new five year strategic plan for 2022-2026 was developed and launched in 2021. Re-iterating the Rotunda's vision 'To be the Maternity Hospital of Choice -Outstanding Care by Exceptional People', this new strategic plan focuses on four strategic principles and one strategic enabler to ensure that the Rotunda continues to thrive over the coming five years. These include:

- Delivering a broad range of healthcare services for
- Providing outstanding care for mothers and babies
- Ensuring an excellent patient experience
- Supporting and developing our staff
- Developing infrastructure to support these four strategic principles



#### THANKS AND APPRECIATION

The Rotunda can only function as effectively and efficiently as it does because of the superb esprit de corps that exists, thanks to its team of doctors, nurses, midwives, allied health professionals and administrative staff. I am immensely grateful to each and every one of our 1,181 staff members. I am privileged to lead such an impressive team of consultant obstetrician-gynaecologists, neonatologists, anaesthesiologists, pathologists and other medical subspecialists, assisted by extremely hard-working and dedicated non-consultant hospital doctors. I am particularly indebted to our Clinical Director, Prof. Michael Geary, and our Assistant Masters, Drs. Nikita Deegan, Paddy Maguire, and Fadi Salemeh, upon whom I rely for effective hospital management. Additionally, the constant support of our entirely volunteer Board of Governors, led by its Chair, Dr. Maria Wilson-Browne, is greatly appreciated and represents all that is good in a voluntary hospital.

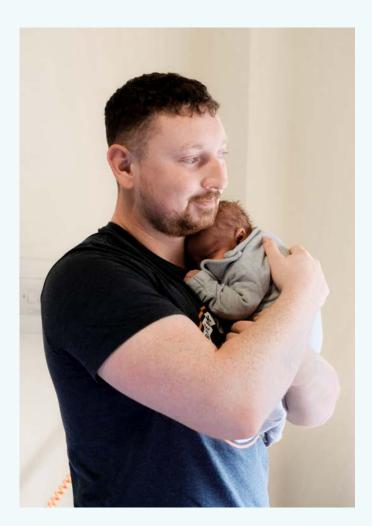
This Annual Report and the overall working of the Master's Office has only been possible with the dedication of my two executive assistants, Mary O'Grady and Margaret Griffin, whose commitment and dedication to the Rotunda has been exemplary, literally for decades.

Finally, I have been incredibly fortunate to have been supported yet again in 2021 by a highly competent and incredibly hard-working Executive Management Team, including Mr. Jim Hussey, Secretary/General manager, Ms. Fiona Hanrahan, Director of Midwifery & Nursing, and Mr. Peter Foran, Director of Finance. The Rotunda has surpassed its goals yet again in 2021, including managing a €95 million budget with a €160,000 surplus, a particularly unique achievement given our 10% increase in clinical volume in 2021 with an entirely demand-led service.

2021 closes as a highly complex and challenging year for hospital management, yet one in which the Rotunda has again excelled in delivering the highest quality, and safest, clinical care possible to the thousands of families who entrust us at their most vulnerable of moments. We remain confident that 2022 will continue to see the Rotunda grow further in the excellence of its service offering.

#### **Professor Fergal Malone**

Master of the Rotunda Hospital



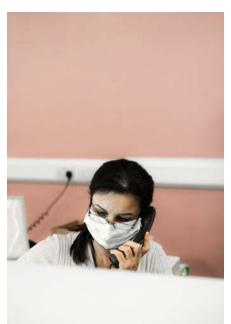






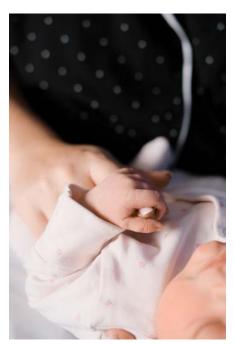


















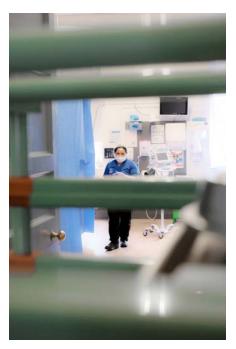


















## **Introduction by the Chairperson**

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 December 2, 1756, incorporating the Governors and Guardians of the Hospital. This 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, and the 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. The specific roles of the Board include:

- Giving direction to the Executive Management Team (EMT)
- Demonstrating ethical leadership
- Promoting behaviours consistent with the underlying culture and values of the hospital
- Making well-informed and high-quality decisions based on clear information provided from the Executive Management Team
- Monitoring 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 9 occasions during 2021 with all meetings conducted virtually due to COVID-19 restrictions and public health guidelines. 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. Finance Committee
- 6. Performance and Remuneration Committee

Reports on all aspects of the hospital and its services including compliance, governance, quality, risk management, financial

management and asset management were provided virtually to the Board for consideration and to make recommendations.

The Board continues a policy of ensuring that the Board and Committees are populated with a diversity of skill-sets in order to meet increasing demands on Board requirements. Continued upskilling is provided with Board education days and induction training for new Governors. The Board confirms 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 an Annual Education Away-Day. In 2021, due to COVID-19 restrictions, both induction and educational sessions were held as virtual meetings.

To comply with the requirements of its Annual Compliance Statement that is executed with the HSE, the Board completed an independent review of governance and compliance with Public Sector Governance Codes. This review was conducted by an external agency, BDO, who are Internal Auditors for the Rotunda. Findings and recommendations from this review were issued and accepted by the Board and have all been actioned.

#### **CHALLENGES 2021**

#### **COVID-19 PANDEMIC**

The most significant challenge impacting the Rotunda in 2021 was the continuing COVID-19 pandemic, putting enormous stress and pressure on hospital staff and service-users. The staff of the Rotunda were outstanding in their commitment to their patients, service-users and fellow staff in ensuring business continuity and that services were maintained safely for all. The Board is immensely grateful to them for their unfailing commitment to the Rotunda Hospital and its patients during this time.

#### **HSE CYBERATTACK**

The cyberattack which targeted health systems nationally in May 2021 had a massive local impact as the Rotunda is one of only two fully electronic hospitals in Ireland. Because the Rotunda has a full electronic healthcare record system, the cyberattack required staff to immediately recalibrate workflows to manual, paper-based systems to ensure that services were maintained safely and that there was minimal disruption to patients. It effectively meant that the Hospital was operating 'blind' for a period of time. Again the Board fully supported and endorsed the EMT's actions to ensure that this risk was managed and addressed. An After-Action-Review report was commissioned by the EMT, with findings and recommendations forwarded to the Board and funders for consideration.

## ROTUNDA CO-LOCATION AND INTERIM INFRASTRUCTURE DEVELOPMENTS

The Board remains fully supportive and committed to the principle of co-location to an appropriately resourced Level 4 acute general hospital. There is now accepted recognition by all stakeholders that such a co-location will require a minimum timeframe of at least 15-20

years. This is an unacceptable risk which the Board cannot ignore in the short to mid-term, and therefore mandates the development of an interim risk mitigation strategy.

The most substantial risk for the Board is 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 longer-term plans on co-location.

The Rotunda Board wishes to acknowledge, and were delighted, that at the December 2021 HSE Board meeting these infrastructural deficiencies at the Rotunda Hospital were recognised including the need to address them appropriately. In addition, the HSE Board supported the proposal for the Rotunda Hospital to acquire a 20 year leasehold interest in a building on Parnell Square, to facilitate relocation of ambulatory and other suitable hospital services. The Board also noted the intention of the Rotunda Hospital to appoint a design team to undertake master-planning and scoping out of options to further define the interim development project. The Rotunda Board will fully support and resource the Executive as these infrastructure improvement projects are progressed over the next 1-5 years.

#### **STRATEGIC PLAN 2017 - 2021**

As 2021 ended, the Board reviewed and confirmed completion of the key parts of its 2017-2021 Strategic Plan. This plan provided direction and leadership in guiding overarching principles:

- 1. To advance areas of clinical expertise by further developing women's health specialties
- 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, including:

- Providing new gynaecological services and pre-conceptional / antenatal care services
- Optimising patient and customer service excellence programme, such as with the Irish Medicines in Pregnancy Service, and the Birth Reflections Service
- Development and improvement of the hospital infrastructure
- Providing leadership within the RCSI Hospitals Group in development of maternity and gynaecological services at a regional/network level

Additionally, a new five year Strategic Plan covering the years 2022-2026 was developed and completed in 2021 under the chairmanship of Rotunda Board Governor Dr. Mary Keenan.

#### COMMUNICATION AND STAFF ENGAGEMENT

As with 2020, COVID-19 restrictions resulted in cancellation of the Board's much valued Annual Bereavement Service, as well as cancellation of the Board's planned 'Meet and Greet' events with hospital staff. It is hoped to re-commence these important staff engagement events in 2022 as the pandemic stabilises throughout Ireland.

#### FINANCE/HSE SERVICE LEVEL ARRANGEMENT

The Hospital approved its Annual Service Arrangement with the HSE in March 2021, incorporating a letter of reservation which highlighted significant concerns with regard to underfunding of hospital services and capital works, as well as significant concerns with the national implementation of an integrated financial management system. The Board considers this proposed integrated financial management system as being a significant potential challenge to its independence and efficient functioning.

The most significant driver of new hospital expenditure in 2021 was COVID-19. Additionally the HSE cyberattack in May directly impacted the hospital's financial performance as it had an adverse impact on insured income and cashflow. This required the hospital to provide upfront funding to support cashflow due to unavoidable additional expenditure incurred by the COVID-19 pandemic and the HSE cyberattack. The hospital had to front-load this expenditure in the first and second quarters of 2021, which had a major adverse impact on hospital cashflow. The hospital's Finance and Procurement Team worked diligently to ensure that all supplies were procured appropriately and ensured a sustainable supply of vital PPE and medical equipment in 2021. The hospital achieved financial break-even in 2021, which was a considerable achievement considering the impact that COVID-19 had on pay and non-pay costs, as well as on income.

#### **BOARD/ANCILLARY FUNDING**

The Board has continued to utilise its own generated funds (Ancillary Funds) throughout 2021 to address major infrastructural deficits and risks which were not addressed by the HSE. These include completing the new three-storey operating theatre building and complete Delivery Suite refurbishment and providing seed-funding for new initiatives not funded by the HSE, such as the Irish Medicines in Pregnancy Service and pro bono IVF treatment for public patients.

#### **BOARD OF GOVERNORS**

I was elected to the role of Chair in November 2017 and have been supported in that role through the strong advice and wise counsel of the following Vice Presidents – Ms. Hilary Prentice, Dr. Melissa Webb, Dr. Mary Keenan and Mr. Ian Roberts.

One of the key quality improvement initiatives at the Board has been efforts to make Board meetings and committee structures more efficient and stream-lined. In order to achieve this, a paperless portal

system (Decision Time) was commissioned by the Board to administer and manage all Board and sub-committee meetings. Benefits of the system include improved administrative efficiencies, information access and retrieval. It has been an excellent choice and already has allowed us have instant access to historical and current documents, which aligns with our green sustainable policy.

We are required under the Annual Compliance Statement to review our Governance arrangements every three years. This was conducted in 2021 by independent internal auditors BDO. I wish to thank the Board members, BDO, Executive Management Team and especially the Governance and Audit Committee under the excellent Chairmanship of Dr. David Abrahamson for conducting this review and for progressing actions. This has resulted in new Committees structure for 2022 as follows:

- Quality, Safety and Risk Committee
- Finance and Audit Committee
- Governance Committee
- Performance and Remuneration Committee

It was with great regret that Dr. Mary Keenan resigned from the Board in November 2021. Mary joined the Board in 2017 and was a valued member of the Board, serving tirelessly on the General Purposes Committee and chairing the Strategic Development Planning Committee for the Strategic Plan 2022-2026. Dr. Peter McKenna, former Master, also retired. He was initially appointed to the Board in 2002 and acted as Trustee of the Rotunda Hospital Defined Pension Scheme. Mrs. Kristina Odlum also retired, after being initially appointed to the Board in 2013, where she was a valued member on the Capital Funds Committee. These Governors will be missed for their dedication and support to the Board over many years.

We continue to supplement Board Committees with the appointment of experienced and skilled external members, which in 2021 included Ms. Mary Connolly as an external member to the Board's Risk Committee.

I wish to extend my sincerest appreciation to the Governors of the Rotunda for their time, dedication, diligence and commitment to the Board including its external members. 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.

On behalf of the Board of Governors I want to also acknowledge and thank the Executive Management Team for their commitment and dedication to the Rotunda Hospital and its patients. Under their leadership, the Rotunda continues to develop and provide innovative solutions, remaining a leader in Irish Healthcare Services, whilst also ensuring that the primary focus is on providing a safe and quality service for all of our patients.

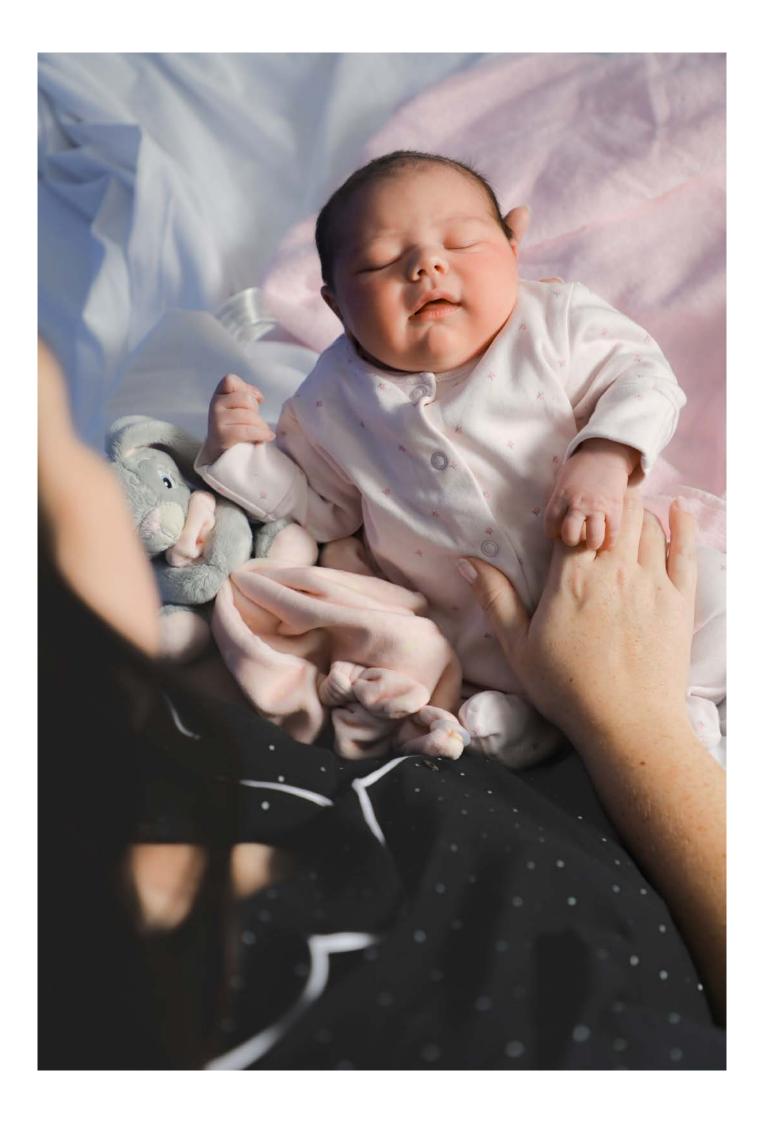
The Rotunda would not be the leading maternity hospital in Ireland if it was not for the dedication and commitment of its staff. The staff of the Rotunda represents the vision of the hospital, where the prevailing culture is 'patient-centred' and always striving to ensure that every patient journey is 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 met.

Dr. Maria Wilson Browne

Mai 7. Wills Brone .

Chairman



### **Clinical Directors Office**

#### CLINICAL DIRECTOR

Prof. Michael Geary, Consultant Obstetrician Gynaecologist.

#### **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 consultant staff and non-consultant hospital doctor (NCHD) staff to deliver safe, effective, and efficient care.

#### **ACTIVITY**

The Clinical Directors office role was supported by Ms. Olga Pearson in 2021. Active communication with the lead NCHD, Assistant Masters, and the NCHD Committee has been key to driving numerous clinical innovations by medical staff. Dr. Sarah Nicholson was the lead NCHD in 2021.

#### CONTINUING PROFESSIONAL DEVELOPMENT

Attendance at continuing medical education events is a professional registration requirement and the CD office continues to facilitate this by certification of doctors' attendance at internal educational events. Facilitating mandatory training for medical staff and collating compliance reports are ongoing roles of the office, which has become more demanding as the number of mandatory training components increases year-on-year.

#### **HUMAN RESOURCE (HR) LIAISON**

Medical manpower is a valuable resource provided 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, with regular employment control meetings being 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 has been in compliance with all Medical Council Inspection recommendations, as required, since 2019. In terms of the European Working Time Directive (EWTD), the hospital has worked to implement controls on NCHD shift start time. During 2021 there was almost 100% compliance with this legislation, with only a small number of minor breaches periodically.

During 2021, a follow-up site accreditation visit was provided by the Medical Council. There were three minor non-compliance issues that had been identified from the previous Medical Council site visit, all of which had been fully addressed. The Medical Council Team met a number of medical staff during their visit. Overall, they were very impressed with how the Rotunda training programmes run and were

very positive and complimentary to both the medical teams and to the management team.

## MATERNITY NEONATAL CLINICAL MANAGEMENT SYSTEM (MN-CMS)

2021 was the fourth full year in which the MN-CMS national electronic health care record has been in operation at the Rotunda, with all teams continuing to work very well with the system. The MN-CMS back office team, along with the NCHD Committee and a number of consultant colleagues, continue to provide innovative assistance in the training of incoming staff. This is an onerous but critical exercise that must be repeated every six months, as large cohorts of new medical trainees in obstetrics and gynaecology, neonatology, anaesthesiology and pathology attend the Rotunda without previous experience with MN-CMS.

The hospital introduced the electronic record for gynaecology in September 2019, with 2021 being the second full year in which the Rotunda functioned as a completely electronic hospital, one of only two hospitals in the entire country to achieve this goal.

## SUCCESSES & ACHIEVEMENTS 2021 MEDICAL EXECUTIVE COMMITTEE

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 2021. This continues to provide a valuable additional forum to the hospital Medical Board for communication between hospital management and senior medical staff.

#### **NEW CONSULTANT ON-CALL ROTA**

In 2021, the hospital implemented a new consultant rota, which included the introduction of a second consultant on-call at night. This has improved senior support within the hospital for on-call emergencies, and in particular for gynaecology. This new system effectively confirms that a senior consultant obstetrician, as well as a senior consultant gynaecologist, are separately available on a 24 hour per day, 7 day per week basis at the Rotunda. It has ensured that all aspects of emergency obstetrics and emergency gynaecology can be provided at all times, not only at the Rotunda itself but also as a back-up to the affiliated adult general hospitals on the North side of Dublin. It also ensures that emergency laparoscopy can be provided at the Rotunda and its north Dublin partner hospitals on a 24/7 basis. This is a unique model of care nationally, led by the Rotunda as part of the RCSI Hospitals Group.

This new system has been working very well with the number of times that one of our senior consultant gynaecologists has to travel to an affiliated adult general hospital being very uncommon. The main practical challenge with this system is that a Rotunda gynaecologist might not be familiar with the staffing and theatre set-up when called to attend in an emergency in a different hospital. However improved clinical pathways and communication between the network hospitals is currently ongoing to improve this.

#### **ELECTRONIC TMS SERVICE**

Electronic Time Management Systems (TMS) has been used to ensure successful compliance for NCHDs with the key provisions of the EWTD legislation. In general, this has been working very well throughout 2021 with all NCHDs being paid appropriately for the actual hours that they work. At a practical level, this TMS arrangement has been very popular amongst NCHD staff as they are confident that they are paid fairly and efficiently for all hours worked.

#### **COVID-19 PANDEMIC**

One of the biggest successes in 2020 had been the hospital's ability to act quickly and safely to manage the COVID-19 pandemic. The hospital continued to be confronted with many further challenges related to the uncertainty of the COVID-19 pandemic throughout 2021. All hospital staff and the hospital EMT continued to be very responsive and reactive throughout the year. In particular, the Rotunda maintained its ability to partition the hospital into COVID and non-COVID zones.

There was great excitement in January 2021 with the arrival of the HSE COVID-19 vaccination programme, with the Rotunda being one of the first hospitals to introduce the vaccination programme, resulting in almost 800 staff being vaccinated on the first day. However, despite the vaccination programme, new variants of the COVID-19 virus emerged as the year progressed. In particular, the Delta variant proved very challenging and, despite vaccination, a considerable number of staff were exposed to COVID-19 requiring them to take time off work. Unlike the first year of the pandemic, very few of our staff became seriously ill or required hospitalisation. As was the case in 2020, the Rotunda is extremely grateful to all of the staff who worked so hard during this unprecedented time, to maintain high quality care for patients, to ensure safe outcomes, and for such support of each other.

A further challenge of the pandemic was the discovery of COVID-19 placentitis, with an Irish team of clinician researchers being the first to recognise this condition in 2021. Unfortunately, the clinical course of COVID-19 placentitis has proven to be unpredictable, with a small number of cases of intrauterine death being diagnosed. There were also a number of near misses, where the placenta was also deemed to have significant placentitis, but in which timely intervention resulted in good fetal outcomes. As a result of this discovery, new guidelines were implemented, including recommendations to consider induction of labour by term for women who were exposed to COVID-19 during their pregnancy, particularly in the third trimester.

#### **HIE TASKFORCE**

In the last quarter of 2020, the Rotunda's internal clinical risk monitoring systems observed a recent spike in cases of moderate to severe hypoxic ischaemic encephalopathy (HIE). A HIE Taskforce was immediately convened by the Executive Management Team and a comprehensive review of all cases that had occurred during 2020 (Jan 1st – Dec 31st) was conducted. A total of 18 cases of moderate to severe HIE were reviewed, which represented an increase in the mean number of cases reported over the preceding five years. A series of

recommendations were proposed by the HIE Taskforce and these were then the subject of a multidisciplinary Implementation Group, which convened throughout 2021. All of the recommendations were implemented, including:

- 1. As a significant number of HIE cases occurred between the hours of 10.00pm and 06.00am, an additional night-time structured ward round was introduced at 11.00pm every night, during which the consultant obstetrician on-call participates virtually from home using the MN-CMS FetaLink system to enable the remote review of CTG tracings. This new system has been very positively received and has allowed detailed planning of the management of patients at a critical time
- 2. At night when there is a suspicious or pathological CTG, it is now required that both registrars on-call review all such tracings together. Research in the area of sleep disruption and circadian rhythm disruption has been shown to affect cognitive function and clarity of decision-making. With this in mind, it is hoped that two pairs of eyes reviewing potentially difficult CTG tracings will prove beneficial
- 3. Remote reviewing of a CTG tracing by in-house registrars on-call is no longer permitted, thereby confirming that all registrars review the complete clinical picture whenever requested to do so by midwifery staff
- 4. A traditional weekly CTG review meeting has been expanded into a 'Labour Management and CTG Meeting', with this forum providing an ideal opportunity for optimising CTG assessment and training on labour management
- 5. All staff must be K2 Certified in CTG training, which is mandatory, with current compliance rates throughout 2021 being over 90%

It is encouraging to note that the number of HIE cases has fallen since this taskforce has been implemented and in particular there has been a reduction in HIE cases between the hours of 10.00pm and 06.00am. All of the recommendations set forth by the HIE Taskforce and its Implementation Group are currently being completed.

#### **PPH TASKFORCE**

The other major clinical issue that has focused attention for quality improvement has been postpartum haemorrhage (PPH). The rate of PPH has increased steadily at the Rotunda over the last number of years, a finding that has been noted both nationally and internationally for unclear reasons. It is planned to apply the same methodology that was successful in addressing the HIE clinical issue by creating a PPH Taskforce and Implementation Group.

#### **INFRASTRUCTURE**

The building works for the new operating theatres and labour ward development continued throughout 2021. A third operating theatre in

the main gynaecology theatre complex opened in summer 2021 and a new operating theatre on the labour ward opened in autumn 2021.

These new state-of-the-art surgical facilities have allowed much greater space in the operating rooms and are fully compliant with the most recent health regulations and building standards. Unfortunately, despite significantly improving theatre infrastructure, it has not been possible to take full advantage of these facilities yet due to an on-going challenge in recruiting theatre nursing, which is a national issue. While the hospital continues to recruit new operating theatre staff, it will likely not be until 2022 that a full complement of theatre staff will enable the running of two full gynaecology theatres all day Monday to Friday, alongside an elective caesarean section theatre all day Monday to Friday.

#### **CHALLENGES 2021**

With respect to clinical challenges, the hospital had one of the busiest years on record in 2021, delivering 8,968 mothers of 9,147 babies. This put a huge strain on hospital staff caring for women and babies. This was particularly compounded by the additional stress of managing the COVID-19 pandemic and also dealing with construction on-site at the same time. Due to temporary limitations on access to Labour Ward rooms during construction and upgrade, a number of women did not get to the Labour Ward as early as hoped, which represented a significant clinical risk. For 2022, with all construction now complete, and with likely substantially reduced COVID-19 numbers, it is hoped that there will be no further restrictions on timely access for all patients to a Labour Ward room.

In addition to the COVID-19 and infrastructure challenges, the Rotunda also had to deal with the unique issue of the HSE cyberattack in May 2021. This was particularly difficult as all patient records at the Rotunda are completely electronic. True to the innovative and 'can do' spirit of Rotunda staff, this challenge was addressed and managed. I would like to thank all of the staff for dealing with this crisis admirably and in particular Mr. Cathal Keegan (IT Director) and his IT team who shouldered a huge burden of work in providing solutions to resolve this problem.

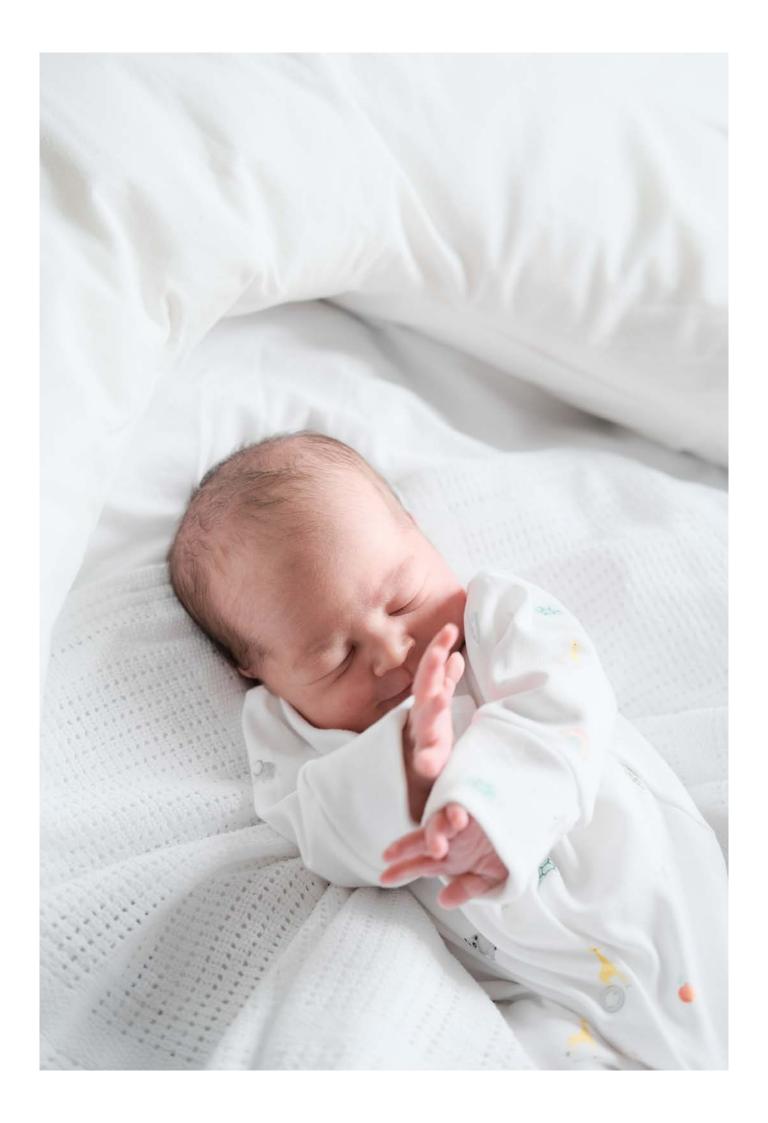
#### PLANS FOR 2022

Since the introduction of the MN-CMS electronic healthcare record, it has remained challenging for the hospital to make new medical staff familiar with the system every six months. The Rotunda plans to assist in the development of a national online training module to facilitate this training, in particular given that only four of the 19 maternity units in Ireland currently use this system.

The Rotunda continues to recruit at consultant level across a number of specialties and has been fortunate in having a strong field for all competitions during 2021. The differential consultant salary situation since 2012 for new-entrant consultants continues to be a significant source of distress and frustration amongst senior medical trainees and new consultant appointees. While there have been many meetings on this matter throughout 2021, at the present time the matter remains unresolved. It is sincerely hoped that this unfair situation will

be resolved in 2022, in order to continue to attract the best quality candidates to the Rotunda for the future.

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







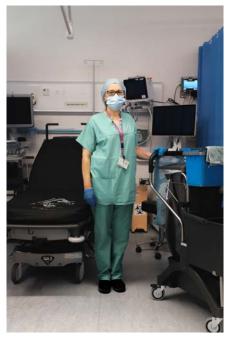










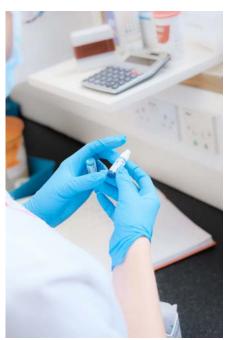




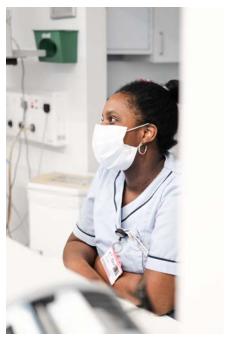






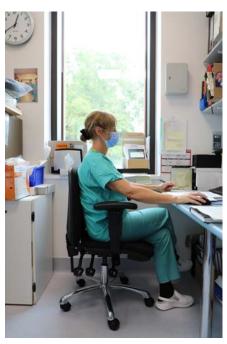






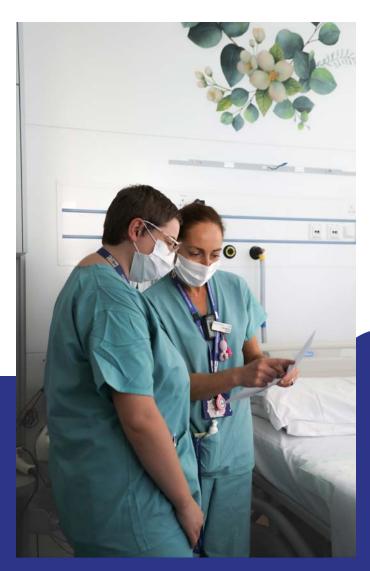






# **Clinical Services**

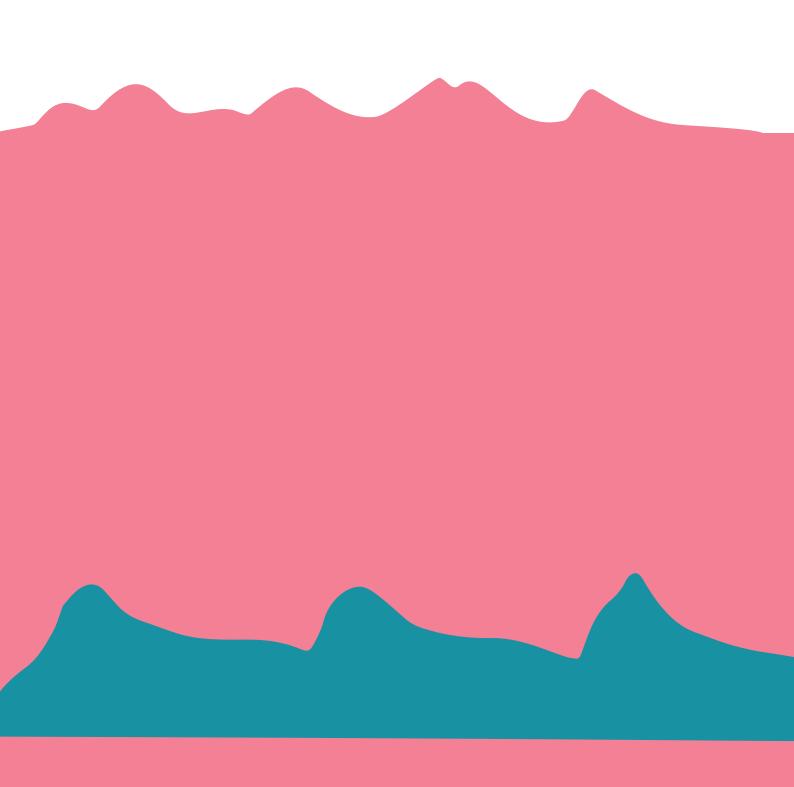




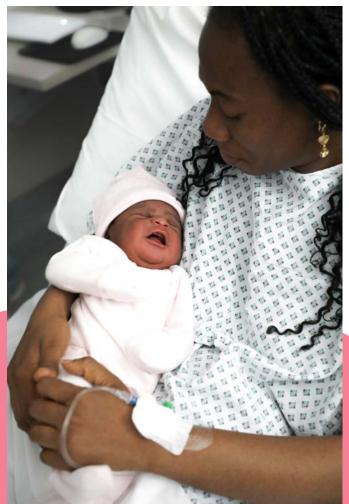




# Maternity











## 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. Aideen Keenan, Assistant Director of Midwifery & Nursing, Nights

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

Ms. Geraldine Gannon, Assistant Director of Midwifery & Nursing

Ms. Annmarie Sliney, Assistant Director of Midwifery & Nursing

**Ms. Mary Deering,** Assistant Director of Midwifery & Nursing, Practice Development Co-ordinator

**Ms. Anu Binu,** Assistant Director of Midwifery & Nursing, Infection Prevention and Control

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

\*Supported by 481 committed Midwives, Nurses and Student Midwives plus 52 dedicated Maternity Care Assistants

#### DEPARTMENT OF MIDWIFERY AND NURSING

It is my pleasure to introduce the 2021 report for Midwifery and Nursing. 2021 was an extremely challenging year for the hospital. There was a perfect storm of increased activity, an ongoing global pandemic, an unprecedented criminal cyberattack and the impact of building and renovation works. The key word to describe the response of our staff to the events of 2021 was 'resilience'. While each member of the Rotunda team started 2021 exhausted from the impact of COVID-19 throughout 2020, surprisingly 2021 proved itself an even more challenging year in many respects. Staff at the Rotunda are known for their 'can do' attitude, for facing challenges head-on and for coming up with creative solutions. These attributes were certainly called upon throughout 2021, as the Rotunda weathered storm after storm with the single focus of the safety and wellbeing of mothers and babies at the forefront of all staff members' collective minds.

#### COVID-19

On Wednesday 6th January 2021, the Rotunda commenced its first staff COVID-19 vaccination clinic, shortly after the arrival of the vaccine in Ireland. It was hoped that this would signify the beginning of the end of the global pandemic. There was an almost festive-like atmosphere in the Pillar Room at the Rotunda as staff turned up in their droves to avail of their first doses of vaccine. A cold and wet winter day felt a little bit brighter. Simultaneously, a programme of vaccination for high-risk pregnant women known to have underlying co-morbidities such as diabetes, renal disease, and multiple sclerosis, had also commenced.

However, the virus had other ideas and the appearance of the Delta and, subsequently, the Omicron variant, meant that all clinical services were severely impacted by the pandemic again throughout 2021. The only advantage faced by the Rotunda was the extensive experience gained in pandemic management during 2020. A dedicated COVID-19 helpline for patients was established, as was a drive-through COVID-19 testing service, which was initially implemented seven days a week,

but reduced to five days a week as the year progressed. A number of pregnant women became critically unwell due to COVID-19 infection and were admitted to intensive care units across Dublin. The Rotunda provided midwifery care and support to these women as part of their wider multidisciplinary team care. The Rotunda Hospital was the maternity partner to support pregnant patients admitted to intensive care units at the Mater, Beaumont and Connolly Hospitals, which are amongst the busiest ICUs in Ireland, particularly with regard to COVID-19 care. There was significant learning and collegiality between the Rotunda and the critical care teams at these three general hospitals and the ongoing working relationships developed with these services will serve as a long-standing positive outcome of the pandemic.

#### **HSE CYBERATTACK**

At 04.00 on Friday 14th May 2021, the Rotunda's IT monitoring team became aware of a possible cyberattack on the hospital. Within an hour, the EMT and key members of the wider senior management teams had gathered on-site to establish an Emergency Incident Response Centre and worked actively to minimise the impact of, what was thought at that time, to be a targeted attack on the Rotunda Hospital. It subsequently transpired that the entire Irish health service's IT systems were subject to a cyberattack by unknown criminals. What followed were some of the most challenging weeks that any of Rotunda staff member has faced in their professional lives. As a fully electronic / paper-less hospital, the Rotunda was almost entirely reliant on its IT systems, including the MN-CMS electronic healthcare record and the iPMS patient administrative system. The immediate impact of the cyberattack was akin to an all-consuming and devastating fire in a paper medical record library with the resulting loss of all patient data, both clinical and administrative. Across that weekend, and in the weeks that followed, teams at the Rotunda worked tirelessly on a 24/7 basis to quickly reintroduce and establish traditional paper-based records and to work out new clinical and administrative pathways for every patient that entered the hospital to ensure that they were correctly identified and cared for appropriately. It is difficult to articulate the challenge the cyberattack posed to Rotunda staff of all grades. As ever, Rotunda staff went above and beyond in their efforts to protect patients. The impact of the cyberattack persisted throughout the remaining months of 2021 both locally and nationally, in terms of additional, slower layers of IT security and extended waiting lists.

The Rotunda is fortunate to have teams, across all disciplines, who are so dedicated to the safety and wellbeing of the women who trust us with their care and that of their precious newborn babies. I pay homage to, and am constantly humbled by, all of the Rotunda staff who have worked throughout the challenges of both 2020 and 2021. They inspire me to continue in this role and to work towards the shared future goals of the Rotunda Hospital.

### NEW SERVICES/INNOVATIONS 2021

ENHANCED RECOVERY AFTER SURGERY (ERAS)

Enhanced Recovery after Surgery (ERAS) is a well-established practice in many surgical specialties whose goal is to streamline and optimise clinical care pathways with the goal being safer and more efficient

healthcare. In 2021, the Rotunda Hospital became the first maternity hospital in Ireland to introduce an Enhanced Recovery after Surgery (ERAS) programme for women undergoing elective caesarean delivery. The aim was to establish and embed a care bundle to minimise surgical trauma and post-operative pain, reduce complications, improve outcomes and decrease length of stay, while expediting recovery of the mother following scheduled caesarean delivery. ERAS is a patient-centered, research-based, multidisciplinary approach that uses specific pre-operative, intra-operative and post-operative interventions to optimise outcomes and the patient's experience. ERAS addresses the 'triple aim' of improving quality of care while reducing cost and increasing patient satisfaction.

ERAS started in March 2021, with 196 patients completing the ERAS pathway up to the end of December 2021. Some of the outcomes of ERAS already achieved in 2021 included:

- Pre-operative fasting times reduced from an average of 14.5 hours to 5.9 hours
- Post-operative fasting times reduced from an average of 6.7 hours to 2.5 hours
- Time of post-operative mobilisation reduced from an average of 13.9 hours to 6.9 hours
- Time to urinary catheter removal reduced from an average of 21.9 hours to 9.9 hours
- Average pain score declined from 2 to 1 on post-operative day
- Discharge home rate of 60% at 48 hours post-operatively
- Average length of stay (LOS) decreased from 72-120 hours (3-5 days) to 65 hours (2.7 days)
- Community Midwifery Team (CMT) follow-up rate of 87% following discharge

The plan for 2022 is to build on the success of ERAS and move towards extending the programme to all women undergoing elective surgery at the Rotunda Hospital.

#### ADVANCED MIDWIFE PRACTITIONER IN SUPPORTED CARE

The advanced midwife practitioner (AMP) role is a crucial pathway for midwives to expand their scope of practice, increasing the range of healthcare activities that they can perform independently as an added benefit for the Rotunda. A new AMP in Supported Care role was created in 2021 to build on the success of the Rotunda's community midwifery services, by increasing the ability to offer community-based care to a larger cohort of women by following integrated care pathways.

#### ADVANCED NURSE PRACTITIONER IN GYNAECOLOGY

As with the AMP role, the Rotunda has also long championed the appointment of advanced nurse practitioners (ANP) in other areas, such as neonatology. In 2021, this was extended further with the appointment of the Rotunda's first candidate ANP in gynaecology, which will

transform the hospital's ability to provide timely expert gynaecology care to patients referred to the Rotunda.

#### **BIRTH REFLECTIONS SERVICE**

In February 2021, the Rotunda began offering women the services of the midwifery-led Birth Reflections Service. This is a dedicated midwifery-led debriefing and listening service for women who have given birth at the Rotunda Hospital. The first of its kind within the RCSI Hospitals Group, this service aims to support and empower women while they reflect on their pregnancy and birth experience, in particular in circumstances where their experience was not what they had initially expected. The clinic offers a one-off, one-to-one appointment to help support women to reflect and gain closure with their birth or pregnancy experience based on empathy and compassion. A total of 333 women availed of the service in 2021, covering both antenatal, intrapartum and postnatal experiences.

#### **DEPARTMENT REPORTS**

I am pleased to present the following reports from the Departments of Community Midwifery, Infant Feeding, Parent Education, Perinatal Mental Health, Practice Development, and Occupational Health at the Rotunda Hospital.

#### **COMMUNITY MIDWIFERY SERVICES**

During 2021 the Community Midwifery Team (CMT) continued to offer midwifery-led care, choice and continuity to normal-risk pregnant women of north Dublin city and county. CMT services are developed to meet the community-based needs of women attending for care in this catchment area. The CMT currently runs nine antenatal clinics in the outlying community, as well as one clinic in the Rotunda, thereby meeting the needs of women living in the inner-city area.

In 2021, CMT guidelines were adapted and new care pathways were created to allow women with a range of co-morbidities to avail of blended midwifery and obstetric care, thereby taking dual advantage of obstetrician-provided services and midwifery support. Table 1 lists the CMT clinics that were operational in 2021.

## TABLE 1: ROTUNDA COMMUNITY MIDWIFERY CLINICS OPERATIONAL IN 2021

Balbriggan Clinic	Monday	2pm-5pm
Blanchardstown Roselawn Clinic	Monday	5pm-8pm
Darndale Bell Clinic	Tuesday	10am-12pm
Coolock Clinic	Tuesday	5pm-8pm
Finglas Clinic	Wednesday	2pm-5pm
Swords Clinic	Wednesday	5pm-8pm
Ballymun Clinic	Thursday	2pm-5pm
Corduff Clinic	Thursday	2pm-5pm
Cabra Clinic	Friday	9am-12pm
Rotunda Clinic	Friday	3:30pm-6:30pm

The CMT service continued to adapt to changes required by the COVID-19 pandemic, according to public health and local Infection Prevention and Control guidelines. While many other community and home visiting health and nursing services remained suspended during 2021, CMT continued to safely provide both antenatal and postnatal care to women and their families in health centres and in patients' homes.

The HSE cyberattack in May 2021 had a significant impact on CMT services. Almost overnight, all clinical documentation needed to revert to paper-based systems, which was particularly challenging for CMT as the majority of its services are provided outside of the hospital setting. It was not until five months later in September 2021 that CMT was finally able to gain remote access to the MN-CMS electronic healthcare record. In the interim, a hybrid of a paper-chart for CMT services and electronic version for hospital care was implemented.

In 2021, a total of 7,918 antenatal appointments were provided by CMT for women in outlying clinics including 92 home visits. A total of 41 women received their initial booking antenatal visit at home by the CMT and 1,446 women were referred from the main hospital antenatal outpatients clinic to the CMT service. For these patients, their subsequent antenatal care was provided in one of the community-based clinics.

All women who attend CMT antenatal clinics were offered early transfer home (ETH) following delivery. A total of 3,458 women availed of the ETH service, which provides complete care to both mother and baby in their home setting for up to seven days following birth, at which time they are then discharged to GP or public health nurse care. This is an increase of 325 mothers compared with 2020. The CMT service carried out a total of 7,754 postnatal visits with each woman receiving an average of 2-3 visits in their home.

From a total of 1,487 CMT patients, 107 (7%) had their care transferred back to the hospital-based obstetric service during the antenatal period. The reasons for transfer of CMT care back to hospital-based care included:

- High maternal body mass index (23 cases)
- Uterine fibroids (14 cases)
- Gestational diabetes (10 cases)
- Fetal growth restriction (8 cases)
- Moved out of Rotunda catchment area (8 cases)
- Suspected fetal macrosomia (4 cases)
- Increased risk of preterm birth (4 cases)
- Changed to homebirth service (3 cases)
- Fetal malformation requiring specialist clinic attendance (3 cases)
- Obstetric cholestasis (3 cases)
- Low haemoglobin requiring transfusion (3 cases)

- Ovarian cyst (3 cases)
- New diagnosis of transmissible viral infection (3 cases)
- Failure to keep appointments (2 cases)
- New diagnosis of multiple gestation (2 cases)
- Thrombocytopaenia (2 cases)
- Others, including uterine prolapse, cholelithiasis, rheumatoid arthritis, antibody development, vaginal wall cyst, epilepsy, hypertension, antepartum haemorrhage and abnormal cervical cytology (9 cases)

The CMT service provided NBAC (next birth after caesarean) support visits to 196 women at 18-20 weeks' gestation. The NBAC service provides care for patients who have had one prior caesarean delivery and are undecided regarding their preferred mode of delivery in their current pregnancy. The majority of these visits took place via telemedicine due to COVID-19 restrictions. At this visit, reasons for the primary caesarean delivery were discussed as well as options for their next birth. Information leaflets are provided on the risks and benefits of vaginal birth after caesarean (VBAC) compared with elective repeat caesarean section (ERCS). Women attending the NBAC receive community-based antenatal care with the CMT. If opting for an ERCS, they are provided a 36-week appointment with Consultant Obstetrician Dr. Sam Coulter Smith to discuss, confirm and plan the date of their ERCS. Patients then return to CMT for the remainder of their care until their date for ERCS. If opting for a VBAC, the women stay with CMT until 39 weeks' gestation, following which subsequent care is hospitalbased for the remainder of their pregnancy and delivery. The CMT remains available to provide additional support as required. All patients attending the NBAC service remain eligible for early transfer home (ETH) regardless of ultimate mode of delivery.

The CMT welcomed a clinical midwife specialist (CMS) in lactation at the end of 2021, who will work between the hospital and community settings with the aim of optimising breastfeeding rates amongst CMT patients.

In 2022, the CMT will commence a fully resourced antenatal booking visit clinic in the Balbriggan Primary Care Centre, which will enable women to avail of all elements of a booking clinic including phlebotomy and ultrasonography in a setting close to their home. This innovation will further improve the range of healthcare options available to women in their local area and further aligns Rotunda services to the hospital's strategic plan and the wider Slaintecare strategy.

Throughout 2022, CMT will continue to offer women and babies access to safe, high quality maternity care in their area, which is appropriate to their needs, with dignity and respect.

#### **LACTATION SERVICE**

The breastfeeding initiation rate at the Rotunda in 2021 was 72%, compared with 69% in 2020, although this calculation was estimated as a 12-month average as there were some absent data during the HSE cyberattack.

Throughout 2021, the Lactation Service continued to facilitate education to a variety of professionals including BSc midwifery students and student public health nurses, as well as for both obstetric and neonatal medical teams. One of the Lactation Service CMS team members completed their Higher Diploma in Clinical Leadership with the RCSI in 2021, and a further 10 Rotunda midwifery staff undertook the International Board Certified Lactation Consultant (IBCLC) training programme in 2021.

The CMS Lactation team contributed to the development of the HSE information booklet 'Breastfeeding and expressing for your premature or sick baby' which was published in March 2021. The Lactation Service celebrated International Kangaroo Care Awareness Day in May 2021, International Breastfeeding Week in August 2021, and National Breastfeeding Week in October 2021, with appropriate educational opportunities prepared for each occasion. A breast milk expressing room for Rotunda staff was relocated to the hospital's main building, coinciding with the new Breastfeeding Policy for public health sector staff.

During 2021, the Lactation Service received 100 PumpPal kits, which were very generously donated by Jan Lane Martin, in memory of her mother who gave birth to her seven children at the Rotunda. These kits are particularly useful for mothers expressing for their sick or premature infants. Expanded funding for breastfeeding and skills training equipment was announced by Minister for Health, Mr. Stephen Donnelly in 2021. Mother-friendly cots which will enhance responsive feeding and relationship-building were ordered. Kangaroo Care Chairs, hospital grade pumps, and a freezer for storage of expressed breast milk from mothers who carried out antenatal harvesting of colostrum were also ordered. Equipment, which will facilitate skills training, was purchased, with the goal being to enhance staff skills and competency levels in line with step two of the Ten Steps to Successful Breastfeeding.

#### PARENT EDUCATION SERVICE

The Parent Education Service is a crucial part of the midwifery team at the Rotunda, being tasked with empowering and informing women regarding pregnancy, delivery and postnatal care options. In 2021, Ms. Margaret Merrigan-Feenan retired, and the Parent Education function was continued by Ms. Susan Hogan and Ms. Louise Kenny. As with 2020, due to the ongoing challenges of COVID-19, all parent education classes continued via on-line platforms. The content of the on-line classes mirrored that of the in-person classes covering all aspects of antenatal, intrapartum and postnatal/baby care (with an emphasis on infant feeding).

8,181 attendances were recorded for the on-line antenatal class programme. An on-line refresher class was also available to women pregnant with their second or subsequent baby, with 375 attendances being recorded. Attendance rates at all classes exceed 50%, in part due to the issuing of appointment letters and reminder texts. However, a persistently high did-not-attend (DNA) rate was noted, likely due to the fact that many patients will accept the offer of a free on-line class at their booking antenatal visit, yet will not actually attend when the class is scheduled.

The Parent Education Service introduced on-line Hypnobirthing Classes, including a masterclass and a full four-week course. A total of 234 patients attended these hypnobirthing classes. Two other new courses were developed and offered by the Parent Education Service in 2021, including a class for women pregnant with twins, and a Next Birth after Caesarean (NBAC) class.

In 2022, the Parent Education Service plans to evaluate women's experience of on-line parent education while also looking at improving class booking systems. The possibility of implementing a virtual tour of the newly renovated delivery suites will be considered. There are also plans to develop specific classes for women having a planned caesarean delivery, and for women planning to avail of the new hydrotherapy pool. An increase in social media reach and utilisation are also planned.

#### PRACTICE DEVELOPMENT UNIT (PDU)

The Practice Development Unit at the Rotunda provides continuous support to 81 Bachelor of Midwifery (BSc) student midwives across their four-year course, and 14 Higher Diploma (HDip) student midwives, through the support of the Clinical Placement Coordinators and the Post-Registration Clinical Co-ordinators. The Clinical Skills Facilitators provide ongoing support to newly qualified midwives, new starters and internally rotated midwives and nurses, through continued innovation of new services and staff development, and education.

The facilitation of the BSc and HDip in Midwifery Programmes was not without its challenges in 2021, with the persistence of the COVID-19 pandemic throughout the academic year.

In 2021, the PDU supported 95 undergraduate and postgraduate midwifery students in clinical placement from Trinity College Dublin (TCD). The PDU also supported 125 BSc general nursing students from Dublin City University (DCU), 23 students for a BSc in Mental Health, 27 for a BSc in the Children's and General Nursing Integrated Programme, three for the RCSI Postgraduate Diploma in Neonatal Nursing, and six student public health nurses. Extensive and constant assistance was provided to ensure the clinical environments were appropriate to their needs.

The provision of ongoing education to the Rotunda's existing midwifery and nursing staff enables them to continue to provide exceptional care. Staff were supported to attend various study days and virtual conferences as part of their continuous professional development.

The PDU supported staff to commence and complete a number of third level programmes in conjunction with the North Dublin Nursing and Midwifery Practice Development Unit (NMPDU). These programmes included:

- Early pregnancy ultrasound
- Professional Certificate in Maternal Critical Care

- Professional Certificate in Examination of the Newborn
- Fundamentals of Understanding and Responding to Domestic Abuse
- Lactation
- Prescribing
- Diploma & Masters in Advanced Leadership
- Masters in Healthcare Ethics and Law
- Leadership
- Quality & Safety Healthcare Management
- Wound Management and Tissue Viability
- Psychotherapy

Educational advancement and opportunities for training are aligned with the Hospital Strategic Plan and risk assessed according to operational needs.

The Rotunda's Clinical Skills Facilitators implemented an enhanced induction/orientation programme which enhances the new midwifery/ nursing staff's adjustment to working in the hospital. This programme was completed by 56 staff including new starters and internal rotation staff.

The Centre for Midwifery Education at the Rotunda provided a range of other programmes for Rotunda staff, including Bereavement, Breastfeeding Refresher Programme, Care of Women with High-Risk Pregnancies, Clinical Leadership, Fetal Heart Rate Monitoring Workshop, Interview Skills Preparation, Medication Management, Mental Health Workshops, NPEC Study Day, Perineal Repair Workshop, Preceptorship, and Transition to Practice Day.

#### OCCUPATIONAL HEALTH SERVICE

The Occupational Health Service is responsible for the healthcare needs of the entire staff working at the Rotunda. The service is provided under the direction of Dr. Dominick Natin, Consultant in Occupational Health Medicine, who personally provided 280 consultations for staff throughout the year. This included additional special clinics to address concerns that some staff members had prior to receiving recommended COVID-19 vaccination.

As with 2020, the COVID-19 pandemic dominated the occupational health workload at the Rotunda in 2021. A total of 149 Rotunda staff were confirmed as being COVID-19 positive during 2021, compared with 81 positive staff members in 2020. A total of 1,432 staff members were swabbed for COVID-19 throughout 2021.

In addition to this specific COVID-19 workload, the standard work of the Occupational Health Service continued throughout 2021, with 299 staff members completing pre-employment screening by the Occupational Health Service. These pre-employment assessments were also responsible for provision of various vaccinations and follow-up of appropriate immunity requirements.

The Rotunda has had a long-established tradition of high uptake of influenza vaccination, although this decreased to 65% in 2021, compared with 82% in 2020, likely representing the perception by staff of decreased concern for influenza in the setting of the COVID-19 pandemic with its mandatory facemask practices at the Rotunda. Table 2 below summarises influenza vaccine uptake rates by various staff groupings at the Rotunda in 2021:

## TABLE 2: UPTAKE OF INFLUENZA VACCINATION AT THE ROTUNDA IN 2021

Area	Vaccine uptake	Total staff in area	Percentage
Management / administration	119	163	73%
Medical	101	131	77%
Midwifery / nursing	283	440	64%
Health and social	75	83	90%
Support services	73	142	51%
Other	37	94	39%

A total of 39 needle-stick injuries and five splash exposures were managed at the Occupational Health Service in 2021, almost identical to the 37 needle-stick and 4 splash cases managed in 2020. Of these 39 needle-stick injuries, three were noted to be sustained from a high-risk source. All exposed staff were appropriately followed-up and subsequently all three high-risk cases were closed with no adverse outcomes.

The Occupational Health Service commenced mindfulness / meditation services for staff twice weekly, using the resource of the Hospital Chapel. Staff training was also provided for basic First Aid Training and CNM2 Leadership Programme.

The plans for 2022 for the Occupational Health Service includes:

- Ongoing monitoring and education of staff regarding COVID-19
- Full review of occupational health procedures in the aftermath of COVID-19
- Review of efficacy of the Influenza vaccine programme to increase uptake in 2022
- Transitioning the service to a paperless system
- Streamline pre-employment processes to improve efficiency of staff recruitment
- Re-introduction of occupational health new employee induction meetings
- Streamline needle stick/splash injury process and improve staff education

 Optimise health promotion for staff wellbeing by introduction of new programmes as requested by staff

#### ADVANCED MIDWIFE AND NURSE PRACTITIONERS

We were delighted to appoint Ms. Ursula Nagle to a new Advanced Midwife Practitioner (AMP) role in the area of perinatal mental health in March 2021. This is the first such role in the country and we are very proud to have this role and service available for women booking at the Rotunda Hospital.

During 2021, we also appointed two new candidates for advanced practice: Ms. Jean Coffey cAMP Gynaecology appointed in March 2021 and Ms. Chantal Murdoch, cAMP Supported Care Pathway appointed in October 2021.

#### **NOTABLE RETIREES IN 2021:**

A number of senior midwives with long service to the Rotunda Hospital retired this year. They take a wealth of experience and knowledge with them. We will miss each one of them greatly but wish them all long, healthy and happy retirements.

Ms. Margaret Merrigan Feenan CMM2

Ms. Margaret Condron CMM1

Ms. Bernadette McPhillips CMM1

Ms. Bridget Kerrigan CMM2

Ms. Gillian Lane CMM2

Ms. Marie Longworth CPC

Ms. Yap Siew Hong CMM1

## **Emergency and Assessment Service**

#### **HEAD OF SERVICE**

Dr. Meena Ramphul, Consultant Obstetrician Gynaecologist

#### STAFF\*

Ms. Debra England, Registered Advanced Midwife Practitioner
Ms. Bernadette Gregg, Registered Advanced Midwife Practitioner (AMP)
Ms. Fiona Walsh, Clinical Midwife Manager 3

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

#### **SERVICE OVERVIEW**

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. Staffing is provided by two registered advanced midwife practitioners (AMP), 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. Patients can self-present or be referred by GP or Public Health Nurse, or via in-house referral pathway. Patients are triaged using an adapted version of the 'Manchester Triage System', enabling the midwives to assign clinical priority and determine the urgency of their needs. The AMP or doctor-on-call reviews the patient and a diagnosis can be made. 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.

#### **CLINICAL ACTIVITY**

2021 was a very busy year at the Rotunda EAU, with staff working extremely hard through difficult times, providing high standards of care. Table 1 summarises the clinical activity volume over the last four years, with 10% year-on-year increased activity.

#### **TABLE 1: EMERGENCY ASSESSMENT UNIT (EAU) ACTIVITY**

	2018	2019	2020	2021	2020 vs 2021 Variance
Obstetrics	23,808	23,834	21,963	24,059	+10%
Gynaecology	1,370	1,482	1,183	1,308	+11%
Paediatrics	354	416	320	359	+12%
TOTAL	25,532	25,732	23,466	25,726	+10%

#### **SUCCESSES & ACHIEVEMENTS 2021**

The continued provision of quality and safe care for women during the ongoing COVID-19 pandemic, as well as the HSE Cyberattack, was an essential achievement during 2021.

#### **CHALLENGES 2021**

Like every other area in the hospital, the COVID-19 pandemic and the HSE cyberattack significantly affected the Rotunda EAU. With only five assessment cubicles, space became an issue as any women who had symptoms of COVID-19 needed isolation pending medical clearance. Care provision had to be modified by wearing appropriate PPE and maintaining social distance, which significantly impacted on staff working conditions.

Visiting policies were changed and partners were restricted from the EAU, except in special circumstances such as bereavement. This in turn impacted on women's experience, sometimes resulting in a perception of being unsupported.

Space in the EAU continues to be an issue, especially when caring for women following pregnancy loss, although this has improved with the opening of three additional assessment cubicles towards the end of the year. Midwifery staffing retention and recruitment continues to be a challenge for the EAU. During the refurbishment of the Delivery Suite there have been increased numbers of women labouring and delivering in the EAU. This poses a risk as it is not possible to provide the same level of clinical supervision.

#### PLANS FOR 2022

- To promote and facilitate the expansion of the role of the midwife and advanced midwife practitioners
- To facilitate more clinical audits and cooperative learning to improve the provision of safe effective care in the department
- To introduce a formatted plan for emergency skills and drills sessions for all staff.
- To increase the number of staff in the EAU which will improve service experience and clinical care throughout

## **Early Pregnancy Assessment Service**

#### **HEAD OF SERVICE**

Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

#### **STAFF**

**Dr. Aoife Corcoran,** Early Pregnancy Assessment Fellow **Ms. Suzanna Byrne,** CMM3 Outpatients and Early Pregnancy Assessment Unit

Ms. Claire Cassidy, Early Pregnancy Unit 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 Room and external sources. Through a dedicated early pregnancy reassurance clinic, an ultrasound service for women who have had prior molar pregnancies, ectopic pregnancies or two consecutive early pregnancy losses is provided. Close links are maintained with the Bereavement Service and the Medical Social Work Service in this regard.

Women with prior poor obstetric outcomes are offered an early booking visit or a reassurance scan in order to facilitate early access to antenatal care and allied personnel. The service goal is to provide a dedicated, patient-centered service that supports and facilitates safe, efficient, compassionate care.

#### **CLINICAL ACTIVITY**

#### **TABLE 1. CLINICAL ACTIVITY**

Activity	2018	2019	2020	2021
Total number of patients seen	3,459	3,845	3,527	4,234
Repeat EPAU scans	1,633	1,327	1,237	780
Serial Beta hCG testing	724	698	873	817
Referred for booking visit	815	814	1366	864
Pregnancy of uncertain viability	231	334	663	545
Miscarriage	1,176	932	1,046	1,494
Surgical management of miscarriage	310 (26%)	251 (27%)	105 (24%)	114 (8%)
Expectant or medical management of miscarriage	866 (74%)	681 (73%)	327 (76%)	421 (92%)
Features suggestive of molar pregnancy	5	7	18	23
Pregnancy of unknown location	242	106	338	303
Ectopic pregnancy	46	30	39	80
Methotrexate use	132	40	72	111
Patients admitted from the EPAU	56	39	59	82
Reassurance ultrasound	448	392	390	368

The number of patients attending the early pregnancy service increased by 20% in 2021, from 3,527 to 4,234 patients. This may in part be attributable to the increase in clinical obstetric volume at the Rotunda in 2021, but may also reflect difficulty amongst patients accessing early pregnancy care in the primary care setting due to the challenges of the COVID-19 pandemic. There was a significant decrease in the number of women being referred onward from the EPAU for a booking visit, which is likely explained by the 43% increase in the number of miscarriages diagnosed in 2021. However, the overall rate of miscarriage diagnosed at the Rotunda is not significantly different from the previous year (29% vs 28%).

While the number of miscarriages diagnosed was significantly higher in 2021, at 1,494 cases, it is notable that the proportion requiring surgical management of miscarriage continues to decline significantly, now reaching only 8% of cases. A 92% rate of miscarriage management by means of medical management or expectant management is a reflection of the strong ethos at the Rotunda of avoiding unnecessary admission or surgical procedures. Patient satisfaction rates in this regard remain very high. The introduction of routine mifepristone use (combined with misoprostol), for medical management of miscarriage has contributed significantly to this highly impressive success rate. Over 85% of cases of medical management of miscarriage complete their treatment with a single round of medications.

Reflecting the success and efficiency of the new pregnancy termination service based in the primary care setting, a very small number of patients presented to the early pregnancy assessment service with complications following termination of pregnancy performed elsewhere (10 patients). The most common reason for attendance in this cohort was prolonged bleeding and concern around retained products of conception, which was resolved in most cases by a reassurance ultrasound scan.

The number of women receiving methotrexate continues to increase, with 111 such patients requiring follow-up in 2021. The largest contributor to this cohort of women is ectopic pregnancy, with a doubling of ectopic pregnancy cases being noted in 2021. This increase in ectopic pregnancies was matched, unsurprisingly, by an increase in EPAU admission numbers when such patients developed concerning symptoms.

### SUCCESSES & ACHIEVEMENTS 2021

#### **ENHANCING PATIENT CARE**

In 2021, Dr. Aoife Corcoran joined the team as the Early Pregnancy Assessment Fellow. This post allows for dual training in early pregnancy and operative hysteroscopy and provides a unique opportunity in Ireland to train in manual vacuum aspiration (MVA). This specialist MVA clinic is embedded into the outpatient hysteroscopy service and represents a significant improvement in the range of early pregnancy complication management options at the Rotunda.

Ongoing structured multi-modality teaching programme in early pregnancy for non-consultant hospital doctors (NCHDs) is also a crucial part of our patient care improvement programme.

#### **CHALLENGES 2021**

- Infrastructure remained a challenge to the service in 2021. This will be addressed in the proposed relocation to an alternative site off campus in 2022
- As with 2020, due to severe physical infrastructure limitations at the Rotunda, periodic COVID-19 restrictions on partners accompanying pregnant patients for some antenatal visits and scans caused anxiety and upset. We are most grateful for the cooperation and support of so many of our patients for their understanding in this regard. Many notes of thanks were received from patients who felt safe in the hospital environment during peak COVID-19 infection times
- The lack of a dedicated Clinical Midwifery Manager role for the early pregnancy assessment service limits the responsiveness of the service to challenging clinical scenarios as they develop in the unit. It is hoped that this can be rectified in the future
- The lack of easy access to an early pregnancy reassurance scan, even for patients without a history of recurrent pregnancy loss, remains a challenge and a cause for anxiety amongst many patients. It is hoped that this will also be rectified in the near future as the early pregnancy assessment service transitions to new, larger premises in 2022

#### **PLANS FOR 2022**

The service plans for 2022 include:

- Maintaining hospital funding for the ongoing appointment of an Early Pregnancy Assessment Fellow to continue the initiatives within the service and assist in teaching
- Facilitating the seamless transfer of care of the service, staff and patients to the proposed new site off the main Parnell Square campus
- Creation of guidelines to facilitate the management of any potential care issues or emergencies for women in a unit off the main Parnell Square campus
- Development of a MN-CMS-generated hospital discharge document to general practitioners regarding pregnancy outcome
- Development of the role of an Advanced Nurse/Midwife Practitioner for the service in line with early pregnancy developments in other countries
- Remaining conscious of the needs of local GPs for early pregnancy assessment services, in particular given their lead role in provision of early pregnancy termination services

## **Recurrent Pregnancy Loss Service**

#### **HEAD OF SERVICE**

Dr. Karen Flood, Consultant Obstetrician Gynaecologist

#### **STAFF**

Ms. Patricia Fletcher, Midwife

Dr. Ronan Daly, Obstetric and Gynaecologic Registrar

Dr. Sarah Nicholson, Obstetric and Gynaecologic Registrar

Dr. Corina Oprescu, Obstetric and Gynaecologic Registrar

Dr. Orla Smith, Obstetric and Gynaecologic Registrar

#### **SERVICE OVERVIEW**

The Recurrent Pregnancy Loss Service was developed to provide thorough, standardised investigation and follow-up of couples with recurrent pregnancy loss. Referral criteria include patients affected by three first trimester or two consecutive second trimester losses. Updated referral criteria also include losses defined as 'biochemical' in nature, and two first trimester losses in women over 38 years of age. The team endeavours to deliver evidence-based care, limiting investigations and interventions to those recognised by international best-practice quidelines.

As part of the service, early reassurance scans are also performed for these patients up to their 'booking visit'. The psychological impact of pregnancy following multiple previous losses requires clinical continuity to optimise support and expert care.

In addition, all patients with histological confirmation of gestational trophoblastic disease (GTD) following a miscarriage also attend the Recurrent Pregnancy Loss Service for counselling and close monitoring of serum  $\beta$ hCG monitoring with rapid access for review if complications occur.

#### **CLINICAL ACTIVITY**

#### **TABLE 1: CLINICAL ACTIVITY**

Clinical Activity	2017	2018	2019	2020	2021
Total number of visits	918	845	715	867	689
New visits	170	151	156	120	117
Return visits	748	694	559	747	562
Livebirth rate %	69	80	78	76	70
GTD pregnancies followed	25	24	39	21	19

Due to the COVID-19 pandemic, 77 of the 689 total visits were provided vitually through a new telemedicine clinic.

#### **SUCCESSES & ACHIEVEMENTS 2021**

The failure to attend (DNA) rate remains very low for new patients at the Recurrent Pregnancy Loss Service clinics (2%). This was achieved by direct patient telephone contact the week prior to attendance to confirm the visit appointment.

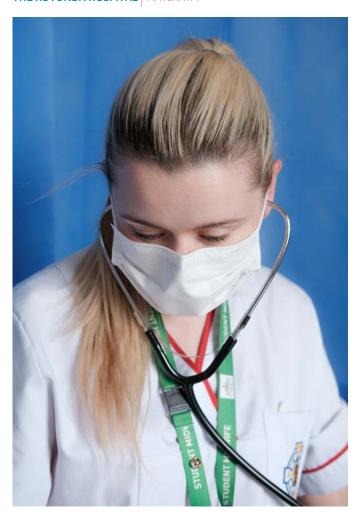
An audit was performed to review GTD management within the Rotunda Hospital, which confirmed that all histology reports were completed and became available within the recommended 14-day period. There was a 100% compliance rate of public patients attending the service being registered with the national GTD centre. In contrast, the registration rate was only 33% amongst private patients reducing the overall rate to 82%, which may reflect the practice of consultants taking personal responsibility for tracking outcomes and follow-up of their own private patients. Improvement of this rate is the main action point highlighted by the audit stakeholders.

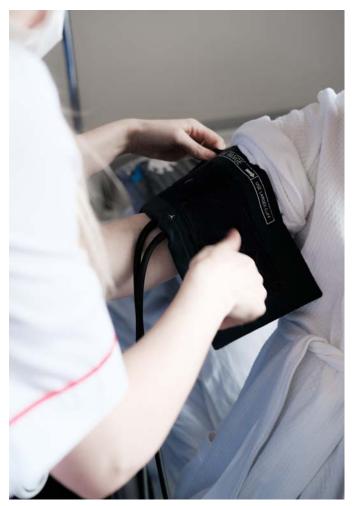
#### **CHALLENGES 2021**

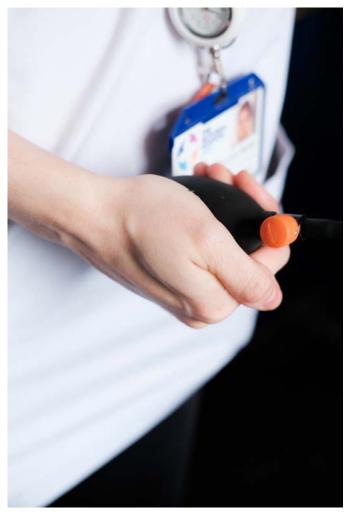
The main challenge again this year was to preserve and optimise safe service delivery during the COVID-19 pandemic, with the additional complexity of continuing the service during the HSE cyberattack.

#### PLANS FOR 2022

- Due to the high volume of referrals internally and nationally, a new triage system will be implemented to expedite appointments for patients who have never achieved a prior successful pregnancy
- Further service audits are planned for other aspects of the Recurrent Pregnancy Loss Service











## **Fetal Medicine Service**

#### **HEAD OF SERVICE**

**Prof. Fionnuala Breathnach,** Consultant Maternal Fetal Medicine Specialist

#### **STAFF**

Dr. Carole Barry, Maternal Fetal Medicine Specialist

Prof. Fionnuala Breathnach, Maternal Fetal Medicine Specialist

Dr. Sharon Cooley, Maternal Fetal Medicine Specialist

Prof. Sean Daly, Maternal Fetal Medicine Specialist

Dr. Jennifer Donnelly, Maternal Fetal Medicine Specialist

Dr. Karen Flood, Maternal Fetal Medicine Specialist

Prof. Michael Geary, Maternal Fetal Medicine Specialist

Dr. Maria Kennelly, Maternal Fetal Medicine Specialist

Dr. Etaoin Kent, Maternal Fetal Medicine Specialist

Prof. Fergal Malone, Maternal Fetal Medicine Specialist

Dr. Sieglinde Mullers, Maternal Fetal Medicine Specialist

Ms. Mabel Bogerabatyo, Fetal Sonographer

Ms. Fiona Cody, Fetal Sonographer

Ms. Suzanne Gillen, Fetal Sonographer

Ms. Aisling Graham, Fetal Sonographer

Ms. Linda Hughes, Fetal Sonographer

Ms. Laura McBride, Fetal Sonographer

Ms. Deirdre Nolan, Fetal Sonographer

Ms. Avril O'Connor, Fetal Sonographer

Ms. Gemma Owens, Fetal Sonographer

Ms. Gloria Guiteras Petibo, Fetal Sonographer

Ms. Roberta Saullo, Fetal Sonographer

Ms. Irene Twomey, Fetal Sonographer

Ms. Fionnuala Nugent, Midwife Manager

Ms. Jane Dalrymple, Midwifery

Ms. Nollaig Kelliher, Midwifery

Ms. Joan O'Beirnes, Midwifery

Ms. Suzanne Larkin, Administrator

Ms. Mary Maguire, Administrator

Ms. Anita O'Reilly, Administrator

Ms. Louise O'Reilly, Medical Social Worker

Ms. Ann Charlton, Chaplain

#### SERVICE OVERVIEW

The Rotunda Fetal Medicine Service has witnessed substantial change during 2021. With the appointment of Prof. Sean Daly and Dr. Sieglinde Mullers, this service has become the largest fetal medicine division in Ireland, attracting referrals for advanced fetal medicine services from across the country.

While the consultant-provided fetal medicine expertise focuses on the diagnostic and fetal therapeutic programmes dedicated to the most complex cases, all women booked for prenatal care at the Rotunda are offered sonographer-provided, accurate early pregnancy dating ultrasound, as well as availing of universal access to detailed midtrimester fetal anatomy ultrasound. The Fetal Medicine Service therefore delivers the prenatal imaging requirements for all pregnancies registered at the Rotunda, in addition to specialised services for complex fetal conditions from maternity units across the country.

The COVID-19 pandemic continued to affect the delivery of fetal medicine services throughout 2021, and exposure-minimisation protocols that were invoked at the beginning of the pandemic were continued throughout the year. These measures included the continued use of personal protective equipment, social distancing measures, restricted partner attendance and limitations on screening ultrasound time. In the case of complex fetal medicine cases, in particular when a fetal abnormality was present, partners were accommodated for attendance at all relevant ultrasound examinations and prenatal consultations. It is a testament to the outstanding expertise and commitment of the fetal medicine sonographers and specialists that no case of major structural abnormality requiring urgent neonatal intervention was missed throughout 2021.

#### **CLINICAL ACTIVITY**

2021 represented the busiest year on record for the Fetal Medicine Service. The categories of fetal ultrasound examinations performed are presented in Table 1.

#### **TABLE 1: CLINICAL ACTIVITY**

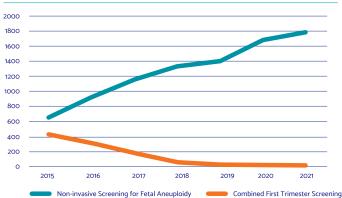
Clinical Activity	2017	2018	2019	2020	2021
Booking ultrasound examinations	6,054	6,401	6,351	6,776	6,261
Fetal anatomic survey (20-22 weeks)	8,296	9,016	8.710	8,524	8,452
Fetal growth assessment	11,067	14,843	14,961	14,822	15,860
Fetal echocardiography	379	289	278	260	304
Total ultrasound examinations	25,796	30,549	30,300	30,382	30,877

In 2021, on average, 118 formal ultrasound examinations were performed by the fetal medicine service every day.

#### PRENATAL SCREENING & DIAGNOSIS SERVICES

The Rotunda Hospital remains Ireland's busiest provider of services for prenatal screening and diagnosis of fetal abnormalities (including fetal chromosomal aneuploidy) and facilitates patients from all maternity units in Ireland. In 2021, a record 1,781 new patients attended for fetal aneuploidy screening.

#### FIGURE 1: NON-INVASIVE SCREENING FOR FETAL ANEUPLOIDY



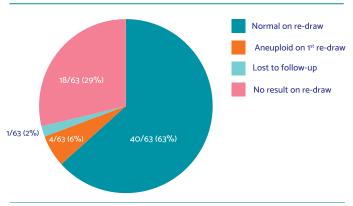
The mainstay of fetal aneuploidy screening remains non-invasive prenatal screening (NIPS) using cell-free fetal DNA testing in the maternal blood. The vast majority of NIPS testing was carried out in the first trimester, with 95% of samples returning a low-risk result with first sampling, and 4% of women requiring a re-draw to obtain a result. Approximately 1% of NIPS results were abnormal, as summarised in Table 2.

#### **TABLE 2: NON-INVASIVE PRENATAL SCREENING RESULTS** (N = 1,781)

NIPS Result	Number	Confirmed with Invasive Test	Pregnancy Termination
Low-risk at first blood draw	1,690 (95%)	N/A	N/A
High Risk for Trisomy 21	15 (0.8%)	12/15 (80%)*	12/15 (80%)*
High Risk for Trisomy 18	4 (0.2%)	2/4 (50%)**	2/4 (50%)**
High Risk for Trisomy 13	0	N/A	N/A
High Risk for Monosomy X	2***	1/2	0/2
High Risk for Triploidy#	2 (0.1%)	0/2	0/2
Atypical Findings	6 (0.3%)	4/6 (67%)	1/6 (17%)****
No result with first NIPS sample	63 (4%)	N/A	N/A

- \* Among 3 patients who did not undergo a confirmatory invasive test, one patient miscarried, one delivered elsewhere and one pregnancy was liveborn (Trisomy 21 confirmed at birth)
- \*\* Among 2 patients who did not undergo confirmatory invasive test for Trisomy 18, one underwent confirmatory testing overseas and one pregnancy resulted in stillbirth (Trisomy 18 confirmed postmortem)
- \*\*\* One case of mosaic monosomy X and one case of terminal deletion X chromosome confirmed postnatally
- # Both cases of 'High risk for triploidy' were in the context of normal ultrasound examination and were attributed to 'vanishing twin', with normal outcome confirmed
- \*\*\*\* Among NIPS reports of 'Atypical Findings'; one patient had Trisomy 18 identified on amniocentesis, 2 patients were lost to follow-up, two were normal at delivery and one had a DNA copy loss (XP22.31) that was inherited from the mother and one patient has not yet delivered (normal ultrasound examination)

FIGURE 2: OUTCOME OF NON-INVASIVE PRENATAL SCREENING (NIPS) IN WHICH THE INITIAL BLOOD SAMPLE DID NOT RETURN AN INFORMATIVE RESULT (N = 63)



Among the 18 women for whom a second NIPS sample did not provide an informative result (1% of population who opted for NIPS), four women had an aneuploid diagnosis identified with amniocentesis (2 cases of triploidy and 2 cases of Trisomy 18), two women had invasive testing that returned a normal result but in the setting of multiple ultrasound-identified structural fetal abnormalities, one miscarriage occurred, one woman was lost to follow-up and there have been eight normal pregnancies (five of whom are delivered, and three were ongoing but with no identified abnormality). Therefore, we have observed at least a 39% (7/18) risk of abnormal pregnancy outcome in this subgroup of women who have repeated failure of NIPS testing.

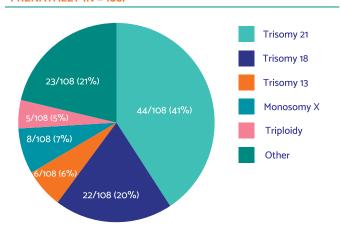
#### FIGURE 3: INVASIVE PRENATAL DIAGNOSTIC PROCEDURES



A greater number of invasive diagnostic tests (both amniocentesis and chorionic villus sampling) were performed than in any prior year. All cordocentesis procedures (N = 11) were performed in the context of suspected fetal anaemia and proceeded with intrauterine fetal transfusion. Among the total of 282 invasive diagnostic procedures

performed in 2021, 38% (108) resulted in abnormal fetal genetic reports. The most common prenatal genetic diagnoses are reflected in Figure 4.

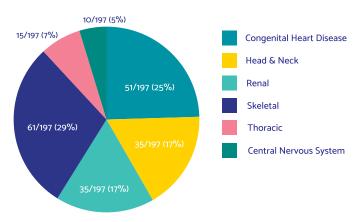
FIGURE 4: FETAL GENETIC ABNORMALITIES DIAGNOSED PRENATALLY (N = 108)



## PRENATAL DIAGNOSIS OF MAJOR FETAL STRUCTURAL ABNORMALITY

191 cases of major structural fetal abnormalities were detected prenatally in 2021. While many fetuses had multiple involved organ systems, the results described in Figure 5 relate to the most dominant anatomic problem.

## FIGURE 5: MAJOR FETAL STRUCTURAL ABNORMALITIES DIAGNOSED PRENATALLY (N = 197)



#### **FETAL SURGERY**

During 2021, two cases of fetal congenital diaphragmatic hernia were managed through collaboration with the fetal surgery team in Leuven, Belgium. These patients underwent pioneering Fetoscopic Endotracheal Tracheal Occlusion (FETO) procedures, with both women ultimately returning to Ireland following successful treatment and delivered their babies at the Rotunda.

Since 2010, the fetal surgical teams at the Rotunda Hospital Dublin and the National Maternity Hospital 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 2021, a total of 17 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 17 pregnancies, six resulted in survival of both fetuses, and nine resulted in survival of one fetus. Overall 21/34 babies (62%) survived. By the end of 2021, the group had treated 262 fetuses with laser surgery for severe TTTS, with at least one survivor occurring in 79% of cases (207/262). 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.

#### **FETAL CARDIAC SERVICE**

The 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. In 2021, the Fetal Medicine Service performed 304 targeted fetal echocardiography examinations in addition to the standard fetal cardiac examination (4-chamber view and outflow tracts) that is integral to the fetal anatomy scan offered to all women at the Rotunda at 20-22 weeks' gestation. Throughout the early stages of the COVID-19 pandemic, rationalisation of the prenatal screening programme for congenital heart disease was required. However, by early 2021, a full screening service had resumed.

Women who attend the Fetal Cardiology Service are supported by multidisciplinary input from the Rotunda Fetal Medicine Service, the Paediatric Cardiac Liaison Service at Children's Health Ireland, the Rotunda neonatology subspecialists, the Rotunda perinatal palliative care clinicians, a dedicated social worker (Louise O'Reilly) and by the invaluable pastoral support offered by Ms. Ann Charlton.

All cases (N = 12) of duct-dependent critical congenital heart disease were diagnosed in the prenatal period, with no case of missed prenatal diagnosis. This is the group that is recognised to benefit most from prenatal detection, which allows for pre-delivery planning for immediate neonatal cardiac care. The prenatal detection of these critical lesions is the most meaningful metric for evaluating the success of this service. Despite the substantial constraints on scanning services during 2021, the fact that no baby was born at the Rotunda who had a duct-dependent cardiac abnormality that was not detected prenatally, reflects the stellar calibre and expertise of the fetal sonographers at the Rotunda Hospital.

## TABLE 3: PRENATAL DETECTION OF CONGENITAL HEART DISEASE

	2016	2017	2018	2019	2020	2021
Hypoplastic left heart disease	6	9	3	5	5	8
Hypoplastic right heart disease	5	7	4	2	3	3
Complete AVSD	2	5	3	4	2	6
Isolated VSD*	12	15	18	4	11	6
Tetralogy of Fallot / DORV	3	7	5	9	8	2
Transposition of great arteries	5	5	6	6	6	3
Aortic coarctation / interrupted arch / double arch	2	6	2	6	5	2
Truncus arteriosus	1	0	1	0	0	0
Isolated right-sided aortic arch	1	0	2	2	4	9
Ebstein's anomaly	0	1	0	1	0	0
Systemic vein anomalies	4	1	0	0	1	1
Arrhythmia	3	2	5	2	3	2
Cardiac tumours	0	0	1	0	1	1
Miscellaneous**	0	0	2	3	2	8
TAPVD	0	0	0	1	0	0
TOTAL	44	58	52	45	50	51

(AVSD) atrioventricular septal defect; (VSD) ventricular septal defect; (TAPVD) total anomalous pulmonary venous drainage

\*The majority of isolated VSDs are not referred to the multidisciplinary fetal cardiology service, but rather are evaluated for aneuploidy and a postnatal echocardiogram is planned in the event of abnormal neonatal examination \*\*Miscellaneous includes three cases of isolated pulmonary valve stenosis, four cases of cardiomyopathy and one case of tricuspid valve dysplasia

#### PLACENTA ACCRETA SPECTRUM SERVICE

The Placenta Accreta Spectrum (PAS) Service incorporates a joint obstetric, medical, surgical, midwifery and allied health professional expertise across the Rotunda Hospital, the National Maternity Hospital, the Mater Misericordiae University Hospital and St. Vincent's University Hospital. The aim is to ensure a multidisciplinary approach to management of patients and their families affected by PAS (including caesarean scar pregnancy) in order to optimise outcomes for women affected by these rare and challenging conditions. All patients have detailed placental examination by fetal medicine specialists which may include 3D examination of the placental-bladder interface. MRI imaging is also performed.

During 2021, eight women were diagnosed prenatally with PAS in the Rotunda. There were no intra-operative findings of PAS that had not been suspected prenatally. Five of these eight cases were referred from other hospitals and three were internal referrals from within the Rotunda. Of these eight cases, five had a planned elective caesarean

delivery and three required an emergency delivery (two because of antepartum haemorrhage and one because of preterm premature rupture of the membranes. The mean gestational age at delivery was 33 weeks (range 26-36 weeks). One quarter of the women (2/8) underwent uterine conserving surgery, while the remaining six women underwent a caesarean hysterectomy. Mean blood loss was 2,100mls (range 500-4,800mls), with four of the women requiring a blood transfusion. All women had a combination of general anaesthesia, supplemented by epidural placement for post-operative analgesia. One woman had a cystotomy done intra-operatively which was repaired with no long-term complications. There were otherwise no complications. One woman was delivered emergently outside of the Rotunda/MMUH.

Interventional radiology is being increasingly used for the management of PAS cases and was used in two cases during 2021. This involved the placement of an aortic balloon peri-operatively to minimise blood loss during surgery. There was a histological diagnosis of PAS in all women.

In addition to the women seen with PAS, three women were diagnosed with caesarean section scar ectopic pregnancy. One was managed successfully with medical management and two underwent surgical management.

#### **MULTIPLE PREGNANCY SERVICE**

In 2021 a dedicated consultant-delivered Monochorionic Multiple Pregnancy Service was established at the Rotunda. This service was established in recognition of the high-risk nature of monochorionic twins, and the requirement to optimise screening for complications such as selective fetal growth restriction, twin-twin transfusion syndrome (TTTS) and twin anaemia polycythaemia sequence (TAPS). There were 49 complex monochorionic pregnancy cases seen in the Fetal Medicine Service, including 42 sets of twins and seven sets of triplets.

All patients with a monochorionic pregnancy are now provided with their complete antenatal care in the Fetal Assessment Unit every 2 weeks from 16 weeks' gestation until delivery. This enables an efficient comprehensive maternal and fetal review at each visit and minimises the number of return visits for patients.

#### PRETERM BIRTH PREVENTION SERVICE

The Rotunda Preterm Birth Prevention Service is led by consultants Dr. Etaoin Kent and Prof. Sean Daly, providing enhanced pregnancy surveillance for patients who have previously experienced a preterm birth or who have another particularly high-risk condition for preterm birth. Evidence-based interventions to reduce the chance of preterm birth are provided, including progesterone supplementation and cervical cerclage surgery when clinically appropriate. In 2021, a total of 185 new patients attended this service, with an additional 622 patients having follow-up assessments for preterm birth risk prediction.

#### PERINATAL GENETICS SERVICE

Dr. Karen Flood is the consultant sub-specialist who is the clinical lead for perinatal genetics. The number of invasive prenatal diagnostic tests performed at the Rotunda is increasing despite the increased uptake of NIPS, likely as a result of the Rotunda's national leadership role in this regard as the hospital accepts referrals for its perinatal genetics service irrespective of patients' geographic location. Samples for genetic testing are sent to one of the most reputable genetics laboratories internationally, which is based in London. Currently, the genetics testing protocol is to perform both PCR and microarray in all cases. The only exception to an automatic reflex microarray test is when there an abnormal PCR result is found in the setting of a clear ultrasound abnormality. In an effort to streamline resources, conventional prenatal karyotyping is only specifically requested in the setting of recurrent aneuploidy or significant family history of fetal anomalies. Whole exome sequencing is also performed in select cases in which multiple fetal anomalies are present but with normal PCR and microarray. Appropriate subspecialist clinical genetics back-up is provided as needed by the genetics laboratory based in London.

The benefit of achieving a prenatal genetic diagnosis extends beyond the management of the index pregnancy. Counselling about future prognosis, recurrence and future pregnancy planning is very important. Clinical genetics subspecialists from the Department of Clinical Genetics, Children's Health Ireland (CHI) at Crumlin, have been extremely helpful in support of the Rotunda's patients to address these specific issues. It is hoped to expand the genetics team based at the Rotunda in the near future, which will greatly increase the range of perinatal genetics services available on site. In order to specify the future needs of perinatal genetics services in Ireland, the Rotunda is participating with Prof. Sally Ann Lynch, consultant in clinical genetics from CHI at Crumlin, in a scoping study to help develop a coordinated national perinatal genetics service.

#### WEEKLY MULTIDISCIPLINARY TEAM CONFERENCES

A weekly Multidisciplinary Team (MDT) meeting is of critical importance to the work of the Fetal Medicine Service. This meeting is attended by clinicians from the Fetal Medicine Service, together with the Neonatology Service, and a range of additional paediatric subspecialists as needed, to discuss and plan the perinatal management of individual complex cases. The case-specific and individualised perinatal management strategies formulated at this meeting are highly valued by the Fetal Medicine Service. Case details including prenatal imaging are reviewed at this forum, with anonymisation of patient details. During 2021, 328 case discussions were conducted at this meeting, with documentation of the outcome of resultant management plans being placed in each patient's MN-CMS electronic healthcare record.

Included in this forum are discussions relating to any requests by patients to terminate a pregnancy with a prenatal diagnosis of fatal fetal abnormality. This MDT forum plays a pivotal role in determining whether an individual case fulfils criteria for pregnancy termination under the provisions of the Health Act 2018. During 2021, 67 patients

attending the Fetal Medicine Service opted for termination of pregnancy for fetal abnormality. Seven of these patients availed of termination under Section 12 of the Health (Regulation of Termination of Pregnancy) Act (less than 12 weeks' gestational age), 34 patients underwent pregnancy termination for fatal fetal abnormality (Section 11 of the Health Act), and the remaining 26 patients travelled to another jurisdiction for pregnancy termination.

The vast majority of patients at the Rotunda who receive a prenatal diagnosis of a serious fetal abnormality continue with their pregnancy. These patients then receive their prenatal care and follow-up postnatal care in a streamlined manner through the Fetal Medicine Service, including for those women who travelled overseas for treatment.

#### **SUCCESSES & ACHIEVEMENTS 2021**

- Two new consultant subspecialists in maternal-fetal medicine, Dr. Seiglinde Mullers and Prof. Sean Daly joined the Fetal Medicine Service in 2021, further developing the complex Multiple Gestation Service and the Preterm Birth Prevention Service
- The Journey Initiative is a holistic and supportive model of care to help couples coping with the experience of a difficult pregnancy journey. Parents' feedback over the last few years at the Rotunda inspired the Journey Initiative, which offers a mechanism for emotional support, guided by specialist midwives. Feedback from supported parents has been tremendously positive, and has been made possible by funding generously donated by the Rotunda Foundation

#### **CHALLENGES 2021**

The HSE cyberattack of May 2021 resulted in a requirement to issue hand-written ultrasound reports for an initial 3-week period, as the ultrasound-reporting software was not accessible. Images were archived locally for each ultrasound machine during this time. Maintaining the safe provision of a comprehensive prenatal ultrasound service was extraordinarily challenging during the eight-week period before IT services were fully restored.

Maintaining an adequate complement of staff proved particularly challenging during the COVID-19 pandemic. On many occasions, staff were absent because of COVID-19 reasons, thereby significantly increasing the workload impact on remaining staff.

#### PLANS FOR 2022

A major goal for the Fetal Medicine Service in 2022 will be to continue to evolve without the leadership of Dr. Carole Barry, who retired in 2021. The Fetal Medicine Service owes its success and reputation for excellence in fetal medicine in no small part to her leadership, mentorship and vision. The entire Rotunda community owes her a debt of gratitude, and we wish her the fulfilling retirement that she rightly deserves

- Fetal Medicine sonographers will provide the initial 'Booking' ultrasound examination in a dedicated ultrasound suite for semi-private patients
- Continued upgrading of all ultrasound equipment
- First National Fetal Cardiac Study Day/Masterclass planned for April 2022 in RCSI
- The Fetal Medicine Service will plan for a relocation to a dedicated Fetal Medicine Suite in the new building in Parnell Square in 2022

## **Bereavement Support and Chaplaincy Services**

#### **HEAD OF SERVICE**

Dr. Siggy Mullers, Consultant Obstetrician Gynaecologist

#### **STAFF**

Ms. Trish Butler, Clinical Midwife Manager

Ms. Ann Charlton, Hospital Chaplain

Ms. Clare Naughton, Medical Social Worker

Ms. Aisling Rooney, Administrative Assistant

#### **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 provides a range of services through the Bereavement, Recurrent Pregnancy Loss, and Fetal Medicine Services to afford bereaved parents the necessary support to meet their individual needs.

The Bereavement Specialist Midwife co-ordinates the Bereavement Service Team and is an advocate for all bereaved parents. This includes ensuring all relevant multidisciplinary medical and nursing/midwifery team members within the hospital and in the community are involved and engaged as required with the patient's and family's care when a baby has died. The specialist midwife is also responsible for coordinating and arranging appropriate follow-up appointments for all bereaved patients. The specialist midwife is also available to all patients in a subsequent pregnancy and can arrange an EPAU appointment, timely booking visit and referral to any other service as necessary.

The ongoing COVID-19 pandemic during 2021 continued to present challenges to the Bereavement Service which included a reduction in available staff in the service due to redeployment and staffing prioritisation needs. The service continued to adapt as needed and to be as creative as possible to ensure individualised, sensitive, and compassionate care was offered to the families in need.

On-site and face-to-face education sessions remained suspended during the year due to the ongoing COVID-19 pandemic. However, an online suite of bereavement education sessions in collaboration with the Centre for Midwifery Education continued to be available.

#### **ACTIVITY**

Activity continues to increase in the Bereavement Service as demonstrated in Table 1:

# TABLE 1: NUMBER OF PERINATAL LOSS CASES REQUIRING BEREAVEMENT SERVICE SUPPORT FOR BURIAL OR CREMATION

2017	183
2018	209
2019	223
2020	242
2021	268

The Bereavement Service also engages with many other patients who have an early pregnancy loss when there are no identifiable fetal remains as appropriate. The Service engages with patients as required and appropriate, which can extend from the antenatal period through to the postnatal period.

#### **SUCCESSES & ACHEIVEMENTS 2021**

A new clinical lead for the Bereavement Service, Dr. Siggy Mullers, was appointed in 2021. This welcome appointment will enhance the development of service provision in response to identified needs of bereaved families.

The work of the hospital is greatly assisted by the chaplains and ministers who are available to offer support to patients and staff alike. A particular word of thanks goes to the Dominican community from St. Saviour's Church in Dominic Street for their dedicated pastoral support to parents and babies which is very much appreciated.

Despite the COVID-19 pandemic, thankfully the hospital was able to hold its Annual Service of Remembrance for 2021. Due to increasing numbers attending the service, and to optimise COVID-19 guidelines, the much larger venue of St. Saviours' church in Dominick Street was utilised very effectively.

The Rotunda's formal Books of Remembrance remained available for viewing and reflection for family members by appointment throughout the pandemic.

#### **PLANS FOR 2022**

It is hoped that the full range of more traditional face-to-face support services provided for many years to families by the Bereavement Service will return in 2022, as general population vaccination rates and declining COVID-19 numbers allow a return to usual hospital practice.

## **Maternal Medicine Service**

#### **HEAD OF SERVICE**

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

#### STAFF

**Dr. Maria Kennelly,** Consultant Obstetrician Gynaecologist/Maternal Fetal Medicine, Rotunda

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

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

Prof. Ann Brannigan, Consultant Colorectal Surgeon, Rotunda and MMUH

Dr. Tony Geoghegan, Consultant Radiologist, MMUH

Dr. Barry Kelleher, Consultant Gastroenterologist, Rotunda and MMUH

Dr. Damien Kenny, Consultant Congenital Cardiologist, MMUH

Prof. Leo Lawler, Consultant Radiologist, MMUH

**Dr. Colm Magee**, Consultant Nephrologist, Rotunda and Beaumont Hospital **Prof. Conán McCaul**, Consultant Anaesthesiologist, Rotunda and MMUH **Prof. Fionnuala Ní Áinle**, Consultant Haematologist, Rotunda and MMUH **Dr. Patrick Thornton**, Consultant Anaesthesiologist, Rotunda and MMUH

Prof. Kevin Walsh, Consultant Congenital Cardiologist, MMUH

Dr. Claire McCarthy, RCPI Fellow in Maternal Medicine

Ms. Suzanna Byrne, Clinical Midwife Manager

Ms. Cathy O'Neill, Staff Midwife

Ms. Caroline Snowe, Staff Midwife

#### **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. This multidisciplinary team consists of a number of Rotunda-based consultants, together with consultants from our partner hospitals at the Mater Misericordiae University Hospital (MMUH) and Beaumont Hospital, for which the Rotunda is immensely grateful. The reports concerning obstetric/medical care for endocrine, infectious diseases and epilepsy are found elsewhere in the Annual Report.

During 2021, as the COVID-19 pandemic became ever more widespread, Rotunda staff from the maternal medicine service liaised with clinicians from partner non-maternity hospitals in the MMUH, Beaumont Hospital, and Connolly Hospital to provide guidance and inpatient care for pregnant and postpartum women with COVID-19.

#### **CLINICAL ACTIVITY**

#### MATERNAL MEDICINE CLINIC (COMMC)

A total of 1,216 patient encounters were managed at the Maternal Medicine Clinic, representing an 8% increase on 2020 clinical volume. This includes outpatient follow up of 12 women who had suffered severe maternal morbidity as a result of COVID-19 infection during pregnancy. Additionally, 53 telemedicine consultations were provided for relevant patients. Table 1 provides an overview of the range of medical diagnoses managed through the Maternal Medicine Clinic.

#### **TABLE 1: REASONS FOR ATTENDANCE**

Neurology	55
Multiple sclerosis	14
Stroke / transient ischaemic attack	10
Structural CNS	9
Epilepsy	3
Idiopathic intracranial hypertension	3
Cerebral palsy	2
Neurofibromatosis	2
Friedreich's ataxia	2
Myasthenia gravis	2
Miscellaneous	8

Rheumatology	54	
Rheumatoid arthritis	20	
Systemic lupus erythematosus	11	
Ankylosing spondylitis	5	
Sjogren's syndrome	3	
Mixed connective tissue disease	3	
Psoriatic arthritis	5	
Ehlers Danlos syndrome	3	
Miscellaneous	4	

Haematology	51
Current or previous venous thromboembolism	14
Platelet Disorder	14
Bleeding Disorder	6
Antiphospholipid syndrome	4
Factor V Leiden mutation	1
Other	12

Gastroenterology	44
Ulcerative Colitis	19
Crohn's disease	15
Other inflammatory bowel disease	1
Pancreatitis	2
Acute fatty liver	3
Portal vein thrombosis	1
Other	3

#### **TABLE 1: REASONS FOR ATTENDANCE (CONTINUED)**

Severe Maternal Morbidity	28
Complex COVID-19 during pregnancy	12
Surgical	7
Placenta accreta spectrum follow-up	5
Caesarean hysterectomy follow-up	1
Other postnatal follow-up	3

Oncology (Current or previous)	16	
Breast	7	
Lymphoma	6	
CNS	1	
Cervix	1	
Ovarian	1	

Pulmonary	14
Asthma	6
Sarcoidosis	3
Other	5

Renal	11
Single kidney	3
Nephritis	4
Hypertension	2
Pyelonephritis	1
Transplant	1

Complex Obstetric history	9

Fetal Medicine	6
Metabolic	5
Phenylketonuria (PKU)	2
Porphyria	2
Long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) deficiency	1

Dermatology	3
Endocrine	3

#### **TABLE 1: REASONS FOR ATTENDANCE (CONTINUED)**

Ophthalmology	3
Anaesthesiology	1
Genetics	1
Total	305

#### **MATERNAL MEDICINE MDT (MMMDT)**

The MMMDT is held every six to eight weeks at MMUH and provides a platform for multidisciplinary input into the management of women with complex backgrounds. A total of 118 women were discussed at the MMMDT in 2021, which was similar to the 2020 clinical throughput.

#### **CARDIAC OBSTETRIC CLINIC**

The Cardiac Obstetric Clinic is a subspecialist clinic in which obstetricians with expertise in maternal medicine collaborate with cardiologists with expertise in congenital heart disease to establish optimal multidisciplinary plans for care of pregnant patients with a significant cardiac background history. There were 476 patient encounters at the Cardiac Obstetric Clinic in 2021, which represented a 17% decrease compared with 2020. Table 2 gives an overview of the range of cardiac diagnoses managed at this specialist clinic. The non-cardiac cases include women referred with a possible cardiac issue where this was ruled out.

## TABLE 2: CARDIAC DIAGNOSES MANAGED DURING PREGNANCY

Arrythmia	53
Congenital heart disease	41
Non-Cardiac cases	19
Reviewed and discharged	17
Valvular heart disease	14
Aortic disease	9
Family history	9
Cardiomyopathy	7
Endocarditis	2
Coronary artery disease	1
TOTAL	172

#### **CARDIAC MDT**

The Cardiac MDT is held every six to eight weeks. It provides a forum for multidisciplinary discussion and delivery planning for women with complex congenital heart disease and other complex cardiac conditions. A total of 95 women were discussed at the Cardiac Obstetric MDT held at MMUH in 2021.

#### SUCCESSES & ACHIEVEMENTS 2021

The Maternal Medicine Service remains a national referral centre for optimising pregnancy care plans in women with complex congenital cardiac disease, lung and heart transplant and a range of other potentially serious medical diseases. In this regard, the team looked after patients from throughout Ireland in 2021.

The team continued to provide leadership in the care of pregnant women with COVID-19 through inpatient critical care service in non-maternity hospitals in the region, outpatient follow-up and ongoing education and contribution to local and national guidelines.

In collaboration with the Irish Medicines in Pregnancy Service (IMPS), the Maternal Medicine Service developed and disseminated national guidance for vaccination against COVID-19 in pregnancy which proved crucial for preventing more extensive severe maternal morbidity. Ireland had no pregnancy related deaths from COVID-19 in 2021. This collaborative team also provided the RCPI Medications in Pregnancy and Lactation Study Day in March 2021 which had over 200 attendees.

#### PLANS FOR 2022

- While the multidisciplinary support of a range of medical consultants is crucial for the Maternal Medicine Service, an important future plan is to develop the midwifery role to provide supportive holistic care for women during pregnancy who have medical conditions
- Developing and establishing a pregnancy pulmonary service, as well as a pregnancy neurology service with a planned joint appointment of a consultant neurologist between the MMUH and the Rotunda
- Further progression of Irish Medicines in Pregnancy Service
- Optimising the provision of interventional radiology support for the Rotunda from the MMUH team by means of a planned joint appointment of a consultant radiologist between MMUH and the Rotunda

## **Teenage Pregnancy Service**

#### **HEAD OF SERVICE**

Dr. Geraldine Connolly, Consultant Obstetrician Gynaecologist

#### **STAFF**

**Ms. Deborah Browne,** Clinical Midwife Specialist **Ms. Laura Feely,** Medical Social Worker

#### **SERVICE OVERVIEW**

For the 17<sup>th</sup> consecutive year, the Teenage Pregnancy Service at the Rotunda Hospital has continued to provide holistic care for teenage pregnant mothers up to the age of nineteen. The service also caters for a small number of other vulnerable young patients (such as those with additional medical or social needs) who may benefit from the continuity of care of a dedicated obstetrician, midwife, and their support services.

#### **CLINICAL ACTIVITY**

As demonstrated in Table 1 below, the number of new patients managed in the service over the past five years peaked in 2020 and reduced slightly in 2021.

#### **TABLE 1: CLINICAL ACTIVITY**

Year	No. of Patients
2017	90
2018	129
2019	126
2020	136
2021	119

The ethnic breakdown in 2021 remained similar to 2020, with 62% of patients being from Ireland. The Roma population continued to account for a significant portion of attendees (35%, n=41), which has increased significantly from 12% in 2017.

During their pregnancy, seven teenagers transferred care from the Rotunda to another obstetric unit. The care of an additional three patients was also transferred to the Fetal Medicine Service following the diagnosis of a serious fetal abnormality. These included Pierre Robin Syndrome, hypoplastic left heart syndrome and a fetus with unexplained ascites and cardiomegaly.

In addition to the patients who attended the service antenatally, there were three 17-year-old patients who presented to the Rotunda for the first time in labour, without having previously booked for care.

#### **TABLE 2: PREGNANCY OUTCOMES 2021**

Pregnancy Outcomes	Number*	%
Spontaneous vaginal delivery	74	68%
Operative vaginal delivery	23	21%
Caesarean delivery (elective)	3	3%
Caesarean delivery (emergency)	9	8%
Total Delivered in Rotunda	109	100%

\*Does not include patients three patients who were unbooked at the Rotunda and seven who were transferred to other hospitals

The overall caesarean delivery rate for 2021 was 11%, with one of these caesarean deliveries taking place in an adjacent general hospital following an eclamptic seizure at home. There was one neonatal demise, which was an infant born with hypoplastic left heart syndrome.

The Teenage Pregnancy Service also provides a postnatal clinic once monthly, offering appointments to patients at approximately six weeks postnatally. This is also a further opportunity to provide contraceptive advice. This clinic was attended by 17 of the 63 (27%) patients who were offered an appointment in 2021.

An essential part of the Teenage Pregnancy service is the dedicated support from the Medical Social Work Service. In 2021, 82% (97/119) of patients were provided with medical social work support during and after their pregnancy. Patients are referred following the identification of a particular need at the booking visit, or during subsequent appointments. Essential emotional and practical support is provided to patients with respect to parenting and relationship issues, education, and work support, as well as liaison with the social welfare department.

#### **SUCCESSES & ACHIEVEMENTS 2021**

- The Teenage Pregnancy Service Clinical Midwife Specialist qualified as a registered midwife prescriber in 2021
- Pregnancy information leaflets in the Roma language are now available for all relevant patients
- The telephone translation service remains particularly useful for the significant number of patients who cannot understand English
- Written information is provided to all patients on the nutritional requirements of pregnancy, and all have a ferritin measurement taken during pregnancy in order to identify iron-deficiency anaemia

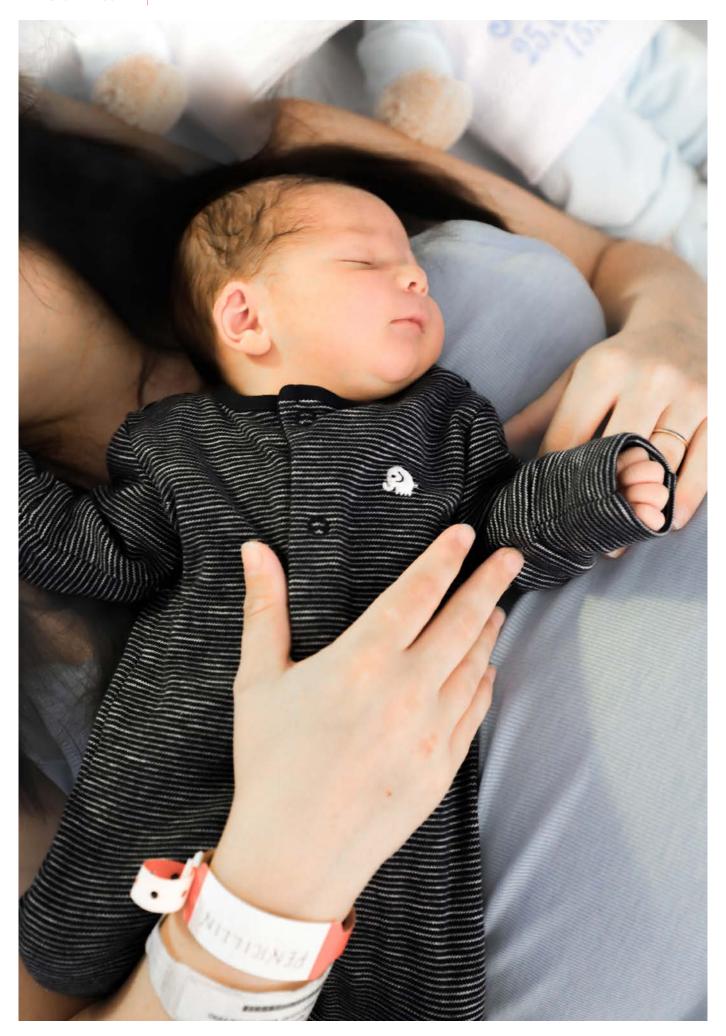
#### **CHALLENGES 2021**

The ongoing COVID-19 pandemic continued to pose challenges to the care of this group of patients. Limitations to accompanying persons at both antenatal clinics and as inpatients, in addition to limited

attendance at virtual antenatal classes has necessitated increased opportunistic education.

#### PLANS FOR 2022

Care bundles for the Teenage Pregnancy Service will be developed through the MN-CMS electronic healthcare record, with the particular goal of improving postnatal contraceptive uptake.





## **Combined Obstetric Endocrine Service**

#### **HEADS OF SERVICE**

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

#### **STAFF**

Ms. Jackie Edwards, Clinical Midwife Manager

Ms. Aileen Flemming, Clinical Midwife Manager

Ms. Rebecca Lanuze, Midwife

Ms. Alexandra Cunningham, Senior Dietician

Ms. Hilary Devine, Senior Dietician

Dr. Nicholas Kay Jay, Specialist Registrar Endocrinology

Dr. Catherine Finnegan, Clinical Research Fellow

Dr. Suzanne Smyth, Clinical Research Fellow

#### **SERVICE OVERVIEW**

The Combined Obstetric Endocrine service continues to provide focussed multi-disciplinary, single-site care for women with diabetes mellitus at the Rotunda Hospital. Information relating to patient characteristics, demographics, additional co-morbidities and perinatal outcomes are represented in Tables 1 to 4. Whilst uncomplicated gestational diabetes (GDM) patients that are treated by diet alone are managed in routine antenatal clinics, those that require insulin are managed through the Combined Obstetric Endocrine service and represent a large majority of numbers and workload attending this clinic.

With respect to the pre-gestational diabetic population, the incidence of hypertensive disorders, particularly preeclampsia, is in keeping with international data. When compared to 2020, the Type 1 diabetic population had a lower incidence of preeclampsia despite commencing pregnancy with a higher mean booking HbA1c. These patients are seen early in pregnancy, and monthly thereafter, reflecting a rigid and labour-intensive surveillance of this high risk population. Thankfully, the perinatal outcomes for those with pre-gestational diabetes remain excellent. There were no reported incidences of shoulder dystocia, stillbirth or neonatal death in this cohort. The caesarean delivery rate in both Type 1 and Type 2 pre-gestational diabetes remains high and consistent with previous years (over 60%). This likely reflects a higher intervention rate to avoid postdates pregnancy, and other comorbidities and compliance issues in this cohort.

Patients with MODY (Maturity Onset Diabetes of the Young) have been included within the pre-gestational diabetic group. Additionally, patients using continuous subcutaneous insulin infusion (CSII) pumps have been included. Patients with a diagnosis of MODY represented 7% of the pre-gestational diabetic group and are a diagnostic challenge as they can overlap with Type 1 or Type 2 phenotypes. MODY is an autosomal dominant condition with 50% of offspring being affected irrespective of ethnicity, body mass index (BMI), and lifestyle. Their neonates are also at risk of significant hypoglycaemia.

The use of continuous subcutaneous insulin infusion (CSII) pump therapy has become popular as part of management of pre-gestational diabetes in recent years, with 47% of the Type 1 diabetic cohort now using this as their principal form of therapy. CSII is now a recognised replacement to multiple daily insulin injections (MDI) especially when an individual on MDI has been unsuccessful in achieving the tight glycaemic control that is necessary for pregnancy, while not leading to problematic hypoglycaemia. In 2021, 11 of 23 Type 1 diabetic patients used CSII, with 10 of these 11 patients using sensor-augmented pumps providing continuous glucose monitoring. The remaining 12 of 23 Type 1 diabetic patients were managed with multiple daily insulin injections, nine of whom also availed of continuous glucose monitoring. Use of CSII has been shown to be more efficacious at controlling blood glucose levels at the time of delivery and this may also reduce rates of neonatal hypoglycaemia.

A total of 1,408 patients were diagnosed with GDM in pregnancy, representing a 15% increase compared with 2021. Fewer of these patients required additional therapy with metformin or insulin, thereby highlighting the success of the Rotunda's on-line antenatal education program for diabetes, which utilises webinars and remote access to diabetic educational resources. Unfortunately, there were two cases of stillbirth in the diet-controlled GDM group, neither of which were deemed to be related to the underlying GDM diagnosis. The first was a preterm delivery of a 580g baby that occurred at 22 6/7 weeks' gestation on a background of recurrent antepartum hemorrhages in the setting of a subchorionic hematoma first diagnosed early in the second trimester. The second stillbirth occurred at 32 weeks' gestation in a patient who had severe COVID-19 pneumonitis and multi-organ failure requiring Level 3 critical care and prolonged ICU admission.

#### **CLINICAL ACTIVITY**

The previously noted increase in the prevalence of pre-gestational and gestational diabetes continued in 2021, with this year being the busiest on record for the Combined Obstetric Endocrine Service. The service has seen an overall 9% increase in patient numbers attending the service compared with 2020, with the GDM cohort comprising the majority. An increase in patients with Type 2 diabetes has also been noted, which is consistent with similar trends already diagnosed nationally and internationally. In addition to diabetes management, a further 1,790 patients attended the Combined Obstetric Endocrine Service for thyroid dysfunction and management of other endocrinopathies.

TABLE 1: CLINICAL ACTIVITY OVERVIEW - DIABETES MELLITUS

	2017	2018	2019	2020	2021
Type 1	37	26	29	32	31
Type 2	24	25	55	24	34
MODY*					5
GDM Diet	756	674	856	1,040	1,193
GDM -Metformin				52	27
GDM- Insulin	218	289	325	223	188
TOTAL	1,035	1,014	1,265	1,371	1,488

\*Maturity Onset Diabetes of the Young

## TABLE 2: PRE-GESTATIONAL DIABETES - MATERNAL CHARACTERISTICS\*

CHARACTERISTICS			
	Type 1	Type 2	MODY
N	31	34	5
Mean age (years)	30.1	35.1	24
Mean duration (years)	14.4	2.8	8.8
Chronic hypertension	2/23 (9 %)	3/29 (10%)	0/5 (0%)
Retinopathy	17/23 (73%)	6/29 (21%)	3/5 (60%)
Nephropathy	2/23 (9%)	0/29 (0%)	0/5 (0%)
Neuropathy	1/23 (4%)	0/29 (0%)	0/5 (0%)
Preeclampsia	4/23 (17%)	3/29 (10%)	0/5 (0%)
Mean HbA1c booking (mmol/mol)	63.3	37.3	46.4
Mean HbA1c at delivery (mmol/mol)	39.6	25.8	37.4
Mean fructosamine at booking (umol/L)	337.2	178	266
Mean fructosamine at delivery (umol/L)	215.3	133	206
Mean Fructosamine at delivery (umol/L)	300	199	

<sup>\*</sup>Diabetic complications are expressed from ongoing viable pregnancies

## TABLE 3: PREGESTATIONAL DIABETES - PERINATAL OUTCOMES\*

	Type 1	Type 2	MODY
N	31	34	5
Spontaneous fetal loss < 24 weeks	7/31 (23%)	4/34 (12%)	0/5 (0%)
Delivered elsewhere	1/31 (3%)	1/34 (3%)	0/5 (0%)
N	23	29	5
Preterm delivery 24 0/7 to 36 6/7 weeks	5/23 (22%)	3/29 (10%)	1/5 (20%)
Liveborn	23/23 (100%)	29/29 (100%)	5/5 (100%)
Stillbirth	0/23 (0%)	0/29 (0%)	0/5 (0%)
Neonatal death	0/23 (0%)	0/29 (0%)	0/5 (0%)
Caesarean delivery	18/23 (78%)	14/29 (48%)	2/5(40%)
Mean gestational age at delivery (weeks)	36.4	37.6	37.6
Mean birthweight (g)	3,270	3,131	3,402
Macrosomia >95th centile	4/23 (17%)	3/29 (10%)	2/5 (40%)
Shoulder dystocia	0/23 (0%)	0/29 (0%)	0/5 (0%)

<sup>\*</sup>Expressed from ongoing viable pregnancies delivered at the Rotunda

#### **TABLE 4: GESTATIONAL DIABETES - PERINATAL OUTCOMES\***

	DIET CONTROLLED	INSULIN	METFORMIN
N	1,193	188	27
Mean age (years)	33.8	39.0	27.0
Delivered elsewhere	0/1,193 (0%)	1/188 (0.5%)	0/27 (0%)
Stillbirth	2/1,193 (0.2%)	0/187 (0%)	0/27 (0%)
Caesarean delivery	480/1,193 (40%)	158/187 (84%)	10/27 (37%)
Mean gestational age at delivery (weeks)	39.3	38.1	38.7
Mean (SD) birthweight (g)	3,430	4,216	3,521
Preeclampsia	27/1,193 (2%)	6/187 (3%)	0/27 (0%)
Shoulder dystocia	0/1,193 (0%)	3/187 (2%)	0/27 (0%)

<sup>\*</sup>Expressed from ongoing viable pregnancies delivered at the Rotunda

#### **SUCCESSES & ACHIEVEMENTS 2021**

#### **ENHANCING PATIENT CARE**

With the COVID-19 pandemic again dominating 2021, continued rationalisation of hospital visits was maintained for this large cohort of patients to ensure patient and staff safety. The midwifery-led remote monitoring service for the GDM cohort was a continued success and resulted in less visits for patients and less demand for face-to-face hospital services. This has enabled the expanded use of metformin as an additional treatment for the GDM group together with diet, resulting in less women requiring insulin therapy. Only 13% of patients with GDM in 2021 required insulin compared to 17% in 2020, which confirms the continued success of diet and lifestyle interventions together with metformin therapy. For GDM patients who required initiation of insulin therapy, 144 out of 188 (77%) were successfully initiated as outpatients. This was a significant achievement, which resulted in reduced footfall within the hospital during the COVID-19 pandemic, thereby increasing the availability of hospital beds for other more acute admissions.

#### **INNOVATION**

The RCSI Research team, led by Prof. Fionnuala Breathnach, continued its Horizon 2020 funded-work in developing innovative solutions for self-management of GDM and remote surveillance systems, using 'Big Data' solutions. The industrial partners for this project are Huawei® and Nissatech®, with the overarching 'Big Medilytics' project involving 12 pilot project work streams across Europe. This artificial intelligence approach to GDM care was recognised as being particularly valuable during the COVID-19 pandemic.

The IRELAND Study (Investigating the Role of Early Low-dose Aspirin in Diabetes), a HRB-funded clinical trial continues to recruit in five hospitals throughout Ireland and Dr. Suzanne Smyth continued her PhD thesis on the development of artificial-intelligence solutions for GDM care.

#### **EDUCATION & TRAINING**

The diabetes midwives continued to provide lectures and clinical skills workshops to undergraduate and postgraduate student midwives within the hospital environment and at Trinity College Dublin. They have also contributed to the bi-annual Tri-hospital Diabetes study day for staff of the three Dublin maternity hospitals. Specialist diabetes midwives also facilitate specialist diabetes placements for undergraduate students and have also established joint consultations with dietitian colleagues for Type 1 patients using CSII pumps.

#### **CHALLENGES 2021**

The persistence of the COVID-19 pandemic in 2021, in particular with the delta variant, posed a significant risk to the diabetic pregnant population. The successful roll-out of COVID-19 vaccination, and in particular the inclusion of diabetic pregnant patients as a high risk cohort, proffered many challenges. Education and reassurance of this patient cohort on the safety of vaccination in pregnancy was challenging.

The HSE cyberattack in May 2021 disrupted the Combined Obstetric Endocrine Service, preventing access to the MN-CMS electronic healthcare record. Inability to easily access diabetic patients' laboratory data and past insulin dosages was particularly challenging.

The incidence of GDM at the Rotunda continues to rise, which put a significant strain on medical, midwifery and allied health support resources.

The increasing use of CSII pumps was also challenging given how labour intensive they are by way of data output, interpretation of this output and monitoring by clinical specialist midwives.

Particularly high patient BMI values in the diabetic population continues to be a significant clinical challenge in this cohort, with greater extremes of adiposity being observed in this population.

#### PLANS FOR 2022

The Combined Obstetric Endocrine service aims to continue education and training of midwives to further expand and optimise the remote monitoring of the GDM population.

It is hoped that additional appointments, including that of an advanced nurse practitioner and other allied health professionals (dieticians, social work and clerical staff), are implemented in 2022, which will further enhance the service for an ever-expanding diabetic population.

Prof Breathnach continues to lead a team of researchers for the ongoing recruitment of Type 1 and Type 2 patients in a multicentre, HRB-funded randomized controlled trial, the IRELAnD Study (Investigating the Role of Early Low-dose Aspirin in Diabetes) which is due to be completed in 2022.

## **Infectious Disease Service**

#### **HEAD OF SERVICE**

Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

#### **STAFF**

Prof. Jack Lambert, Consultant in Infectious Diseases

Dr. Wendy Ferguson, ID Associate Specialist Paediatrician

Dr. Barry Kelleher, Consultant in GI/Hepatology

Ms. Mairead Lawless, ID Liaison Midwife

Mr. Justin Gleeson, Drug Liaison Midwife

Ms. Susan Finn, Medical Social Worker

#### **SERVICE OVERVIEW**

This 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. The clinic collaborates closely with allied agencies and specialties (including addiction services and inclusion health).

#### **CLINICAL ACTIVITY**

#### INFECTIONS IN PREGNANCY

In 2021, 166 women attended for antenatal care. This is a similar number to 2020 when 157 women attended.

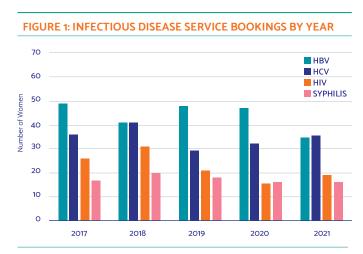
Of those attending the service, 103 were serology positive:

- 35 (33%) women were positive for Hepatitis B surface antigen, representing a decrease of 26% compared to 2020 (Fig 1)
- 33 (30%) women were positive for Hepatitis C antibody, an increase of 9% compared to 2020
- 19 (18%) were positive for HIV infection, an increase of 27% compared to 2020
- 16 (15%) women had positive treponemal testing for syphilis, which was equal to 2020
- Four women were co-infected HIV/Hep C, HIV/Hep B and Hep C/ syphilis

In addition, 103 women availed of the service provided by the Drug Liaison Midwife in 2021.

Furthermore, a number of women attend the clinic during the course of their antenatal journey for diagnosis and treatment of HPV, HSV, Chlamydia, Gonorrhoea and Mycoplasma Genitalium.

The numbers in the tables below refer to the number of births in the year, and therefore differ from the number of patients booked throughout the year.



otal Mothers Delivered <500g (incl. misc/TOP) x Twins)	3
Total Mothers Delivered >500g (1x Twins)	37
Live infants	38
Miscarriage (1x Twins)	3
Stillbirths	0
Infants < 37 weeks gestation	6
Infants ≥ 37 weeks gestation	32
Infants delivered by C-section	12
HBV-positive infants	0*
Maternal Data (n=40 – 2 delivered elsewhere)	
Median Age (years)	32
Newly Diagnosed this pregnancy	8

TABLE 2: DELIVERIES TO HCV-POSITIVE MOTHERS 2021			
Total Mothers Delivered <500g (incl. miscarriage/ TOP)	1		
Total Mothers Delivered >500g	34		
Live infants	34		
Miscarriage	0		
Stillbirths	0		
Infants <37 weeks gestation	6		
Infants ≥37 weeks gestation	29		
Infants delivered by C-section	13		
HCV-positive infants	0*		
Maternal Data (n=35)			
Median Age (years)	32		

Newly diagnosed this pregnancy

\*Final serology not yet available for all infants

TABLE 3: DELIVERIES	TO HIV-POSITIVE	<b>MOTHERS 2021</b>
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Total Mothers Delivered <500g (incl. miscarriage / TOP)	0
Total Mothers Delivered >500g	15
Live infants	15

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Live infants	15
Miscarriage	0
Stillbirths	0
Infants < 37 weeks gestation	2
Infants ≥ 37 weeks gestation	13
Infants delivered by caesarean	8
HIV-positive infants	0
Maternal Data (n=15)	
Median age (years)	32
Newly diagnosed this pregnancy	2

#### **TABLE 4: DELIVERIES TO SYPHILIS POSITIVE MOTHERS 2021**

Total Mothers Delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	14
Live infants	14
Miscarriage	0
Stillbirths	0
Infants < 37 weeks gestation	2
Infants ≥37 weeks gestation	12
Infants delivered by C-section	5
Syphilis positive infants	0
Maternal Data (n=14)	
Median age (years)	30
Newly diagnosed this pregnancy	4

#### DRUG LIAISON MIDWIFE (DLM) SERVICE

During 2021, 103 women were referred to the DLM service, including 39 women who had a history of opiate addiction and were engaged in an Opioid Substitution Treatment (OST, – primarily methadone) programme. A total of 60 women linked with the DLM delivered their babies in the Rotunda Hospital in 2021.

TABLE 5: DELIVERIES TO MOTHERS UNDER DLM SERVICE 2019-2021

	2019	2020	2021
Total mothers > 500g	56	56	60
Mothers on prescribed methadone programmes	33	30	35
Mothers on prescribed buprenorphine	0	2	4
HCV-positive mothers	17	13	19
HIV-positive mothers	0	1	2
Live infants	54	55	60
Stillbirths	3	1	1
Infants < 37 weeks gestation	13	13	12
Infants ≥37 weeks gestation	44	43	49
Infants delivered by caesarean	17	18	25
NICU admissions for NAS	11	21	17

NAS – Neonatal abstinence syndrome

#### INFECTIOUS DISEASE MEDICAL SOCIAL WORK

The medical social worker for the Infectious Disease Service provides emotional and practical support to women attending the specialist clinic. The social worker liaises closely with the Drug Liaison Midwife, the Infectious Disease Midwife and the consultants to provide a comprehensive service for patients. Where required, the medical social worker referred patients to Tusla - Child and Family Agency, and other

community services to ensure patients and their babies had appropriate supports in place. In 2021, 48 women were referred to Tusla, which was similar to the 51 referrals in 2020.

The Medical Social Worker works in partnership with parents, Tusla and other relevant agencies over a number of months to ensure a baby's safe discharge. Only in exceptional cases, should children be separated from their parents after all alternative means of protecting them have been exhausted. The following actions were the outcome of Tusla social work involvement:

- 33 Discharge Safety Planning Meetings
- 24 Child Protection Case Conferences
- 5 babies placed in foster care under an Interim Care Order
- 4 babies placed in a foster care placement under a voluntary care order
- 4 babies placed in care under a private family care placement
- 7 mothers required to return under the supervision of a non-drug using relative or agency for a period of time until stability was assured
- 5 mothers admitted to a mother and baby unit/parent assessment unit arranged by Tusla

#### PAEDIATRIC INFECTIOUS DISEASE CLINIC

Infants of mothers with positive serology 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. In 2021, a total of 237 infants and children attended the paediatric infectious disease clinic for monitoring and outcome. However this number may be an under representation due to the HSE cyberattack in May 2021 which interrupted electronic charts and patient administrative systems, as 280 were referred in 2020.

#### **SUCCESSES & ACHIEVEMENTS 2021**

#### **EDUCATION & TRAINING**

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

The ID Liaison Midwife provides in-service education sessions for all clinical staff. She also lectures on Infectious Diseases in Pregnancy to undergraduate and postgraduate midwifery students annually.

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

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 Prof. 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 2021 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 specialist registrar study days and the Diploma in Primary Care Paediatrics.

Many of these educational activities were delivered through on-line platforms over 2021, in response to the challenges of the COVID-19 pandemic.

#### **ENHANCING PATIENT CARE**

Despite the impact of the COVID-19 pandemic, 2021 saw a sustained collaboration with inclusion health (Safetynet) to enhance patient care. This enabled provision of vaccination (including COVID-19 vaccination) and contraception on-site in the clinic. There has been a good uptake of both services. As well as delivering on recommendations of the Rotunda Hospital Strategic Plan and the National Maternity Strategy, this initiative fits with many of the fundamental recommendations of Slaintecare reform, including that patients can 'access (free) care .with a strong emphasis on prevention and public health', by receiving 'right care, right place, right time'.

A number of members of the team have collaborated to enhance maternal and neonatal care in the context of perinatal infection – Dr. Ferguson was the Paediatric Infectious Diseases representative on the national COVID-19 in Pregnancy Guideline Development Group. Dr. Ferguson continues to participate in the European Congenital CMV Network which is a collaboration of paediatricians aimed at improving diagnosis and management of congenital CMV.

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

#### **CHALLENGES 2021**

The number of women attending the Infectious Diseases Service with HIV and HCV increased in 2021, although numbers booking with HBV reduced (which may demonstrate the impact of HBV vaccination). Since Autumn 2021, routine screening for HCV has been introduced for all patients in pregnancy at the Rotunda. This is an excellent development due to the availability of effective HCV treatment which can be instituted postpartum, and this may account for the apparent increase in numbers booking with HCV.

Furthermore, the Infectious Disease Service and allied agencies need to adapt and respond to evolving patterns of addiction. With increasing numbers of women being prescribed buprenorphine (rather than methadone) for the Opioid Substitution Treatment programme, we

need to revise inpatient prescribing and ensure adequate pharmacy supplies of buprenorphine.

Furthermore, while there are excellent inpatient stabilisation services for pregnant women with opiate and benzodiazepine addiction, it is a challenge to provide similar settings for women with alcohol addiction. The HSE alcohol programmes are preparing a position paper on prevention of Fetal Alcohol Spectrum (FAS), which includes advocacy for consistent education and supports in this regard. We look forward to being sustained contributors to these solutions.

#### PLANS FOR 2022

In 2022, the Infectious Disease Service will expand its collaboration with Safetynet, to embed accessible contraceptive advice within the Service and to deliver funded long-acting reversible contraception (LARC). Furthermore, it is planned to improve attendance rates for postnatal contraception by identifying and mitigating specific barriers to attending. Commitment in the Programme for Government to provide free contraception for women, starting in 2022 with the 17-25 age cohort will enable cost-effective expansion of this service.

The Service is also exploring routes to enhance vaccination uptake and to expand its vaccination clinic to other clinical areas within the hospital. On-site hospital development aims to include provision of a consultation room within the Pharmacy Service, where vaccination could be more easily delivered.



## **Epilepsy Service**

#### **HEAD OF SERVICE**

Dr. Nicola Maher, Consultant Obstetrician Gynaecologist

#### **STAFF**

Ms. Sinead Murphy, Advanced Nurse Practitioner (ANP) in Epilepsy

#### **SERVICE OVERVIEW**

The Epilepsy Service at the Rotunda is part of the Rotunda's maternal medicine service. While most women with epilepsy have healthy seizure free pregnancies, epilepsy has regularly featured in maternal mortality reports, such as MBRRACE. The need to provide women with epilepsytailored multidisciplinary care has long been recognised. Many patients with epilepsy are diagnosed in their teenage or young adult years. They may have not experienced a seizure for some time and have often disengaged with specialist follow-up. Pregnancy is an ideal opportunity to re-visit patients' care from an epilepsy point-of-view and to ensure that they are linked with a local neurology service. Ideally all patients with epilepsy planning a pregnancy should have the opportunity to avail of preconceptional counselling.

The Epilepsy Service is staffed by Dr. Nicola Maher, Consultant Obstetrician Gynaecologist, and Ms. Sinead Murphy, Advanced Nurse Practitioner in Epilepsy, providing antenatal care for the duration of pregnancy to all women with a confirmed or suspected diagnosis of epilepsy. Close links exist with the Beaumont Hospital and Mater Misericordiae University Hospital (MMUH) Neurology Services. Additionally, the Irish Medicines in Pregnancy Service (IMPS) which is based at the Rotunda, offers valuable support to the clinic in terms of optimising safe medication use for epilepsy management during pregnancy.

#### **CLINICAL ACTIVITY**

A total of 122 women attended the epilepsy clinic in 2021, a 15% increase compared with 2020. 11 of these were women who received a single telemedicine consultation to clarify a solitary seizure or a remote history of childhood epilepsy. The majority of the remaining women had a confirmed diagnosis of epilepsy. Managing anxieties around medication use for women with epilepsy is a key part of the service. While 78 of the women managed through the service in 2021 were currently taking medications for seizures, a further nine women had medications recommended but they did not agree to taking them. The remaining women attending the service had made shared decisions with their own neurology service that it was reasonable to remain off medication during their pregnancy due to a history of being seizurefree while off medication for a considerable period of time. A smaller number of women were seen with a history of seizures related to drug abuse. In addition, four women were seen through the service for preconceptional advice.

Women with a diagnosis of epilepsy are seen frequently throughout their pregnancy by the obstetric team, and at least once per trimester by the ANP, Ms. Sinead Murphy. Rapid access to neurology clinics in Beaumont Hospital, MMUH and St. James' Hospital are facilitated

through pathways established by the ANP for those women requiring urgent investigation or a change in medications.

Provision of accurate medication information to patients, and improving their medication compliance, are key themes in the obstetric epilepsy service. Of the Rotunda's patients with epilepsy, 65 were adequately controlled with monotherapy, while a further nine required two agents. There were four women attending who had treatment-resistant epilepsy, three of whom required three agents and one who required four medications for seizure control. Levetiracetam (Keppra) was by far the most commonly prescribed agent followed by lamotrigine (Lamictal). A small number of women were taking carbamazepine (Tegretol) and other newer third-line agents such as eslicarbazepine (Aptiom), oxcarbazepine (Trileptal), lacosamide (Vimpat), brivaracetam (Briviact), pregabalin (Lyrica) and zonisamide (Zonegran). Patients taking these third-line agents have often had treatment failure in the past. It is challenging to provide all women with up-to-date safety information while also addressing the importance of reducing seizure risks with these lesser studied agents. Of note, no women attending the Rotunda's Epilepsy Service in 2021 were taking sodium valproate (Epilim), highlighting the success of the patient information campaign with the pregnancy prevention programme for this particular medication, which has been associated with significant risks of congenital malformations.

#### **SUCCESSES & ACHIEVEMENTS 2021**

No significant epilepsy-related morbidity occurred for the 122 patients within the service during 2021. The Rotunda patient cohort includes patients who attend various neurology services across the city and indeed the country. Rapid access to neurology clinics in Beaumont Hospital, as needed, has been facilitated through the ANP service for many years. In recent months, enhanced links with the MMUH ANP service has further improved patient access pathways for our patients.

Dr. Nicola Maher and Ms. Sinead Murphy spoke at the inaugural RCPI Medicines in Pregnancy and Lactation Study Day in March 2021, during which epilepsy medication safety during pregnancy and breastfeeding was discussed. Over 230 delegates attended.

#### **CHALLENGES 2021**

Managing a 15% increase in the number of patients attending the service in 2021 has been a significant challenge, although with the creativity of our invaluable ANP, Ms. Sinead Murphy, a novel approach to telemedicine clinic visits has now become embedded in the service. The HSE cyberattack also hindered the ability to access the MN-CMS electronic healthcare records of epilepsy patients, which ordinarily would have allowed for timely confirmation of histories, investigations, diagnoses and medications. However, no adverse events or serious clinical incidents ensued for epilepsy patients as a result of the cyberattack.

Challenges remain with a small number of patients who have significant learning disabilities, language barriers and other social care issues, such as homelessness. These vulnerable patients who also have epilepsy are amongst the highest risk patients at the Rotunda and it is often

particularly difficult to ensure that they are adequately linked with neurology services for ongoing care after their pregnancy.

#### PLANS FOR 2022

It is hoped that in 2022 the additional benefit of a consultant neurologist with sessions at the Rotunda will be implemented, which would provide further specialist expertise to those women with treatment-resistant epilepsy or complex co-morbidities, as well as other neurological conditions.

A working group to develop patient friendly medication information and decision aids has been established. At industry and regulatory level much work has been done to review the literature and evidence surrounding safety of all AEDs in pregnancy. It is hoped that the IMPS, with epilepsy team members from the Rotunda, alongside neurology colleagues and the HPRA can bring this expertise together to translate this evidence into patient friendly information.

## **Perinatal Mental Health Service**

#### **HEAD OF SERVICE**

Prof. John Sheehan, Consultant Psychiatrist

#### **STAFF**

Dr. Richard Duffy, Consultant Psychiatrist

**Ms. Ursula Nagle,** Advanced Midwife Practitioner 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,** Clinical Midwife Specialist in 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. Mu'adz Zubir, Senior Registrar in Psychiatry

Ms. Eithne O'Leary, Assistant Administrator

#### **SERVICE OVERVIEW**

The Specialist Perinatal Mental Health Service (SPMHS) provides mental health care 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 is delivered for a wide range of difficulties including anxiety, depression, obsessional thinking, bipolar disorder, and psychotic illness. The service also follows up with individuals who screen positive for depressive symptoms following delivery. The team works in collaboration with GPs, community mental health teams and voluntary organisations, with a strong emphasis on prevention and early intervention. The service also provides telephone advice to community mental health teams and GPs.

#### **CLINICAL ACTIVITY**

During 2021, all mental health professionals in the SPMHS continued to see significant increases in the demand for services, which first became noticeable in 2020. The COVID-19 pandemic has greatly impacted the mental health of women attending the Rotunda and resulted in an increased complexity of cases. Overall, there were 4,886 sessions offered to women over the course of 2021, representing a 4% increase on 2020. Of these total appointments, 1,289 were new patients. In addition to these, there were 1,022 clinical group sessions spread amongst three groups: 'Emotional Wellbeing in Pregnancy', 'Fear of Birth' and 'Me-to-Mom'. The service also carried out 21 home visits during the year, although these were necessarily limited by COVID-19. A total of 102 women attended the birth trauma clinic, the only one of its kind in the country. During the year, the service also fielded over 5,000 telephone calls.

#### **SUCCESSES & ACHIEVEMENTS 2021**

The service was very happy to roll-out the 'Fear of Birth' group this year, which had been piloted in 2020. There were 352 clinical sessions offered in this group. We were also glad to re-start other groups in an online format, thereby optimising COVID-19 compliance.

Ms. O'Neill and Ms. Masterson continued their targeted work in supporting perinatal mental health services for members of the travelling community, using focus group-based work to attempt to understand barriers to engagement.

Additionally, Ms. Nagle, Ms. Rafferty and Ms. Masterson undertook specialised training in trauma-informed care.

#### **EDUCATION AND TRAINING**

- The SPMHS team continues to teach on the Dundalk Institute of Technology's Perinatal Mental Health Diploma and has provided teaching at multiple academic meetings for psychiatrists throughout the country
- Members from the Rotunda SPMHS took part in national education for SPMHS services on birth trauma and shared the expertise that has been developed over the last few years
- The team also re-started the provision of internal training days on perinatal mental health for staff within the Rotunda

#### **RESEARCH**

- Rotunda SPMHS research on birth trauma has continued, with an initial collaboration with staff from City University of London having been submitted for publication
- Dr. Anisha Devi Bhagawan has commenced a second research project in relation to birth trauma
- RCSI medical students, linked with SPMHS staff, published work on the psychological impact of COVID-19 in pregnant women.
- Dr. Firdous Murad, whose excellent research on SSRIs, adaptation and bonding was curtailed due to COVID-19 has now written up her findings and submitted her project

#### **CHALLENGES 2021**

The main challenges affecting the SPMHS in 2021 were the ongoing COVID-19 pandemic and the HSE cyberattack, both of which limited many of the initiatives that had been planned for the year. However, the team adapted well to the challenges and were able to deliver a high standard of care to all individuals in need of perinatal mental health services.

#### PLANS FOR 2022

In 2022, it is hoped to expand the team with an Occupational Therapist, as well as bringing some psychology trainees and NCHD researchers into the team. This will increase the research output from the service. As a service, it is also hoped to bring a greater awareness of trauma-informed care across all services within the hospital.

It is hoped to build closer links with the Clinical Nutrition and Dietetics Service in an attempt to meet the needs of women with eating disorders.

There are currently plans to move the SPMHS to new, more contemporary accommodation in 2022 which it is hoped will provide the necessary space for the expanding team.

### **Labour and Delivery**

### **HEAD OF SERVICE**

Dr. Etaoin Kent, Consultant Obstetrician Gynaecologist

### **STAFF**

Ms. Fiona Walsh, Clinical Midwife Manager

### **SERVICE OVERVIEW**

2021 was an exceptionally busy year for the Labour and Delivery Service at the Rotunda. An increase of 8% in delivery numbers compared with 2020 brought the total number of deliveries in 2021 to 8,968. This increase occurred during a time when renovation works were been carried out in the Delivery Suite which limited the number of delivery rooms available for large parts of 2021, making it an extremely challenging time period for all staff. It is a testament to the hard work and dedication of the Delivery Suite staff that, despite these challenges, they continued to provide excellent high-quality care to all women attending the Rotunda.

As in 2020, the COVID-19 pandemic continued to impact on work practices throughout the year. The move to universal testing of all patients on admission to the hospital, in addition to the persistent spread of the virus in the community, meant that there was a continued flow of COVID-19 positive patients through the Delivery Suite. The extensive work done at the outset of the pandemic in developing care pathways and providing training to all staff for managing COVID-19 positive patients, as they transitioned through the various departments in the hospital, ensured that there was no adverse impact on the care provided to these patients, and the impact on overall work practices within the hospital was minimised.

The headline Labour and Delivery performance figures for 2021 (with 2020 figures for comparison) were:

Number of Deliveries	8,968 (8,147 in 2020)
Induction of Labour	37% (38% in 2020)
Spontaneous Vaginal Delivery	47% (47% in 2020)
Operative Vaginal Delivery	16% (16% in 2020)
Caesarean Section	37% (37% in 2020)

### INDUCTION OF LABOUR

Rates of induction of labour (IOL) remain high, although they have not significantly changed since between 2020 and 2021, at 37% (Tables 1 and 2). Almost half of nulliparous women (46%) are induced, with an induction rate of 30% in the multiparous cohort. While overall the indications for IOL remain broadly similar to 2020, there was a noticeable increase in the proportion with post-dates as an indication (Table 3). This reflects a change in practice at the Rotunda, with post-dates inductions now being scheduled by 41 weeks (Term plus 7) in the majority of cases, whereas previously expectant management was followed up to Term plus 10 – 12 days. This change in practice was introduced to safely minimise the occurrence of post-dates stillbirth, following the publication of several clinical trials confirming a significant

increase in perinatal morbidity and mortality beyond 41 weeks (Term plus 7). It is reassuring to note that there has been no increase in CD rates in either Robson group 2 or group 4 despite this change in practice.

As part of the Rotunda's drive to optimise patient satisfaction while also coping with increasing patient numbers in limited physical infrastructure, there has been a continued encouragement towards outpatient induction of labour for appropriately selected normal-risk women who live within a 30-minute drive of the hospital and have no contraindications to outpatient IOL (Table 4). This approach has achieved particularly high maternal satisfaction rates together with excellent success rates.

The Rotunda's long-established approach to cervical priming for IOL relies on either repeated doses of prostaglandin gel (Prostin) or sustained-release prostaglandin (Propess). While this continues to be used in the majority of cases, another recent quality improvement project at the Rotunda has focussed on use of mechanical cervical dilation, either with a Foley catheter balloon or Dilapan mechanical dilators in certain cases. This has initially been used mostly as part of an ongoing research trial of outpatient IOL or for carefully selected cases of women with a prior caesarean requesting IOL at 41 weeks' gestation. However, as experience with use of these alternative methods improves it is anticipated that they will be become more popular, thereby providing women with a better choice of induction agents and enabling women to spend a proportion of their induction process at home.

### **OPERATIVE VAGINAL DELIVERY**

Table 5 summarises operative vaginal delivery rates at the Rotunda over the last five years, with no significant changes noted. Overall, 16% of deliveries are by vacuum or forceps assistance, with the majority favouring vacuum. It is reassuring to note that a particularly small proportion of deliveries utilise sequential vacuum and forceps, given the acknowledged increased potential for perinatal morbidity associated with this practice.

### **CAESAREAN DELIVERY**

For the first time in recent years, 2021 saw the caesarean delivery (CD) rate remaining stable, with no increase in the rates compared to 2020 (Table 6). Of the 3,344 women delivered by caesarean, 40% had a history of a least one previous caesarean, with a prior caesarean being the primary indication for CD in approximately one third of cases. Standardised counselling is provided to all women with one previous CD, outlining the potential risks and success rates of vaginal delivery with Trial of Labour after Caesarean (TOLAC). A recent audit of this cohort of women at the Rotunda has found that 26% of women with one previous CD opt for TOLAC, with a successful vaginal delivery rate of 53%. Quality improvement efforts are ongoing with the aim of increasing the proportion of patients attempting TOLAC in order to further reduce the CD rate in this population, provided it is appropriate in each individual case to do so.

Other indications for CD demonstrate broadly similar rates to 2020 across the different categories (Table 7). Fetal reasons (typically a non-reassuring fetal heart rate tracing) is the next most common indication for caesarean after a previous CD. This includes pre-labour caesarean for non-reassuring fetal status and intrapartum caesarean for CTG abnormalities noted during labour. Failure to progress in labour is the third highest contributor to overall CD rates.

Continued interrogation of indications for individual caesarean deliveries takes place on a weekly basis, with review of trends in CD rates by categorising and comparing utilising the Robson groups (Table 8), as well as individual review of complex cases. Despite an 8% increase in delivery volume, it is reassuring to note that there were no significant differences in trends across any of the Robson groups from 2020 to 2021, with the exception of a decrease in the CD rate from 51% to 46% amongst the preterm cohort.

## HYPOXIC ISCHAEMIC ENCEPHALOPATHY (HIE) TASK-FORCE REVIEW

The Rotunda's internal risk assessment and risk monitoring systems had detected an increase in the number of cases of HIE reported in 2020, which prompted the establishment of a multi-disciplinary taskforce with the goal being to interrogate this trend and develop risk mitigation strategies. In 2021, this taskforce completed a comprehensive review of all cases of moderate or severe HIE in 2020 to examine their prenatal and intrapartum care, with the goal being to identify any modifiable risk factors. Several recommendations were made from this taskforce and an implementation group was established to ensure these were adopted into routine clinical practice.

One of the main factors identified by the HIE Taskforce was the lack of a scheduled, consultant-led ward round between 16.00pm and 08.00am, which was found to be the time-period during which the majority of cases of HIE were in fact occurring. Consultant-led ward rounds had long been established on the Delivery Suite at both of these times, but thereby leaving a 16-hour period in which consultant input was provided only on an as-needed basis. From March 2021, a formally scheduled consultant-led ward round was implemented in the Delivery Suite at approximately 23.00pm, provided either as an in-person meeting or a virtual meeting supported by remote access to the MN-CMS electronic healthcare record and FetaLink fetal heart rate tracing system. This enables a plan for ongoing management to be established for all women in labour and a review of any complex cases elsewhere in the hospital. It also allows repeated triage of cases awaiting transfer to the Delivery Suite, including those from the Emergency and Assessment Unit and patients being induced on the Prenatal Ward.

Other recommendations from the HIE Taskforce included an emphasis on utilising the traditional graphical depiction of labour progress using a partogram on MN-CMS, more standardised approaches to documentation on MN-CMS, particularly with respect to CTG interpretation, and a more structured approach to staff feedback following adverse events. Other practical changes include requiring both obstetric registrars on-call at night to review suspicious or

pathological CTG tracings in person together on the Delivery Suite, rather than individually or remotely. This 'fresh eyes' approach is a well-established quality improvement process that will hopefully contribute to a significant reduction in HIE cases in the near future.

### **DELIVERY SUITE BUILDING PROJECT**

2021 saw the completion of the extensive renovation works on the Delivery Suite. All nine existing delivery rooms have been fully refurbished and upgraded, with an additional two delivery rooms replacing the previously existing 5-bedded bay that was used for patients in early labour. This increased number of delivery rooms is essential to cope with the increasing numbers of deliveries at the Rotunda and will reduce waiting times for transfer to the Delivery Suite for patients presenting in labour or undergoing induction of labour.

One of the newly renovated delivery rooms has been equipped with a hydrotherapy pool, which will become operational in 2022 and will be available to normal-risk women for water-immersion therapy for labour. At present there are no plans for deliveries to take place within the pool, with its use being limited to the first stage of labour.

The building works also included an upgrade of staff support facilities, with a refurbishment of staff changing and rest areas. A new meeting room has been added which is now used for all morning and evening handover meetings and for a morning multidisciplinary huddle. It provides a base for the consultant on-call for the Delivery Suite and is used for educational meetings throughout the week.

### **PLANS FOR 2022**

- A series of staff training days are scheduled to ensure all staff are trained in management of patients using water immersion for labour, in particular patient evacuation from the pool in an emergency situation
- Use of the hydrotherapy pool will commence in 2022 once study days are completed
- A working group has been established to develop a protocol for postpartum haemorrhage (PPH) prevention, in response to a recently noted increase in PPH rates, now approaching 7%
- The newly constructed meeting room on the Delivery Suite will be used to facilitate ongoing education for midwifery and medical staff, including use of a birthing simulation model which will be used for regular 'skills-and-drills' teaching sessions

### TABLE 1: INDUCTION OF LABOUR

Year	2017	2018	2019	2020	2021
Total number of inductions	2,509	2,610	2,893	3,076	3,317
Induction rate expressed from total deliveries	31%	36%	35%	38%	37%
Number of caesarean deliveries following induction	570	584	630	745	789
Caesarean delivery rate following induction	23%	22%	22%	24%	24%

### TABLE 2: TRENDS IN INDUCTION 2017-2021

	2017	2018	2019	2020	2021
Nulliparous women	1,398	1,410	1,635	1,727	1,821
	(39%)	(39%)	(45%)	(47%)	(46%)
Multiparous women	1,111	1,200	1,258	1,349	1,496
	(24%)	(25%)	(27%)	(30%)	(30%)

Data are expressed as n (% of total deliveries)

### **TABLE 3: INDICATIONS FOR INDUCTION**

TABLE 5. INDICATIONS FOR INDICATION						
	2020		2021			
Reasons	Total	%	Total	%		
Fetal	870	28%	916	28%		
Maternal	796	26%	737	22%		
No medical indication	39	1%	170	5%		
Preeclampsia/hypertension	204	7%	178	5%		
Post-dates	488	16%	667	20%		
Prolonged rupture of membranes	633	21%	649	20%		
Other	46	2%	0	0%		

Data are expressed as n (% of inductions)

### TABLE 4: METHOD OF INDUCTION OF LABOUR

Oxytocin	398 (12%)
ARM +/- Oxytocin	842 (25%)
Cervical Priming +/- ARM +/- Oxytocin Prostaglandin Dilapan Foley Balloon	2,077 (63%) 1,980 (95%) 71 (3%) 26 (1%)

ARM = Artificial rupture of membranes

### TABLE 5: OPERATIVE VAGINAL DELIVERY RATE

	2017	2018	2019	2020	2021
Forceps	4%	4%	5%	5%	4%
Vacuum	11%	11%	10%	9%	11%
Sequential	1%	1%	1%	2%	1%
Total	16%	16%	16%	16%	16%

### **TABLE 6: CAESAREAN DELIVERY**

	2018	2019	2020	2021
Total caesarean deliveries	2,820	2,884	3,033	3,344
Rate expressed from total mothers delivered >500g	34%	35%	37%	37%
Primary caesarean section	57%	57%	61%	60%
Repeat caesarean section	43%	44%	39%	40%
Classical caesarean section	19	4	3	7
Tubal ligation at caesarean section	166	189	150	168
Caesarean hysterectomy	8	2	6	8

TABLE 7: INDICATION FOR CAESAREAN DELIVERY

		2020		2021		
	Primary	Repeat	Total	Primary	Repeat	Total
Previous caesarean delivery	0	961	961	0	1,071	1,071
Fetal reason	496	64	560	668	104	792
Maternal medical reasons/pains	326	52	378	326	42	368
Non-medical reason/patient request	140	1	141	149	2	151
Preeclampsia/hypertension	59	14	73	54	13	67
Prolonged rupture of membranes	12	8	20	17	13	30
Post-dates	6	0	6	1	0	1
IUA - Poor response	344	26	370	386	33	419
IUA - No oxytocin given	21	29	50	24	30	54
IUA - Inability to treat/over-contracting	7	0	7	6	1	7
EUA - Persistent malposition	80	4	84	62	2	64
EUA - Cephalopelvic disproportion	30	1	31	30	0	30
Totals	1,840	1,193	3,033	2,016	1,328	3,344

IUA: Inefficient Uterine Action; EUA: Efficient Uterine Action

TABLE 8: TRENDS IN CAESAREAN RATES (2017-2021) CAESARE					2021
All Deliveries	2017	2018	2019	2020	2021
All Deliveries	8,226	8,359	8,262	8,146	8,968
All Caesarean Sections	2,904	2,820	2,884	3,033	3,344
Section Rate	35%	34%	35%	37%	37%
Group 1 - Nulliparous single cephalic term spontaneous labour	226/1,504	201/1,541	185/1,334	171/1,269	189/1,364
Section rate	15%	13%	14%	14%	14%
Group 2 – Nulliparous single cephalic term induced	451/1,337	469/1,349	500/1,573	604/1,656	628/1,760
Section rate	37%	34%	35%	32%	37%
Group 2a – Nulliparous single cephalic term CS before labour	259	291	295	275	381
Group 3 – Multiparous single cephalic term spontaneous labour	35/1,840	25/1,773	25/1,636	34/1,424	33/1,617
Section rate	3%	2%	1%	2%	2%
Group 4 – Multiparous single cephalic term induced	73/1,017	60/1,078	74/1,146	81/1,208	88/1,318
Section rate	7%	6%	7%	7%	7%
Group 4a – Multiparous single cephalic term CS before labour	124	123	110	175	172
Group 5 – Previous section single cephalic term	1026/1,261	996/1,261	1,073/1,267	1,006/1,185	1,138/1,34
Section rate	81%	79%	85%	85%	85%
Group 6 - All nulliparous breeches	157/167	176/180	181/186	199/206	208/216
Section rate	94%	98%	97%	97%	96%
Group 7 – All multiparous breeches	143/152	145/157	141/150	128/139	151/160
Section rate	94%	92%	94%	92%	94%
Group 8 – All multiple pregnancies	117/182	104/152	104/145	123/169	129/181
Section rate	64%	68%	72%	73%	71%
Group 9 – All abnormal lies	18/18	21/21	28/28	25/25	33/33
Section rate	100%	100%	100%	100%	100%
			1	1	1
Group 10 – All preterm single cephalic	167/365	209/433	168/392	212/415	194/424
Section rate	46%	48%	43%	51%	46%
	,				,
Elective caesarean section total	1,417	1,435	1,455	1,557	1,796
			1,429	1,476	1,548
	1,379	1,385	-,	911-	
	1,379	1,305	,,,,,,	,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Emergency caesarean section total  Total Multiparous	1,379 4,674	4,747	4,655	4,451	4,964

# **Anaesthesiology Service**

### **HEAD OF SERVICE**

Dr. Niamh Hayes, Consultant Anaesthesiologist

### **STAFF**

Dr. Mary Bowen, Consultant Anaesthesiologist

Dr. Anne Doherty, Consultant Anaesthesiologist

Dr. Thomas Drew, Consultant Anaesthesiologist

Dr. John Loughrey, Consultant Anaesthesiologist

Prof. Conan McCaul, Consultant Anaesthesiologist

Dr. Brian Murphy, Consultant Anaesthesiologist

Dr. Caitriona 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 3,300 patients for caesarean delivery, neuraxial block for almost 4,000 labouring mothers, and anaesthesia for more than 1,600 gynaecology procedures in 2021. Anaesthesiology care was also provided in the operating theatres for maternal-fetal medicine and fertility invasive procedures. Once again, there has been a substantial increase in clinical anaesthesiology activity in the operating theatres in the last calendar year. In addition, more than 2,200 patients were seen in person or via telemedicine in specialist anaesthetic clinics during 2021.

### **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 and provide for individualised dosing. The Anaesthesiology Service uses Programmed Intermittent Epidural Bolus (PIEB) pump technology with Patient Controlled Epidural Analgesia (PCEA) boluses for delivery of epidural medication in labour to limit overall local anaesthetic agent dose, improve obstetric and neonatal outcomes, and enhance maternal satisfaction with labour.

Remifentanil analgesia is also available as alternative pain relief in selected cases where epidural options are unsuitable. This analgesic option is supervised by both anaesthetic and midwifery staff and offers improved analgesia over traditional patient-administered Entonox (nitrous oxide). In addition, it is more environmentally sustainable than Entonox administration which is a well-recognised contributor to the carbon footprint of local, national, and global healthcare systems. The MN-CMS electronic healthcare reporting mechanisms indicate that 19 patients received remifentanil pain relief in labour in 2021, a slight decrease on the number for 2020. Intravenous remifentanil PCA regimes in the Rotunda continue to be refined in the light of international evidence for safe utilisation in labour, and patient feedback.

The Anaesthesiology Service also provides immediate, 24-hour anaesthesiology support for elective and emergency care for operative obstetrics and gynaecology, critical care, and resuscitation, and

facilitates multi-professional collaboration for deliveries that occur from time to time in partner adult general hospitals (such as the Mater Misericordiae University Hospital and Beaumont Hospital). The number and medical complexity of critically ill pregnant women offcampus has increased substantially during the COVID-19 pandemic, with the Rotunda anaesthesiology team having cared for the sickest mothers in the country during 2021. During times of high COVID-19 community prevalence, there were added concerns in terms of patient and staff safety in the care of COVID-19 positive mothers on-site at the Rotunda. All operating theatre staff are to be commended for their professionalism, hard work and resilience during the pandemic as they continued to provide high quality patient care despite enormous operational challenges.

### **OBSTETRICS**

### **NEURAXIAL ANALGESIA IN LABOUR**

A total of 3,789 patients received neuraxial blockade for labour analgesia in 2021, the majority of these being epidurals. This represents a slight decrease in the number of delivery suite blocks from the previous year (3,999). The proportion of first-time mothers receiving epidural analgesia in labour was 74% in 2021, while there has been a small decrease in the uptake of neuraxial blockade for multiparous mothers at 26%. Some of the data on neuraxial blockade were incomplete due to reporting difficulties during the HSE cyberattack in May 2021. It is likely that the number of epidurals and combined spinal-epidurals is slightly higher than reported here and comparable to previous years.

### **TABLE 1: NEURAXIAL ANALGESIA USE IN LABOUR 2021**

Nulliparous	2,790 (76% of labouring nulliparae)
Multiparous	999 (24% of labouring multiparae)
Total	3,789*

\*100 additional neuraxial blocks were not categorised because of incomplete data during the HSE cyberattack

### POST DURAL PUNCTURE HEADACHE (PDPH)

Post Dural Puncture Headache (PDPH) was diagnosed in 39 patients in 2021. Twenty-four of these followed an epidural for labour analgesia (62%), three followed a combined spinal-epidural technique (8%) and 12 followed spinal anaesthesia (30%). Twenty-one patients required an Epidural Blood Patch (EBP), with two of these patients requiring a second EBP procedure. Patients who report headache following neuraxial blockage are given information leaflets with direct contact information for the Anaesthesiology Service. They are followed up with until resolution of symptoms, both during their hospital stay and after they leave the hospital by telephone or through district midwifery staff. Most patients (72%) had their headache diagnosis included in their discharge summary so that patients' general practitioners are aware of this issue, which is an improvement on the previous year but needs to be higher to match international guidance. Patients also received a further follow-up call at or after six weeks postnatally. Three patients had persistent backache or headache symptoms at this later review.

The MN-CMS electronic healthcare records facilitate good access to patient data for follow-up.

There were 19 patients who had a suspected or recognised dural tap with an epidural needle who, upon follow-up, did not develop headache. A total of 46 patients had suspected or confirmed dural tap with an epidural needle. However, the headache rate related to epidural complications remains below 1% which is an important quality and safety standard that is accepted internationally for teaching obstetric units. There are plans to expand postnatal follow-up for other anaesthesia-related issues in 2022 in a new dedicated clinic space. However, most patients are happy to receive a virtual consultation for this complaint, which is a positive post-pandemic change in clinical care pathway.

### ANAESTHESIA FOR CAESAREAN DELIVERY

The vast majority of patients had a neuraxial technique (spinal or epidural injection) for caesarean delivery (CD), enabling almost all mothers to be awake for the delivery of the baby. Less than 1% of elective caesarean deliveries had a planned general anaesthetic (GA) for their surgery. Only 5% of CD patients overall had a general anaesthetic, either as the planned initial option or following failure of an earlier epidural or spinal anaesthetic. This occurred more frequently in those having emergency caesarean delivery (10%), reflecting either the relative unreliability of epidural top-up compared to spinal anaesthesia in the emergency setting or the time pressure to deliver a vulnerable baby quickly. These proportions for both elective and emergency sections fall within the suggested international audit standard of less than 5% GA rate for elective (category 4) CD, and less than 15% for urgent or emergent (category 1 to 3) CD.

Some of the data on type of anaesthetic were incomplete for a small number of patients because of recording and reporting difficulties during the HSE cyberattack. With the additional care requirements for COVID-19 positive mothers, this resulted in a substantial increase in operating theatre time and resources to facilitate optimal care for these patients.

**TABLE 2: ANAESTHESIA FOR CAESAREAN DELIVERY 2021** 

2020	Elective	%	Emergency	%
Spinal	1,463	94%	682	46%
General	15	1%	52	> 3%
Epidural	7	< 1%	632	43%
Spinal/Epidural - CSE	54	> 3%	25	2%
General/Spinal/Epidural*	0	0%	96	6%
Total	1,557		1,476	

2021	Elective	%	Emergency	%
Spinal	1,560	87%	796	51%
General	12	< 1%	62	4%
Epidural	8	< 1%	524	34%
Spinal/Epidural - CSE	48	3%	20	1%
General/Spinal/Epidural*	0	0%	96	6%
Uncategorised	168		50	
Total	1,796		1,548	

\*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 2,200 patients were reviewed in specialist outpatient anaesthetic clinics during 2021, with the majority (62%) being telemedicine reviews. Additionally, members of the Anaesthesiology Service participated in the assessment and care-planning of patients attending the maternal multidisciplinary team meetings in the Mater Misericordiae University Hospital (MMUH) to address their specific anaesthetic needs. A specialist cardiac anaesthetic clinic is also run both on-site in the Rotunda and in conjunction with cardiology colleagues in MMUH to serve the needs of this vulnerable population.

### **GYNAECOLOGY**

More than 1,600 gynaecology procedures requiring anaesthesia were carried out in the operating theatres during 2021, including almost 800 hysteroscopic procedures and more than 500 laparoscopic procedures. Gynaecology pre-assessment anaesthetic clinics have now been integrated with the MN-CMS electronic healthcare records which facilitates ease of referral. The team of pre-assessment nurses offer to review to all gynaecology patients pre-operatively, which has been essential to co-ordinate safe operating room practice in the setting of COVID-19.

### SUCCESSES & ACHIEVEMENTS 2021

### **EXPANDED OPERATING THEATRE FACILITIES**

Additional operating theatre capacity to meet the service demand was opened in 2021. There are now four fully equipped, standard operating theatres in the Rotunda, three of which are on the first floor main

operating theatre, and one is a dedicated operating theatre in the newly renovated Delivery Suite. It is hoped to fully operationalise these new theatres in the near future, with a number of new quality improvement initiatives in place to facilitate pre-assessment, safe peri-operative care, and postoperative recovery for the anticipated additional gynaecologic surgical volume. Additionally, a new state-of-the-art Post Anaesthesia Care Unit (PACU) for caesarean delivery was constructed in 2021, and it is hoped to become operational in 2022, following multidisciplinary engagement to optimise workflow patterns.

### **ENHANCED RECOVERY AFTER SURGERY (ERAS)**

The ERAS programme for caesarean delivery was started in the Rotunda in February 2021 to address the triple aim of increasing maternal satisfaction, improving quality of care, and reducing costs. It is a patient-centred, multidisciplinary, evidence-based approach to perioperative care. In total, 196 patients completed the programme as part of an initial trial in 2021. Pre- and post-operative fasting times were reduced by 60%, and patients mobilised twice as quickly compared with standard care. Average pain scores on day 1 post-caesarean delivery were half that seen in the pre-ERAS patient group, with 60% of ERAS patients being suitable for discharged home on day two following caesarean delivery. Patient feedback was extremely positive and illustrates the benefit of patient-centred care bundles focussing on high quality evidence-based outcomes. It is hoped to embed ERAS for caesarean delivery on all postnatal wards in 2022, as well as applying ERAS pathways to selected gynaecology surgeries in the near future.

### **EDUCATION, RESEARCH AND TRAINING**

The Anaesthesiology Service continues to provide education and training for RCSI undergraduate medical students in obstetric anaesthesia, with lecture-based and bedside clinical teaching being provided in anaesthesia, labour analgesia and pain management. There is also an active teaching programme for postgraduate anaesthesiology for College of Anaesthesiology of Ireland (CAI) 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 and MMUH. Fellows also formally train in trans-thoracic echocardiography (TTE) in the MMUH Department of Intensive Care Medicine. On-site practical echocardiography / point-of care-ultrasound is a feature of the training programme for all Rotunda anaesthesiology trainees. Drs. Patrick Thornton and Thomas Drew coordinate postgraduate teaching as the College Tutors. The first College of Anaesthesiologists SAT7 fellow will start a combined fellowship year between the Rotunda and the Coombe Women's Hospital in 2022, which will facilitate collaborative research projects including management of obstetric anaesthesia complications.

Members of the Anaesthesiology Service are involved in advanced airway teaching and high-fidelity simulation training both in the CAI and at RCSI. They also contribute as examiners for both membership and fellowship examinations in the CAI. Dr. Niamh Hayes serves on the council of the CAI and chairs its Education Committee. The Anaesthesiology Service research program is diverse, with members working in collaboration with RCSI and UCD. Prof. Conan McCauI

continues to work with the UCD Anatomy Department making low cost 3-D video-laryngoscopes and cricothyroidotomy training models, as well as with the UCD Engineering Department on airborne particle dispersion and anaesthesia procedures. Additional research evaluating infrared technology in relation to assessment of neuraxial blockade is ongoing as part of Dr. Brian Murphy's MD project, and Prof. McCaul is also the MD supervisor for Dr. Aisling Ní Eochagain. Members of the Anaesthesiology Service also represented the Rotunda Hospital as invited speakers at national and international meetings in obstetric anaesthesia and advanced airway management.

### PLANS FOR 2022

### **NR-FIT**

There has been a long-standing recommendation by various patient safety bodies to move to specific, non-interchangeable equipment for neuraxial blockade to allow for safer use of local anaesthetic medication. NR-FIT employs forcing functions to minimise the risk of adverse misconnection events. The Pharmacy Service is working with anaesthesiology to progress this project and other medication-safety related reviews using the Institute for Safe Medication Practices template.

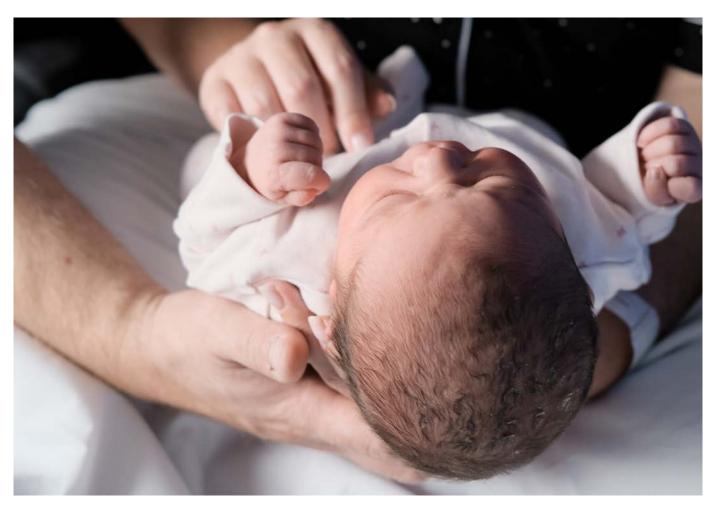
### ROTEM

Postpartum haemorrhage is increasing in incidence and complexity nationally and internationally. It is planned to introduce viscoelastometric point-of-care testing of coagulation (ROTEM) in 2022 in addition to usual laboratory testing. This is in keeping with high-quality international evidence of efficacy in this patient population that indicates improved early detection of women at risk of more severe blood loss who would benefit from anti-fibrinolytic therapy and to guide management of blood product administration.

### **CONSENT FOR OBSTETRIC ANAESTHESIA PROCEDURES**

Recent guidance on consent for obstetric anaesthesia procedures published by the Association of Anaesthetists is being reviewed currently, with plans to adapt and improve local standards through the MN-CMS electronic healthcare record.







### **Critical Care Service**

### **HEADS OF SERVICE**

**Dr. Mary Bowen,** Consultant Anaesthesiologist **Dr. Maria Kennelly,** Consultant Obstetrician Gynaecologist

### **SERVICE OVERVIEW**

The High Dependency Unit (HDU) at the Rotunda Hospital is a dedicated facility that provides high-intensity nursing and medical supervision for select critically ill patients. Most forms of level two critical care are facilitated. A multidisciplinary approach including obstetrics-gynaecology, anaesthesia and nursing is provided, supplemented as needed by external specialist consultant advice. The unit receives tremendous support from the intensive care consultants at the Mater Misericordiae University Hospital (MMUH), who regularly facilitate access to ICU beds when onwards transfer to an adult general hospital is needed. Additionally, support from the intensive care consultants at Beaumont Hospital was also provided in 2021, typically when neurosurgical critical care was required.

As described in Table 1 below, the HDU showed a 13% increase in case numbers, compared with 2020. As with previous years, most of the admissions were in cases relating to peripartum haemorrhage.

### **TABLE 1: HDU CLINICAL ACTIVITY**

	2017	2018	2019	2020	2021
Obstetrics	250	199	258	249	272
Gynaecology	10	1	11	4	13
Total Admissions	260	200	269	253	285

The strong clinical links between the Rotunda and MMUH were particularly important in 2021, given the impact of COVID-19 infection in pregnancy and resultant critical illness. COVID-19 had a significant impact on the obstetric population in 2021, with 19 HDU admissions being COVID-19 positive. The majority of these patients were unvaccinated. One pregnant patient with COVID-19 infection required ventilation with nitric oxide and subsequently extracorporeal membrane oxygenation (ECMO) after transfer to MMUH, before ultimately making a good recovery. Three other COVID-19 infected HDU patients required transfer to MMUH, with one of these patients requiring caesarean delivery in MMUH. One other COVID-19 infected patient was admitted to Beaumont Hospital ICU with acute neurological complications and ultimately also made a good recovery. It was gratifying to note that, despite the level of critical illness amongst these highly complex pregnant patients, all patients with COVID-19 infection in pregnancy survived with normal health outcomes. Table 2 below describes the obstetric reasons for HDU admission. The number of obstetric sepsis cases requiring HDU admission has decreased compared with 2020, reflecting more cautious and aggressive fluid management on the inpatient wards.

TABLE 2: OBSTETRIC CASES REQUIRING HDU ADMISSION IN 2021

Obstetric Cases	Number	%
Haemorrhage	87	30%
Preeclampsia/HELLP	36	13%
COVID-19 infection	19	6%
Cardiac	12	4%
Miscellaneous*	131	45%
Total	285	100

\*Including 2 readmissions for sepsis

With 30% of the HDU cases being admitted because of antepartum or postpartum haemorrhage, it is not surprising that a number of caesarean hysterectomies for haemorrhage were also performed in 2021. A total of nine caesarean hysterectomies were performed, six of which were planned elective procedures because of antenatal diagnosis of placenta accreta spectrum (PAS), with two of these cases being performed in MMUH because of the need for immediate availability of interventional radiological support. The remaining three cases of caesarean hysterectomy were emergency cases due to unanticipated haemorrhage.

The Rotunda co-manages a significant number of pregnancies amongst patients with underlying maternal cardiac disorders. These patients often require HDU admission following planned caesarean delivery. In 2021, the following cardiac cases were managed postoperatively in the HDU:

- Aortic stenosis
- Pulmonary stenosis (2 cases)
- Cardiac transplantation
- Tetralogy of Fallot
- Cardiomyopathy
- Atrial myxoma
- Supraventricular tachycardia (2 cases)

In addition, one patient developed chest pain and ECG changes following vaginal delivery, and required HDU admission, while another patient developed persistent tachycardia following an ERPC procedure.

Miscellaneous reasons for HDU admission in pregnancy included cases of Addison's disease, chronic obstructive pulmonary disease, transient ischaemic attack, long chain amino acid deficiency, myasthenia gravis, and Hodgkin's lymphoma.

The reasons for HDU admission of 13 gynaecologic patients included six cases with complex postoperative analgesia needs, five cases of haemorrhage (ruptured ectopic pregnancy, bleeding during myomectomy, bleeding during hysterectomy, and two vascular injuries

following laparoscopy), as well as one case of status epilepticus following laparoscopy and one case of surgical emphysema following laparoscopy.

In 2021, a total of 12 Rotunda HDU patients required onward transfer to a level 3 ICU, with nine of these patients being transferred to the MMUH ICU and three being transferred to the ICU at Beaumont Hospital. The reasons for transfer of these nine patients to the MMUH ICU included:

- Amniotic fluid embolism after operative vaginal delivery, resulting in massive obstetric haemorrhage and transfusion associated with coagulopathy
- Chest pain following vaginal delivery in a patient with Tetralogy of Fallot
- Persistent seizures following vaginal delivery
- Postpartum haemorrhage after caesarean delivery, requiring internal iliac artery ligation
- Subphrenic abscess following caesarean delivery
- COVID-19 infection and severe respiratory distress/hypoxia
- COVID-19 infection and sepsis requiring pressor support
- Caesarean delivery with background of cardiac transplantation
- Severe respiratory distress/hypoxia following caesarean delivery

The reasons for transfer to Beaumont Hospital ICU included vascular injury during laparoscopy and requirement for neurological ICU care in a COVID-19 infected patient with acute neurological deterioration (Glasgow coma scale 3/15). Most of these patients were subsequently transferred back to the Rotunda HDU for subsequent step-down care following stabilisation.

A total of two patients were transferred into the Rotunda HDU. One patient with chemotherapy induced cardiomyopathy was transferred from Beaumont Hospital for planned caesarean section, and one from Connolly Hospital with a ruptured ectopic pregnancy and significant transfusion requirement.

An increasing number of invasive monitoring lines are needed in Rotunda patients year-on-year, reflecting the complexity of comorbidities and clinical presentation. In 2021, a total of 98 arterial lines were placed and a total of 14 patients required central venous access, with these patients requiring HDU care.

### **CHALLENGES 2021**

As with prior years, the main challenge for the Critical Care Service at the Rotunda remains the poor physical infrastructure of the HDU. Neither HDU bed has ensuite toilet/bathroom facilities and neither has appropriate infection control/air-handling systems. This has been highlighted previously by external inspections and remains a high priority for rectification by upcoming hospital infrastructure development plans.

Provision of sufficient isolation rooms for critically ill patients with COVID-19 infection was also a particular challenge as case numbers increased during 2021. This was managed by converting some additional single-occupancy rooms on the Gynaecology Ward to HDU rooms, but without optimal services and facilities for HDU care.

### PLANS FOR 2022

Development of a new Critical Care Wing on the west side of Parnell Square will ultimately allow for the provision of appropriate HDU-level care, although it is expected that this will take a number of years to achieve. During 2022, work will be provided on relevant design plans for this new facility.

## **Maternal Morbidity**

### **HEAD OF SERVICE**

Dr. Maria Kennelly, Consultant Obstetrician Gynaecologist

### **STAFF**

**Dr. Sharon Cooley,** Consultant Obstetrician Gynaecologist **Prof. Michael Geary,** Consultant Obstetrician Gynaecologist

Dr. Niamh Hayes, Consultant Anaesthesiologist

Dr. Claire McCarthy, Assistant Master/Maternal Medicine Fellow

Dr. Sarah McDonnell, Specialist Registrar, Obstetrics and Gynaecology

Dr. Khadeeja el Nasser, Maternal Medicine Fellow

Dr. Vanitha Zusthi, Associate Specialist, Anaesthesiology

Dr. Enya Fulston, Senior House Officer, Obstetrics and Gynaecology

Ms. Kathy Conway, Clinical Reporting Service

Ms. Catherine Daly, Administrative Assistant

Ms. Rose O'Donovan, Haemovigilance

Ms. Ruth Ritchie, Information Technology

### **SERVICE OVERVIEW**

As the oldest continually functioning maternity hospital in the world, the Rotunda remains steadfast in its commitment to caring for women and their babies, with a crucial objective of maximising maternal health while minimising maternal morbidity. With the increasing clinical volume and requirement to care for increasingly complex pregnancies, minimising maternal morbidity has become more challenging than ever. This challenge persisted during 2021 as the third, fourth and fifth COVID-19 waves spread throughout our community. While maternal mortality has thankfully been absent from the Rotunda over the last number of years, it is through examining maternal morbidity that interventions designed to minimise mortality and protect mothers and babies in subsequent pregnancies can be optimised. To support this process, the Rotunda Hospital continues to provide detailed information on a wide range of major obstetric morbidities that can be associated with adverse outcome. As in previous years, severe maternal morbidity (SMM) has been prospectively monitored throughout 2021, with the classification system of the Irish National Perinatal Epidemiology Centre (NPEC) being used to categorise and compare different events.

The Rotunda remains grateful for the hard work of the large multidisciplinary team responsible for optimising maternal health, 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. In particular, the close working relationship between the Rotunda and the adjacent Mater Misericordiae University Hospital (MMUH) has proven crucial in ensuring the safety of pregnant women managed at the Rotunda, with the Critical Care Service and the Radiology Service at MMUH being especially helpful whenever called upon.

### **CLINICAL ACTIVITY**

There were 272 obstetric admissions to the Rotunda High Dependency Unit (HDU) in 2021, with 78 major morbidity events fulfilling NPEC severe maternal morbidity criteria. This incidence of major morbidity events has continued to improve consistently over the last five years, as summarised in Table 1. Postpartum haemorrhage, hypertensive

disorders and sepsis remain the top three reasons for admission to the Rotunda High Dependency service which has been consistent over the last 5 years.

### TABLE 1: INCIDENCE OF MAJOR MORBIDITY EVENTS AT THE ROTUNDA

	2017	2018	2019	2020	2021
Number of mothers delivered	8,226	8,358	8,262	8,152	8,972
Number of Major Morbidity Events	109	85	73	67	78
Incidence of Major Morbidity	1.3%	0.9%	0.9%	0.8%	0.8%

There were 10 inter-hospital transfers between the Rotunda and MMUH during 2021. These individual cases are described in the Critical Care Service chapter of this report. The clinical complexity of these cases demonstrates the superb degree of multidisciplinary cooperation with medical, surgical, radiological and critical care services at MMUH that results in excellent clinical outcomes for both mother and baby.

### TABLE 2: MAJOR OBSTETRIC HAEMORRHAGE AND RELATED OPERATIVE EVENTS

	2017	2018	2019	2020	2021
Massive haemorrhage	36 (0.4%)	26 (0.3%)	30 (0.4%)	26 (0.3%)	44 (0.5%)
Uterine rupture	1 (0.01%)	1 (0.01%)	3 (0.04%)	1 (0.01%)	o (o%)
Peripartum hysterectomy	12 (0.1%)	6 (0.07%)	2 (0.02%)	6 (0.07%)	9 (0.1%)
Haemorrhage requiring interventional radiology	0 (0%)	0 (0%)	1 (0.01%)	0 (0%)	1 (0.01%)

There were 87 admissions to the HDU in the Rotunda for obstetric haemorrhage, with 44 of these fulfilling NPEC criteria for Major Obstetric Haemorrhage (MOH) i.e. EBL of ≥ 2,500mls. As described in Table 2, the MOH rate has almost doubled compared to 2020, with the mean blood loss in these 44 cases being 3,268mls. Amongst these 44 cases of MOH, 42 were classified as primary postpartum haemorrhage (PPH) cases, while the remaining two cases were secondary PPH occurring on day 11 and 12 post-operatively after elective caesarean sections. Of note, both secondary PPH cases had a medical history of auto-immune conditions – Crohn's disease in one case and a combination of lupus, Reynauds, and Sjogrens in the other. Caesarean delivery occurred in 45% of MOH cases, with 70% of these being prelabour caesarean deliveries. Spontaneous vaginal delivery and operative vaginal delivery accounted for 41% and 14% of MOH cases respectively.

There were 9 peripartum hysterectomies performed. Six of these were planned elective procedures in the context of known Placenta Accreta Spectrum (PAS) disorder. One case of peripartum hysterectomy was performed electively for a diagnosis of cervical cancer in pregnancy.

The remaining two peripartum hysterectomy cases were unplanned and performed as an emergency due to unexpected MOH. There was one case of uterine artery embolization performed for MOH, which occurred in the setting of a secondary PPH due to retained products of conception in a patient with Ehlers Danlos syndrome. She was treated successfully and made a complete recovery.

### **TABLE 3: END ORGAN DISEASE**

	2017	2018	2019	2020	2021
Renal/liver dysfunction	37 (0.5%)	19 (0.2%)	9 (0.1%)	3 (0.04%)	1 (0.01%)
Pulmonary oedema/ acute respiratory dysfunction	2 (0.02%)	3 (0.04%)	5 (0.06%)	2 (0.02%)	12 (0.1%)
Pulmonary embolism	1 (0.01%)	0 (0%)	3 (0.04%)	3 (0.04%)	5 (0.02%)
Cardiac arrest	1 (0.01%)	0 (0%)	1 (0.01%)	2 (0.02%)	1 (0.01%)
Severe sepsis	10 (0.1%)	13 (0.2%)	5 (0.06%)	5 (0.06%)	1 (0.01%)
Other	3 (0.04%)	6 (0.07%)	1 (0.01%)	0 (0%)	1 (0.01%)

Table 3 describes the incidence of end-organ disease that met NPEC criteria for SMM. There were five cases of pulmonary embolism noted in 2021, with the majority occurring in the postpartum period. This is a slight increase compared to previous years. The first occurred in a 23 year old multiparous patient with an initial BMI of 32 kg/m2, who presented to a general hospital at 33 weeks' gestation with pleuritic chest pain, dyspnoea and haemoptysis. CT pulmonary angiogram confirmed a right-sided sub-segmental pulmonary embolus, for which she received therapeutic anticoagulation. A scheduled induction was performed at 39 weeks' gestation, which resulted in a successful vaginal delivery of a healthy baby girl, with an EBL of 150mls. The second case occurred in a 39 year old nulliparous patient who underwent an emergency caesarean section at full dilatation for failure to progress, after a 37 week induction for preeclampsia. Her postpartum course was complicated by PPH and Clostridium difficile colitis. She developed dyspnoea and chest pain on postoperative day four, and despite having received appropriate prophylactic anticoagulation therapy in the initial postpartum period, a CT pulmonary angiogram confirmed a right-sided pulmonary embolism. She made a complete recovery following therapeutic anticoagulation. The third case occurred in a 38 year old patient on day 12 postpartum despite being on appropriate LMWH prophylaxis. She had undergone an elective caesarean delivery for placenta praevia, following which she required subtotal hysterectomy for massive postpartum haemorrhage. CTPA subsequently confirmed non-occlusive pulmonary embolus. She ultimately made a complete recovery. The fourth case occurred in the immediate postpartum period in a 38 year old patient, transferred from another hospital with severe preeclampsia at 31 weeks' qestation. Approximately 12 hours after caesarean delivery, she experienced an acute desaturation and imaging confirmed a subsegmental pulmonary

embolism. She received appropriate anticoagulation therapy and she made a complete recovery. The fifth case occurred in a 35 year old woman at 13 weeks gestation, who presented with groin pain, palpitations and dyspnoea on exertion. A left common and external iliac DVT was diagnosed with clinical features of pulmonary embolism. She received appropriate anticoagulation therapy, and the rest of her antenatal course was uneventful, eventually resulting in an uncomplicated vaginal delivery at term.

There was one case of HELLP syndrome that met the NPEC SMM criteria for liver dysfunction, which occurred at 33 weeks' gestation in a patient with a monochorionic diamniotic twin pregnancy who had previously underwent fetoscopic laser ablation for twin-to-twin transfusion syndrome at 21 weeks' gestation. She was promptly delivered by emergency caesarean section and had an uncomplicated postpartum course with rapid resolution of HELLP syndrome and normal liver work-up thereafter.

One cardiac arrest occurred in 2021. This occurred in a 36 year old multiparous patient, who had an induction of labour because of a previous precipitous vaginal delivery. At full dilation a maternal collapse and subsequent PEA cardiac arrest occurred. A forceps delivery was performed for a fetal bradycardia and to aid maternal resuscitation. The patient subsequently had a massive PPH (4.7 litre blood loss) with profound coagulopathy requiring massive transfusion (14 units of red blood cells, 68g of fibrinogen, 14 units of fresh frozen plasma and four units of platelets). A presumptive diagnosis of Amniotic Fluid Embolism was made and, after a total of 15 minutes of CPR, there was a return of circulation, following which she was transferred to the MMUH ICU for Level 3 support. She ultimately survived but with a unilateral hemiparesis, for which she was discharged for ongoing rehabilitation care. Her baby required therapeutic hypothermia for neonatal encephalopathy, and had both a normal MRI brain as well as normal neurodevelopmental outcome thus far.

There was one case of severe sepsis that met NPEC SMM criteria, which is lower compared to previous years and is a testament to continued medical education of nursing/midwifery and medical staff around early recognition of sepsis and rapid escalation of care. The single case in 2021 was of Klebsiella urosepsis at 27 weeks' gestation in an 18 year old nulliparous patient with concomitant deterioration in cardiac function and markedly elevated sepsis serum markers. She required transfer to Level 3 hospital for inotropic support and subsequently made a complete recovery, ultimately having a normal vaginal delivery at 40 weeks' gestation

### **COVID-19 IMPACT ON MATERNAL MORBIDITY**

Despite pregnant women being appropriately identified as being at high risk of COVID-19 related morbidity, and receiving high priority in the national vaccination roll-out, pregnant or recently pregnant women were disproportionately represented in waves three, four and five of the pandemic, accounting for 40% of critical care admissions nationally. The vast majority of pregnant patients requiring critical care were unvaccinated. The Rotunda maternal medicine critical care

team, together with consultant obstetrician and anaesthesiology colleagues appointed jointly between the Rotunda and MMUH/
Beaumont/Connolly Hospitals, managed a total of 23 pregnant or recently pregnant patients admitted to critical care units in 2021. A total of 15 of these patients had already been registered in the Rotunda, while the remaining eight patients were transferred other maternity units from throughout Ireland. These patents were referred for either consideration of ECMO in cases of refractory respiratory failure/ severe ARDS, or provision of critical care beds. These patients had direct access to the obstetric critical care liaison service which was coordinated by Drs Maria Kennelly and Jennifer Donnelly from the Rotunda.

Of the Rotunda cohort of critically ill COVID-19 patients, 13/15 (87%) patients required ICU care during the antenatal period. The mean age and BMI of these patients were 32 years and 34.6 kg/m<sup>2</sup> respectively, while the mean gestational age at diagnosis and delivery was 30.1 and 34.9 weeks respectively. A total of 12 of these 15 (80%) Rotunda patients requiring critical care also required intubation and ventilation due to severe COVID-19 pneumonitis, as noted in Table 3. One Rotunda patient required ECMO support in the postnatal period with a total duration of treatment of 31 days. No patients required ECMO during the antenatal period. A total of seven of these 15 (47%) patients required delivery within the general hospital critical care unit environment due to worsening maternal respiratory failure, which caused significant logistical challenges for the obstetric, midwifery and neonatal teams. Despite the significant degree of maternal illness and concurrent inflammatory process in the COVID-19 cohort, there was only one case of PPROM in this patient group. This occurred at 28 weeks gestation in a patient who was intubated and ventilated with severe ARDS due to COVID-19 pneumonitis. Another patient required intubation due to a diagnosis of COVID-19 encephalitis, seizures and deteriorating neurological status.

It is notable that before the COVID-19 pandemic, the mean length of stay for pregnant or recently pregnant women admitted to general hospitals for critical care was 37 hours, but this increased to 14.2 days for pregnant or recently pregnant women with COVID-19 infection, thereby confirming the gravity of morbidity caused by COVID-19 in pregnancy. Thankfully, there were no cases of maternal mortality in this cohort at the Rotunda or associated general hospitals. There was one case of stillbirth, which occurred at 32 weeks' gestation in a nulliparous patient who had severe COVID-19 pneumonitis and multi-organ failure requiring Level 3 critical care and prolonged ICU admission.

**TABLE 4: CENTRAL NERVOUS SYSTEM EVENTS** 

	2017	2018	2019	2020	2021
Eclampsia	4 (0.1%)	3 (0.04%)	1 (0.01%)	1 (0.01%)	2 (0.02%)
Status epilepticus	2 (0.02%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Cerebrovascular accident	0 (0%)	0 (0%)	1 (0.01%)	o (o%)	o (o%)
Coma	0 (0%)	0 (0%)	0 (0%)	1 (0.01%)	1 (0.01%)

As summarised in Table 4, the incidence of eclampsia has remained very low over the past five years, with only two cases occurring during 2021. The first was in a 20 year old multiparous patient at 30 weeks' gestation, who had two prior term deliveries, one of which required induction at term for gestational hypertension. She had unremarkable antenatal care, other than diet-controlled gestational diabetes, and was normotensive at her penultimate antenatal visit at 28 weeks' gestation. At 30 weeks' gestation she was admitted by ambulance to MMUH with a witnessed, generalised, tonic-clonic seizure, and was noted to have proteinuria and hypertension on arrival to hospital. She was stabilised and promptly delivered by emergency caesarean section in MMUH with the support of the Rotunda obstetric and neonatal teams. Postnatal neuro-imaging did not show any vascular sequelae and excluded non-eclamptic causes for seizure. She was transferred back to the Rotunda and had an unremarkable post-partum course thereafter. The second eclamptic event occurred in a 42 year old woman, para 5, in the Recovery Room immediately after an elective caesarean section. She had no prior history of hypertension or preeclampsia, although hypertension and proteinuria were confirmed post-operatively. She had an uneventful recovery thereafter and ultimately normal neurological outcome.

Table 5 summarises the overall intensive care inter-hospital transfer workload at the Rotunda, as well as maternal mortality date. For the sixth year in a row, there were no direct maternal mortalities at the Rotunda Hospital in 2021.

### TABLE 5: OVERALL MATERNAL MORBIDITY AND MORTALITY SUMMARY

	2017	2018	2019	2020	2021
ICU/CCU transfer	19 (0.2%)	12 (0.1%)	15 (0.2%)	18 (0.2%)	10
Direct maternal death	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

### **SUCCESSES & ACHIEVEMENTS 2021**

The good maternal outcomes noted in all cases of COVID-19 represents a major achievement in 2021, and occurred as a result of the well-established and streamlined clinical care pathways that have been developed between the Rotunda and its associated general hospitals at MMUH, Beaumont Hospital and Connolly Hospital. Surveillance and delivery of these patients across all campuses required significant

coordination and multidisciplinary team (MDT) planning between many different specialties. This coordinated teamwork functioned extremely effectively and efficiently despite the infrastructural challenge of not having a co-located maternity unit on a general hospital site in the Greater Dublin region.

The utilisation of secure videoconferencing systems to communicate with specialist colleagues at general hospital sites during this challenging time transformed our ability to provide high quality, evidence-based, obstetric care, and allowed for synchronised patient management whilst protecting staff and patients alike. In addition, this enabled continued participation in education and training across disciplines within the hospital network.

The Rotunda has been very fortunate to have recruited an outstanding team of maternal medicine fellows, who have contributed significantly to this service provision. There has also been an additional specialist registrar appointment to MMUH that will support the obstetric liaison consult service to assist Drs Jennifer Donnelly and Maria Kennelly for obstetric patients with complex medical and surgical needs that are admitted to the MMUH.

medicine fellow continues to attract high quality candidates, who have contributed significantly to our service provision.

### **CHALLENGES 2021**

The third, fourth and fifth waves of the COVID-19 pandemic continued to pose significant infrastructural, staffing and patient challenges during 2021. Pregnant patients with severe respiratory morbidity featured prominently in the severe maternal morbidity data this year, reflecting national and international data. These cases were labour-intensive, requiring mobilisation of staff across multiple sites and to provide sufficient maternal and fetal monitoring. Continually adapting the management of COVID-19 in pregnancy, to reflect evolving clinical situations in external hospitals was particularly challenging for the Rotunda team.

Data capture of out-of-hospital transfers to other units continues to be challenging. The integration of the Rotunda's electronic healthcare record system (MN-CMS) with other hospitals' electronic systems would allow more streamlined communication between healthcare providers, which currently poses challenges for patients receiving care in multiple centres.

### PLANS FOR 2022

Building and improvement works to the operating theatre, theatre recovery area and delivery suite, which are scheduled to complete in 2022 will continue to improve the Rotunda's ability to look after complex maternal medical cases.

From a research perspective, collaboration between critical care colleagues at the Rotunda, MMUH and Beaumont Hospital has generated important exploratory maternal and neonatal data on

the management of COVID-19 in pregnancy and this is hoped to be published this year.

The provision of 24 hour radiological intervention service to support critically ill obstetric and gynaecologic patients from the Rotunda at MMUH will greatly enhance the Rotunda's ability to provide optimal care in high-risk cases in a coordinated fashion. Approval for a joint interventional radiology consultant post between MMUH and the Rotunda has been sanctioned and is anticipated to be appointed in 2022, further enhancing the ability to provide high level diagnostic and therapeutic services to an increasingly medically complex population.

# **Complicated Post Natal Service**

### **HEADS OF SERVICE**

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

### SERVICE OVERVIEW

This service was originally developed to offer postnatal review to women with 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 perineal clinic to discuss options and risks in terms of mode of delivery. This clinic is led by Dr. Maeve Eogan. The service has also evolved to provide care for people who have had other postnatal concerns, including wound infection, perineal pain, dyspareunia, and faecal incontinence. Women are also referred to the clinic for assessment and surgical revision (if needed) of female genital mutilation (FGM), either within or outwith pregnancy.

Over the past few years, the Complicated Postnatal Service further developed to include earlier postpartum review for women who have experienced a traumatic birth or had a serious complication during the pregnancy. This aspect of the Complicated Postnatal Service is led by Dr. Meena Ramphul, whereby patients are seen as early as two weeks postpartum for an initial review and debriefing, with many such patients being seen on more than one occasion. The clinic provides an opportunity for open discussion, debriefing and planning for subsequent pregnancies. It provides a direct link for patients to the perinatal mental health support service, physiotherapy service and specialist perineal expertise as needed. Currently, the Complex Postnatal Service runs alongside the post-traumatic birth clinic led by the perinatal mental health support service. Patients are referred from the wards by doctors or midwives, or from the clinical risk service after identification by incident reporting.

### CLINICAL ACTIVITY - PERINEAL CLINIC

303 new patients attended the perineal clinic in 2021, significantly less than the numbers seen in 2019 and 2020, which likely reflects the significant reduction in incidence of obstetric anal sphincter injury, even more notable given the increase in number of births during this time period.

### **TABLE 1: INDICATION FOR ATTENDANCE**

Indication for Attendance	2019	2020	2021
Antenatal assessment (previous OASI)	81	79	101
Antenatal assessment (other issues)	34	24	39
Postnatal assessment after third-degree tear	105	104	80
Postnatal assessment after fourth-degree tear	1	8	7
Postnatal assessment of perineal infection / pain / dyspareunia	60	64	53
Postnatal assessment of faecal incontinence	6	2	3
Female Genital Mutilation (FGM) assessment	9	17	12
Word catheter for Bartholin cyst*	25	9	1*
Other	13	7	7
Total	334	314	303

\*Word catheter insertion for Bartholin cyst has changed its service location from the Perineal Clinic to the Day Assessment Unit, which is reflected by these declining numbers at the Perineal Clinic

OASI rates in the Rotunda declined by 30% in 2021 (84 cases) compared with 2020 (124), which followed a sustained commitment by staff to institute a suite of mitigating interventions over the past number of years, known as the PEACHES care bundle. Modes of delivery for those who sustained anal sphincter injury are described in Table 2 below. The total numbers of those who sustained OASI in 2021 (Table 2) is different from the numbers seen for follow up after OASI (Table 1), as the cases enumerated in Table 1 may have delivered their babies in the previous year (2020).

### **TABLE 2: MODE OF DELIVERY**

Mode of Delivery	3rd degree tear	4th degree tear
Spontaneous vaginal	49	2
Vacuum only	12	0
Vacuum and forceps	3	1
Forceps only	14	3
Born outside hospital (BBA)	0	0
Total	78	6

A total of 42 patients who attended the clinic required additional treatment or onwards specialist referral, such as to a colorectal surgeon, in addition to physiotherapy (which is provided to all patients). The specific additional treatments that were required are listed in Table 3 below.

### TABLE 3: PROCEDURE / REFERRAL

Procedure/Referral	2019	2020	2021
Treatment of granulation tissue (outpatient)	15	28	27
Referral to colorectal service	7	6	7
Perineal revision / injection (day case)	9	10	4
Removal of persistent suture material (outpatient)	10	7	2
Reversal of Female Genital Mutilation	3	2	2
Total	44	53	42

### CLINICAL ACTIVITY - COMPLICATED POSTNATAL CLINIC

It was a busy year for the complicated postnatal clinic in 2021 with a 60% increase in referrals as shown in Table 4 below:

### **TABLE 4: INDICATION FOR REFERRAL**

Indication for referral	2020	2021
Postpartum haemorrhage	24	45
Category 1 emergency caesarean delivery	4	22
Various maternal complications such as maternal collapse, organ injury	2	10
Neonatal encephalopathy	20	11
Various neonatal complications	7	9
Shoulder dystocia	6	8
Fourth degree tear	5	4
Hospital re-admission	5	4
Wound infection	0	4
Caesarean hysterectomy for placenta accreta	1	1
Total	74	118

### **SUCCESSES & ACHIEVEMENTS 2021**

### **ENHANCING PATIENT CARE**

Following a sustained commitment to reduce rates of OASI, including implementation of the PEACHES perineal care bundle and in-depth analysis of each OASI case in the previous year, there was a significant reduction in OASI in 2021, which is particularly impressive given the increased number of births at the Rotunda in 2021. A review of mode of delivery after previous OASI was also published, which noted a reduction in repeat OASI rates, without an increased caesarean delivery rate in this cohort.

### **EDUCATION AND TRAINING**

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

A multidisciplinary team of midwives and obstetricians completed the RCPI/HSE SAFE (Situational Awareness for Everyone) programme to

review risk reduction strategies and initiatives. The team produced a short video on the importance of multidisciplinary interdepartmental safety huddles to improve communication within and between hospital teams. It is hoped that this will result in a significant reduction in complex births, with an expected reduction in numbers of patients needing onward referral to the Complicated Postnatal Service.

### **CHALLENGES 2021**

Like every service in the hospital, the COVID-19 pandemic and the mid-year HSE cyberattack significantly affected provision of in-person, hospital based postnatal follow-up, including physiotherapy. Some clinic visits were deferred, with additional clinics being offered at times of the year when COVID-19 case numbers were lower. Despite these challenges, all patients who sustained OASI continued to be offered in-person clinic and physiotherapy follow-up.

### PLANS FOR 2022

Due to improvements in physiotherapy and bladder care staffing, it is hoped to provide a complete range of multidisciplinary supports within a single specialist perineal clinic for women who have experienced OASI in 2022. This will enhance the holistic nature of the clinic and contribute to an improved patient experience.

In order to improve the postnatal clinic for women who have experienced complications, a qualitative questionnaire will be completed to evaluate whether women's needs after complex births and pregnancies are being met and identify areas for service improvement.

# **Radiology Service**

### **HEAD OF SERVICE**

Dr. Ailbhe Tarrant, Consultant Paediatric Radiologist

### **STAFF**

Dr. Neil Hickey, Consultant Adult Radiologist

Dr. Kevin Pennycooke, Consultant Adult Radiologist

Prof. 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. Megan Kelly, Senior Radiographer

Mr. Paddy Nolan, Clinical Specialist in Radiography

Ms. Shenaz Subjee, Senior Radiographer, Radiation Protection Officer and PACS Manager

### **SERVICE OVERVIEW**

The Radiology Service provides imaging for adults and infants at the Rotunda. The adult services include non-obstetric imaging for maternity patients, non-oncologic gynaecology imaging, fertility imaging and radiologic intervention. Paediatric services include 24-hour support for the Neonatal Intensive Care Unit (NICU) as well as inpatient and outpatient paediatric imaging and hip ultrasound as part of the National Hip Screening Programme.

Despite continued restrictions due to COVID-19 in 2021, demand for imaging has continued to grow. This was in part due to a backlog of patients awaiting clinic appointments as a result of COVID-19 enforced delays, but also because of steadily increasing demand for imaging from a greater number of clinics. The number of referrals continues to exceed the number of available imaging appointments and it has become challenging to conform to national best practice imaging guidelines.

The transition from Computed Radiography (CR) to Digital Radiography (DR) was completed in December enabling digital mobile X-Ray for the adult and paediatric services.

### **CLINICAL ACTIVITY**

The adult and paediatric examination numbers have continued to increase year-on-year, with 2021 seeing an increase in the number of specialist imaging investigations such as MRI and radiologic interventions. A total of 8,460 examinations were performed in 2021, representing a 19% increase in activity compared to 2020. This was despite the most severe COVID-19 restrictions in the first two months of 2021, during which only urgent and semi-urgent examinations were performed and no interventional procedures took place. The HSE cyberattack also created difficulty getting reports onto the NIMIS PACS during May and June.

**TABLE 1: ADULT AND PAEDIATRIC CLINICAL ACTIVITY 2019-2021** 

Adult Radiology	2019	2020	2021
Total studies	1,436	1,770	2,351
Ultrasound	1,090	1,407	1,750
Fluoroscopic studies	207	197	393
Plain film X-ray	99	118	105
MRI*			85
CT*			46

Paediatric Radiology	2019	2020	2021
Total studies	5,499	5,309	6,109
Fluoroscopic studies	62	47	24
Ultrasound	2,843	2,751	3,261
Plain film X-ray	2,427	2,443	2,749
Hip ultrasound	1,752	1,511	1,885

<sup>\*</sup>at Mater Misericordiae University Hospital or Connolly Hospital

### **ADULT RADIOLOGY**

### **ULTRASOUND**

As demonstrated in Table 2, demand has continued to increase for adult, non-obstetric ultrasound examinations such that their accommodation in a timely fashion is a challenge. The number of urgent and semi-urgent referrals increased over the last number of years and reflects the increased clinical activity in the hospital. Overall, the adult radiology service has seen a 35% increase in referrals for ultrasound examinations between 2020 and 2021.

### TABLE 2: ADULT ULTRASOUND EXAMINATION REFERRALS 2019-2021

Number referrals	2019	2020	2021
Outpatient	1,421	1,828	2,463
Inpatient	91	139	188
Total	1,512	1,967	2,651

Gynaecology ultrasound examinations were moved to the new ambulatory gynaecology building in 2021, with the benefit of a new high-specification ultrasound machine.

### **FLUOROSCOPY STUDIES**

Despite COVID-19 pandemic-enforced restricted access, the overall number of adult fluoroscopy studies continued to increase. Studies performed in Connolly Hospital on Rotunda referrals included hysterosalpingography and selective tubal recannulation procedures. A new fibroid embolisation service was commenced by Dr. Pennycooke for Rotunda patients at Connolly Hospital, with 12 uterine artery embolisations being performed in 2021.

### **MRI**

During 2021, the majority of adult gynaecologic MRI examinations were accommodated in Connolly Hospital, with follow-up discussions being provided through the gynaecology MDT meeting at the Rotunda. A total of 85 gynaecologic MRI examinations were performed in Connolly Hospital for Rotunda referrals in 2021.

### PAEDIATRIC RADIOLOGY

COVID-19 enforced changes continued in 2021, with a continued need for innovative re-modeling of radiology workflows. Hip ultrasound examinations, which had routinely been performed as outpatients at six weeks of age, were facilitated where possible as inpatients prior to discharge. Innovative approaches to imaging lists enabled neonatal imaging to continue in accordance with nationally agreed recommendations while adhering to COVID-19 restrictions on hospital outpatient activity. This approach enabled clinical activity levels to be maintained without breaching guidelines.

In 2021, a total of 6,109 paediatric studies were performed, representing 72% of total Radiology Service activity. Of these studies, 3,261 (53%) were ultrasound examinations, with 1,885 being hip ultrasounds performed as part of the National Screening Programme for Developmental Dysplasia of the Hip (DDH). A total of 2,749 plain X-ray films and 24 fluoroscopy studies (upper and lower gastrointestinal contrast) were performed.

September 2021 saw the retirement of Prof. Stephanie Ryan, Consultant Paediatric Radiologist, after 24 years of dedicated service at the Rotunda. Her tireless energy and productivity will be hugely missed. The reduced fluoroscopy activity levels in 2021 reflect the impact of her retirement. Additionally, ultrasound screening for DDH was temporarily outsourced to an external provider for a number of months in 2021, to enable continued adherence to national recommendations with this screening programme in the setting of reduced paediatric consultant cover. It is hoped that this will be alleviated once a replacement paediatric radiologist is appointed.

The CT and MRI needs of Rotunda paediatric patients continue to be provided by Children's Health Ireland (CHI) at Temple Street and at a fetal MRI centre at the National Maternity Hospital, with the latter now being the main provider of paediatric MRI scans. In 2021, 99 Rotunda babies had MRI studies at NMH, including 29 fetal MRI studies and 64 neonatal MRI brain studies. During 2021, nine Rotunda babies had MRI and one CT at CHI at Temple Street.

Ultrasound, CT and MRI scans of Rotunda babies continue to be discussed, when appropriate, at multidisciplinary team meetings in CHI at Temple Street, attended by Rotunda neonatologists and radiologists.

### **EDUCATION, TRAINING AND RESEARCH**

The 2020 Graf Hip Ultrasound refresher course was delivered in an online format in April 2021.

Gynaecology and radiology specialist registrars continue to rotate through the Radiology Service with gynaecologic ultrasound training being provided by Drs. Hickey and Pennycooke. Paediatric ultrasound

training was provided by Prof. Ryan and Dr. Tarrant, with Ms. Louise Duffy being heavily involved in the training of ultrasound for radiographers, radiology and gynaecology registrars. She has also continued in her role as Paediatric Sonographer Lead for the UCD Ultrasound MSc course.

A number of audits were completed by the Radiology Service in 2021, including triple identification, reporting turnaround times, and Trophon disinfection compliance.

Radiology Service staff participated in a number of scientific meetings in 2021, including delivering presentations at the International Pediatric Radiology Congress in Rome on upper gastrointestinal contrast studies, the RCSI Faculty of Radiology Annual Scientific Meeting on hip dysplasia, and the Cardiovascular and Interventional Radiological Society of Europe on varicocele embolisation. Additionally, two radiographers, Ms. Megan Kelly and Ms. Shenaz Subjee submitted a poster to the Rotunda Charter Day on neonatal chest image quality.

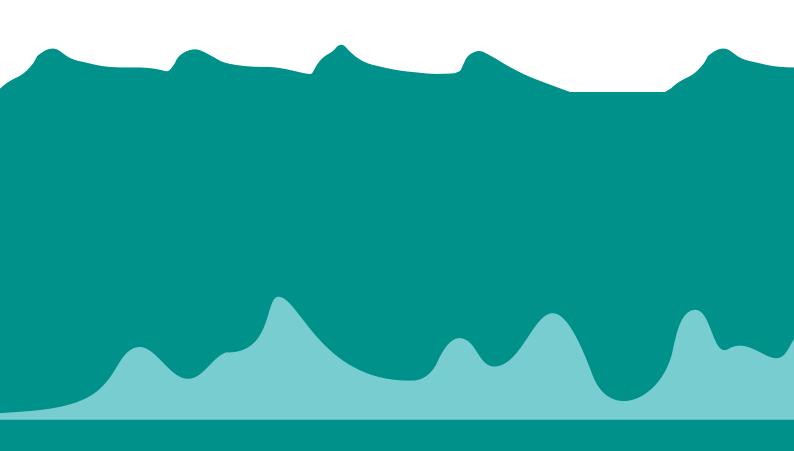
### **CHALLENGES 2021**

The HSE cyberattack highlighted the need to upgrade the National Integrated Medical Imaging System (NIMIS) and the windows-based Radiology Information System. Seamless integration of administrative systems, archiving systems and the MN-CMS electronic healthcare record remains an important goal within the Rotunda and the RCSI Hospitals Group.

### **PLANS FOR 2022**

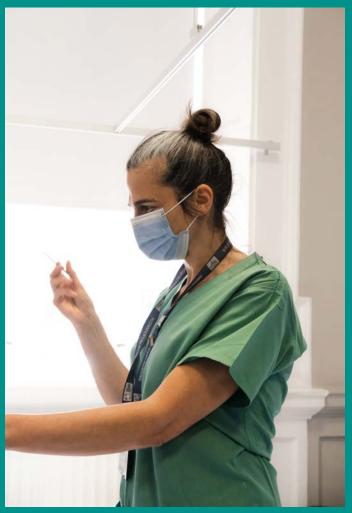
- To increase capacity in key diagnostic areas such as gynaecologic ultrasound, MRI and fluoroscopic-guided procedures
- To retain adequate staffing to balance the daytime workload with a demanding on-call schedule as well as attracting new staff with the necessary skillsets to meet the increasing service demands
- To participate in a multicentre contrast trial for hysterosalpingography (HSG), initially due to have commenced in 2020 but delayed because of COVID-19 restrictions
- To progress the recruitment of a third consultant paediatric radiologist, with a 25-hour weekly commitment to the Rotunda, to address radiology service deficits in the NICU and other areas
- To re-commence the Cranial Ultrasound Training Course, which has been hugely popular in previous years, but more recently was not offered due to COVID-19 restrictions
- To bring all neonatal hip ultrasound screening back to the Rotunda following the appointment of a Consultant Paediatric Radiologist to replace Prof. Stephanie Ryan
- To continue research collaboration with the Department of Neonatology

# Gynaecology









# **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, an Adolescent Gynaecology Clinic, a Urogynaecology/Promotion of Continence Clinic, a Subfertility/Reproductive Medicine Clinic, a Recurrent Miscarriage Clinic, a GP-led Contraception and Family Planning Clinic, a Colposcopy Service, an Outpatient Hysteroscopy Service, and a Termination of Pregnancy Service.

A major improvement to public gynaecology services occurred in 2021 by moving all outpatient services to a new, purposely-renovated ambulatory gynaecology building on the Rotunda campus. Private gynaecology services continue to be provided through the Rotunda Private Clinics. Minister for Health, Mr. Stephen Donnelly, officially opened the new Ambulatory Gynaecology Unit, which provides 10 clinical examination rooms, and outpatient hysteroscopy unit, a urodynamics unit, a dedicated gynaecologic sonography facility, and appropriate support services including phlebotomy, andrology, and patient recovery areas. Funding for this renovation was provided by the National Women and Infants Health Programme (NWIHP), with the renovation being managed by the Rotunda's own facilities management team. An external building contractor was procured, with the renovation being completed on budget, within a three-month period. A special thank you to Ms. Ann Coughlan and Ms. Jean Coffey who were instrumental in the development and opening of the new Ambulatory Gynaecology Unit.

There were 2,745 new gynaecology appointments in the public hospital clinics and 3,079 return visit, in-person appointments. The 'did not attend' (DNA) rate for appointments unfortunately deteriorated from 15% in 2020 to 22% in 2021. It is likely that this increase in DNA rates reflected the significant impact of the COVID-19 pandemic, with many of our patient population being affected. There was a significant increase in new gynaecology referrals, increasing from an average of 400 new patient referrals per month, to in excess of 600 in some months. Despite this increase in referrals, there was a decline in waiting list numbers in 2021, as well as a decline in the number of weeks women waited for a first gynaecology appointment at the Rotunda. This performance was a direct result of the increase in gynaecologic clinic capacity and improved efficiencies within the Gynaecology Service. In addition to the large number of in-patient appointments, there were an additional 3,014 new and return telemedicine consultations.

Acknowledgement and credit must be given to all staff involved in the expansion of 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

### 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. Niamh Daly, Dr. Eve Gaughan, Prof. Michael Geary, Dr. Hassan Rajab, and Dr. Meena Ramphul. 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 Consultant Gynaecologist, 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 2021, there were 117 new and 104 follow-up appointments, which represented an increase in attendances over 2020.

### PROMOTION OF CONTINENCE CLINIC

This specialist clinic is a multidisciplinary clinic staffed by Consultant Gynaecologist Dr. Naomi Burke, as well as by physiotherapists, led by Ms. Cinny Cusack, with Ms. Caroline Hendricken, Specialist Nurse in bladder care and urogynaecology. 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 2021, there were 200 new and 200 follow-up appointments attended, similar to the throughput in 2020.

### **SUBFERTILITY CLINIC**

Two clinics are provided weekly by specialist consultants in reproductive medicine, Dr. Edgar Mocanu and Dr. Rishi Roopnarinesingh, dedicated to the investigation and management of subfertility. The complete array of investigations and expertise are available at these clinics to thoroughly assess female and male factor subfertility. This service was enhanced by the relocation to the new Ambulatory Gynaecology Unit which has a male sampling room and semen analysis laboratory located on the ground floor. In 2021, there were 326 new and 839 follow up appointments attended, a 5% increase compared with 2020.

### 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 Consultant Obstetrician Gynaecologist, Dr. Karen Flood, with Clinical 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 2021, there were 117 new and 562 follow-up appointments attended. There were also 77 telemedicine consultations. The large number of

follow up appointments is accounted for by demand for reassurance ultrasound examinations offered in early pregnancy.

### **VIRTUAL CLINIC**

The Rotunda Hospital introduced an innovative gynaecology telemedicine clinic in 2019 to improve the efficiency by which patients with common gynaecologic complaints obtain an initial evaluation and treatment plan. This has been further expanded to two clinics, as well as many of our general gynaecology clinics offering additional virtual consultation rather than face-to-face appointments. Follow-up appointments were offered for patients with benign histology results and for discussion of normal blood test and ultrasound results for selected patients. All patients on the general gynaecology waiting list are now assessed for suitability for such a virtual consultation. Select new patients are also referred to the virtual gynaecology clinics through Healthlink based on specified referral criteria including: contraception counselling such as tubal ligation, ovarian cyst follow-up in young women, menorrhagia in women younger than 40 years of age, and initial consultation for intermenstrual or postcoital bleeding.

### **OUTPATIENT HYSTEROSCOPY SERVICE**

The Outpatient Hysteroscopy Service caters for women referred to the Rotunda who meet eligibility criteria and are scheduled for 'one-stop/ see-and-treat' gynaecologic evaluation. The clinics are provided by Consultant Gynaecologists Dr. Naomi Burke, Dr. Kushal Chummun, Dr. Eve Gaughan, Dr. Conor Harrity, Dr. Nicola Maher, Dr. Edgar Mocanu and Dr. Vicky O'Dwyer. Ms. Hannah Bolger is the Clinical Nurse Specialist who ensures the smooth and efficient running of these clinics. The team is supported by Healthcare Assistants Ms. Lisa Hillman and Ms. Ciara Deegan. The Outpatient Hysteroscopy Service receives both direct GP referrals and internal referrals for diagnostic and operative hysteroscopy. The procedures offered in the clinic include diagnostic hysteroscopy and biopsy, either through a vaginoscopy approach or with cervical dilatation under local anaesthetic. Operative hysteroscopy is also used for removal of intrauterine contraceptive devices that could not be removed in the outpatient clinic. Uterine polypectomy and myomectomy are performed using Myosure operative hysteroscopes. This clinic had increased activity in 2021 which was particularly helpful with operating theatre closures due to the COVID-19 pandemic. The clinic is located on the ground floor of the new ambulatory gynaecology building with its own dedicated procedure room and an admission/ recovery area. The clinic received high patient satisfaction scores again in 2021. A total of 1,367 outpatient hysteroscopies were performed by this service, compared with 849 procedures performed in 2020, which represented a remarkable 60% increase in clinical throughput in this much more efficient service.

### **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, in particular those that have proven

challenging for local GP practices. General contraceptive advice and a perimenopausal 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. The GP-led clinic saw 164 new patients and 119 return patients in 2021.

### **PREGNANCY OPTIONS SERVICE**

The Pregnancy Options Service provides a multidisciplinary care programme for patients seeking elective termination of pregnancy, with significant medical, midwifery and social work input. There were 102 terminations performed in 2021 under Section 12 of the Health (Regulation of Termination of Pregnancy) Act 2018, which is the section of the act that applies to patients seeking termination of pregnancy at less than 12 weeks' gestation. This compared with 123 such terminations performed in 2020 between nine and 12 weeks gestation. Approximately two thirds of women who attended the pregnancy options clinic were referred with persistent bleeding or a persistently positive urinary pregnancy test (UPT) after an early medication abortion before nine weeks' gestation. These women were treated with repeat medication prescription, surgical evacuation of retained products of conception, or manual vacuum aspiration (MVA) under local anaesthetic in our OPH procedure suite. It is notable that the number of pregnancy terminations provided by the Rotunda at less than 12 weeks' gestation has progressively decreased in the three years since legislation commenced this programme, from 178 in 2019, to 123 in 2020, and now 102 in 2021. This likely confirms that the vast majority of such early pregnancy termination procedures are being successfully performed by general practitioners in the community using a medical approach prior to nine weeks' gestation.

### **OPERATING THEATRE**

ABBREVIATIONS USED IN TABLES					
AP repair	Anterior and posterior colpoperineorraphy				
BSO	Bilateral salpingo-oophrectomy				
D+C	Dilation and curettage				
Dye	Methylene blue dye				
EUA	Examination under anaesthetic				
FGM	Female genital mutilation				
IUCD	Intraterine contraceptive device				
LLETZ	Large loop excision of the transformation zone				
STAH	Subtotal hysterectomy				
тот	Transobturator tape				
TVT	Transvaginal tape				
ТАН	Total abdominal hysterectomy				

### **TABLE 1: HYSTEROSCOPIC PROCEDURES**

	2019	2020	2021
Dilation and curettage (D+C)	225	310	278
D+C with insertion of intrauterine device	211	230	270
Polypectomy	65	87	113
D+C with endometrial ablation	112	86	67
Myomectomy	59	56	28
D+C with diathermy to cervix	12	4	13
Resection of uterine septum	3	2	3
Total	687	775	772

### TABLE 2: LAPAROSCOPIC PROCEDURES

	2019	2020	2021
Dye +/- APC +/- ovarian drilling +/- adhesiolysis	289	332	328
Ovarian cystectomy	78	87	71
Diagnostic	76	74	70
Hysterectomy +/- salpingectomy +/- oophrectomy	33	22	40
Salpingo-oophorectomy	36	41	36
Oophorectomy	9	8	4
Appendectomy	3	2	3
Sterilisation	11	9	2
Myomectomy	10	6	0
Total	545	581	554

### TABLE 3: LAPAROTOMY

	2019	2020	2021
TAH +/- BSO	53	23	35
Myomectomy	16	18	20
Ovarian cystectomy	4	6	6
Conversion from laparoscopy	4	7	4
Oophorectomy	2	3	4
STAH	0	1	1
Cystectomy /oophorectomy / washings	1	2	0
Reversal of sterilisation	1	1	0
Total	81	61	70

### TABLE 4: VAGINAL AND TRANSVAGINAL SURGERY

	2019	2020	2021
Anterior and posterior colpoperineorrhaphy	63	63	66
Vaginal hysterectomy	60	51	37
Sacrospinous fixation	16	9	8
Transvaginal oocyte retrieval	3	2	0
TVT	0	1	0
Total	142	126	111

### TABLE 5: OTHER VULVOVAGINAL PROCEDURES

	2019	2020	2021
Resection of vaginal septum	8	7	5
Fenton's procedure	4	5	5
Revision of perineum	10	10	0
Labial reduction/repair	4	5	0
Repair of FMG	0	1	0
Total	26	28	10

### **TABLE 6: MINOR SURGICAL PROCEDURES**

	2019	2020	2021
Cystoscopy	45	39	42
Vulva biopsy / excision of vulva lesions	26	29	17
LLETZ	19	14	15
Hymenectomy	4	14	14
Bartholin's abscess / cyst or vaginal cyst / abscess	50	74	10
Intravesical Botox injection	19	1	0
EUA +/- smear	3	5	0
Cervical cerclage	1	2	0
Diathermy of labial condyloma	1	0	0
Total	168	178	98

### **TABLE 7: FIVE YEAR COMPARISON**

	2017	2018	2019	2020	2021
Anterior and posterior repair	31	37	63	63	66
Laparoscopic hysterectomy +/- BSO	38	52	33	41	40
Vaginal hysterectomy and AP repair	58	46	60	51	37
TAH +/- BSO	24	37	53	23	35
LLETZ	12	11	19	14	15
Sacrospinous fixation	15	8	16	9	8
Laparoscopic Sterilisation	14	6	11	9	2
STAH	12	19	0	2	1
Total	204	216	255	212	204

### **ANALYSIS**

The number of hysteroscopic procedures performed under general anaesthesia in 2021 was similar to 2020. While there were more total gynaecologic procedures performed in 2021 overall, this was due to an increase in outpatient hysteroscopy procedures, both diagnostic and operative. The Outpatient Hysteroscopy Service received high patient satisfaction scores on qualitative analysis.

The number of laparoscopic procedures was similar in 2021 compared with 2019 and 2020. Laparoscopic hysterectomies remain the most common method for hysterectomy at the Rotunda, rather than the open abdominal or vaginal approach. This reflects the skillset in minimally invasive surgery of our consultant gynaecologists.

In 2021, the number of vaginal hysterectomies and pelvic floor repairs remained consistent with previous years. The number of other vulvovaginal procedures, minor surgical procedures and LLETZ procedures (for cervical pathology) remained consistent with previous

years. The number of LLETZ procedures performed in the operating theatre is less than 1% of the total number of LLETZ performed in the Colposcopy Clinic, which is consistent with best practice. The number of Bartholin's cysts or abscesses treated in the main operating theatre declined again, which reflects the success of management of this condition using the Word catheter placed under local anaesthesia in the Day Assessment Unit (DAU).

### **SUCCESSES & ACHIEVEMENT 2021**

- The Rotunda Gynaecology Service continues to provide high quality care for a large number of women from diverse backgrounds and with diverse requirements. Hysteroscopy was provided in the outpatient setting under local anaesthesia for two thirds of the women undergoing this procedure, with high patient satisfaction
- Waiting times continued to decrease for women with general benign gynaecology conditions, with virtual telemedicine clinical consultations being particularly helpful in this regard
- The Rotunda Gynaecology Service expanded its multidisciplinary team to include an Advanced Nurse Practitioner and a Physician Associate. Nurse-led clinics are now offered for management of heavy menstrual bleeding in women under 40 years of age, for pessary management and for contraception consultation via telemedicine
- Anaesthetic pre-assessment clinics were used to provide preoperative assessment to over 80% of patients scheduled for inpatient surgery, which has been shown to increase patient safety and reduce surgical cancellations

### PLANS FOR 2022

- Expansion of urogynaecology services will focus on a multidisciplinary approach to pelvic floor conditions and continence promotion, with the planned appointment of a new consultant subspecialist in urogynaecology
- The new operating theatre build will lead to four fully compliant operating theatres on the Rotunda campus, which should significantly increase access to inpatient gynaecologic surgery

# **Colposcopy Service**

### **HEAD OF SERVICE**

Dr. Claire Thompson, Consultant Gynaecologic Oncologist

### **STAFF**

Dr. Kushal Chummun, Consultant Obstetrician Gynaecologist

Dr. Eve Gaughan, Consultant Obstetrician Gynaecologist

Dr. Yahya Kamal, Consultant Obstetrician Gynaecologist

Dr. Vicky O'Dywer, Consultant Obstetrician Gynaecologist

Dr. Hassan Rajab, Consultant Obstetrician Gynaecologist

Ms. Rose Thorne, Lead Nurse Colposcopist

Ms. Virginie Bolger, Nurse Colposcopist

Ms. Barbara Markey, Nurse Colposcopist

Ms. Jennifer O'Neill, Nurse Colposcopist

Ms. Carol O'Rouke, Colposcopy Nurse Co-ordinator

Ms. Ciara Muddiman, Trainee Nurse Colposcopist

Ms. Indu Thomas, Staff Nurse

Ms. Nicola Boyd, Healthcare Assistant

Ms. Hollie Dunne, Healthcare Assistant

Ms. Janice Glynn, Healthcare Assistant

Ms. Patricia O'Donovan, Healthcare Assistant

Ms. Yvonne Burke, Administrative Team Leader

Ms. Eilis Dalton, Administration Support

**Ms. Lisa Gleeson,** Administration Support **Ms. Ruth Mackey,** Administration Support

Ms. Jade Ng, Administration Support

### **SERVICE OVERVIEW**

The Rotunda Colposcopy Service is the largest such service in Ireland. This is a quality-assured service with an annual review of all key performance indicators. Monthly multidisciplinary team meetings are provided and are attended by all staff including, histopathology and cytology.

The year 2021 was a challenging time for all services with the ongoing COVID-19 pandemic, but was negatively impacted even further by the HSE cyberattack. Colposcopy departments across the country experienced significant negative impacts without full access to information technology during the cyber-recovery period. In addition, the Rotunda's service has seen a further increase in new referrals, which is projected to continue due to the changes in the CervicalCheck programme, with the implementation of HPV primary screening. These factors combined to negatively impact on waiting time targets.

In 2021, the number of new referrals increased dramatically due to the catch-up programme for cervical screening in primary care. Clinic capacity had been optimised throughout 2020, and this was repeated in 2021. Despite the impact of COVID-19 and the HSE cyberattack, the Rotunda's service maintained a higher turnover of new appointments alongside an increase in treatments. This increase in treatments and diagnostic biopsies has placed further demands on the Rotunda's histopathology service.

The Colposcopy Service has maximised all clinical capacity including an increase in nurse-led clinics and evening smear clinics. The hard work and dedication of all team members has resulted in the service

maintaining the highest standards of care in accordance with the Rotunda's key role in the national screening programme.

### **CLINICAL ACTIVITY**

### **TABLE 1: FIVE YEAR COMPARISON**

	2017	2018	2019	2020	2021
New attendances	1,681	1,936	2,073	1,589	2,444
Return visits	3,382	3,472	3,940	4,004	2,791
Total visits	5,063	5,408	6,025	5,593	5,235

In 2021, a further 2,000 patients attended for a Test-of-Cure or management of uncertain changes (MUCH) cervical smears and HPV tests.

### TABLE 2: COMPLIANCE WITH REFERRAL APPOINTMENT TARGETS

Year	Projected New Referrals	Number of New Referrals Attended	% Referred with clinical indication	Waiting time for High Grade cases*	Waiting time for Low Grade cases**
2017	2,000	1,681	14%	100%	100%
2018	2,000	1,935	31%	91%	97%
2019	2,000	2,073	30%	60%	66%
2020	2,000	1,589	24%	78%	85%
2021	2,000	2,444	16%	62%	40%

<sup>\*</sup>Target for seeing patients with high grade cervical smear changes is 90% within four weeks of the referral

The COVID-19 pandemic continues to impact the service, but the adaptations made in 2020 have maximised efficiency within the limits of current infrastructural capacity. Notably the additional nurse-led clinics and evening smear clinics have helped manage the significant workload increase. The impact of the Omicron COVID-19 variant in particular, resulted in a loss of clinics due to affected staff members being unavailable for work. The colposcopy nursing team supported any loss of consultant services wherever possible. This impacted waiting time targets for managing low grade smear cases significantly as re-allocation of patient appointments understandably had to prioritise urgent referrals. Urgent referrals and treatments were also prioritised during the recovery period after the HSE cyberattack.

Another challenge for service efficiency is the persistently high non-attendance (DNA) rate, which increased further following the HSE cyberattack to just over 10%. This again impacted on waiting time targets and has prompted novel interventions, such as pre-appointment telephone reminders together with the established text reminder messaging system. This has subsequently resulted in a reduction of the DNA to a rate of 5% by the end of 2021. The Colposcopy Service is also

<sup>\*\*</sup>Target for seeing patients with low grade cervical smear changes is 90% within eight weeks of the referral

reducing the number of new appointments being provided for clinically-directed referrals, as new clinics for this indication have been opened outside of the Colposcopy Service. It is anticipated that these changes, together with resolution of the HSE cyberattack effects, the stabilisation of the COVID-19 pandemic impact, and improvements in staffing will improve compliance with national targets.

Monthly reports of Key Performance Indicators are provided to CervicalCheck regarding these service improvements.

### TABLE 3: COLPOSCOPY SERVICE TREATMENTS PROVIDED

	2017	2018	2019	2020	2021
Cervical biopsy	1,388	1,679	3,439	1,476	2,119
Large Loop Excision of the Transformation Zone (LLETZ)	386	455	520	462	574
Cold Coagulation (CC)	405	371	359	310	216
Total treatments (LLETZ + CC)	791	826	879	772	790
Total procedures	2,179	2,505	4,318	2,248	3,699

### **SUCCESS & ACHIEVEMENTS 2021**

### **CLINICAL SERVICE DEVELOPMENTS**

- Continuation of early morning nurse-led Cold Coagulation Clinics have provided enhanced patient services, with current capacity for eight treatment sessions each week at 7.30am, which is the equivalent of one full additional weekly colposcopy session
- Evening smear clinics have created added capacity for an increase in daytime colposcopy and provide a greater patient choice of appointment times
- Expansion of the nurse colposcopists team, has enhanced the number of nurse-led clinics, with the majority of low grade referrals now being seen by experienced nurse colposcopists.
   This has resulted in an improvement of low grade waiting time targets by the fourth quarter of 2021, improved patient continuity and positive feedback, as well as more efficient progression through the service
- The role of advanced nurse practitioners in colposcopy is becoming established throughout the UK and Ireland, with recognised benefits to patient care and service development.
   Ms. Jennifer O'Neill is currently undertaking advanced nurse practitioner training in this regard

### **ACCREDITATION & TRAINING**

 The service now has four nurse colposcopists, following Ms. Rose Thorne and Ms. Barbara Markey successfully completing BSCCP accreditation

- Ms. Rose Thorne has been appointed as Lead Nurse Colposcopist which has been of immense benefit to service management
- All actively practicing consultants in colposcopy are now accredited with the BSCCP
- There are five accredited colposcopy trainers within the service, greatly expanding the opportunity for training of obstetricgynaecologic trainees
- The entire consultant team is active in education including for primary care colleagues and via the Institute of Obstetricians and Gynaecologists, and CervicalCheck
- Members of the team also regularly attend relevant national and international conferences on colposcopy services

### **CLINICAL AUDIT & RESEARCH**

Audits registered or completed in 2021 include:

- Application of BSCCP and CervicalCheck 'See-and-Treat' LLETZ quidelines
- Audit of invasive cervical cancers over the last 5 years

### **CHALLENGES 2021**

The main challenges for 2021 were the increased referral rate from the national primary HPV screening system, and the need to optimise workforce requirements due to planned retirements, particularly amongst nurse colposcopists.

Primary HPV screening commenced in Ireland in March 2021, with the advantages being a higher sensitivity for pre-invasive lesions, improved reassurance with a negative test, and safe prolongation of screening intervals. However, evidence has shown that the initial implementation will be followed by a significant increase in colposcopy referral, with studies suggesting as much as a 30% increase. It is expected that this increase will then stabilise over time, partly due to the HPV vaccination. Improvement of the Rotunda's clinical capacity and role of nurse-led services is therefore going to be paramount to our service in the upcoming years. Given that it takes two years for training of an accredited nurse colposcopist, a major current challenge for the Colposcopy Service is the identification and recruitment of relevant new staff to address planned upcoming staff retirements.

### **PLANS FOR 2022**

The next year will be focused on strategy development on the following issues:

- Engagement in the development of new expanded facilities in a building in Parnell Square and progressing the transfer of colposcopy services to this site
- Expansion of nurse-led colposcopy services with a business case to support the development of a new Vulval Intraepithelial Neoplasia (VIN) Clinic with consultant support
- Continue the development of the advanced nurse practitioner role within the Colposcopy Service
- Engagement in workforce planning initiatives for future-proofing and expansion of nurse-led services
- Enhancement of colposcopy training opportunities for both nursing and medical staff
- Increase the yearly departmental audit throughout which was negatively impacted in 2021 by the HSE cyberattack
- Review and update of all Standard Operating Procedures (SOPs) to be completed



### **Sexual Assault Treatment Service**

### **HEAD OF SERVICE**

**Prof. Maeve Eogan,** Consultant Obstetrician Gynaecologist **Dr. Nicola Maher,** Consultant Obstetrician Gynaecologist

#### STAFF

Ms. Noelle Farrell, Clinical Midwife Manager II

Ms. Naomi Finnegan, Clinical Midwife Specialist

Ms. Kate O'Halloran, Clinical Midwife Specialist

Ms. Deirdra Richardson, Clinical Midwife Specialist

Ms. Christine Pucillo, Clinical Nurse Specialist

Ms. Sarah O'Connor, Project Manager for Postgraduate Diploma in

Nursing (Sexual Assault Forensic Examination)

Ms. Moira Carberry, Administration

Ms. Rita O'Connor, Administration

Ms. Denise Rogers, Administration

Dr. Wendy Ferguson, Forensic Clinical Examiner

Dr. Elzahra Ibrahim, Forensic Clinical Examiner

Dr. Daniel Kane, Forensic Clinical Examiner

Dr. Haroon Khan, Forensic Clinical Examiner

Dr. Ciara Luke, Forensic Clinical Examiner

Ms. Debbie Marshall, Forensic Clinical Examiner

Dr. Jill Mitchell, Forensic Clinical Examiner

Dr. Cathy Montieth, Forensic Clinical Examiner

Ms. Sue Roe, Forensic Clinical Examiner

Ms. Aideen Walsh, Forensic Clinical Examiner

Dr. Amy Worrall, Forensic Clinical Examiner

### **SERVICE OVERVIEW**

The Rotunda Sexual Assault Treatment Unit (SATU) is one of six HSE-supported SATUs around the country. Prof. Maeve Eogan holds the role of National Clinical Lead for SATU Services, while Dr. Nicola Maher is the local Rotunda Hospital Clinical Lead. Each unit provides comprehensive forensic and medical care to individuals who have experienced sexual violence, as part of a collaborative, interagency national Sexual Assault Response Team (SART). Clinicians from the Rotunda founded the first SATU in Ireland in 1985, and care for victims of sexual assault continues to be provided on-site since then. The support that the SATU receives from the Executive Management Team and all colleagues at the Rotunda Hospital is acknowledged. This support, despite competing and important demands on valuable resources, is greatly appreciated.

### **CLINICAL ACTIVITY**

### TABLE 1: FIVE YEAR COMPARISON OF ATTENDEES TO THE ROTUNDA SATU

Year	2017	2018	2019	2020	2021
No.	327	319	393	277	309

The COVID-19 pandemic appears to have had a significant impact on reporting of sexual assault since March 2020. It will be difficult to ascertain whether this reduction in attendance at SATU is due to reduced reporting or a true reduction in incidence of sexual assault. Certainly, despite significant societal restrictions, sexual violence

persisted and significant numbers of victims continued to access the service during 2021.

Of the 309 cases who presented in 2021, 190 presented between the second half of the year, from July to December. This represents only a 10% reduction in attendance for the same six-month period in 2019. Indeed August was the busiest month, with 43 attendances. It is therefore expected that, as restrictions ease even further, numbers attending the SATU in 2022 will likely return to (or surpass) prepandemic levels.

In 2021, 89% of patients identified as female and 10% as male with 1% identifying as 'other'. The age profile of patients ranged from 14 years to over 70 years. During 2021, a 15% reduction in the youngest age group (patients aged 14-17) attending SATU was noted, compared with 20% in 2020. The largest age group attending was the 18–35-year group, which accounted for 68% of patients.

As with recent years, a total of 28 different nationalities was noted amongst SATU attendees, reflecting the wide range of ethnicities and cultures in Ireland, and hopefully reflecting an increased awareness of the SATU service amongst minority groups. Similar to 2020, assailants were reported as strangers in 27% of cases, or recent acquaintances in 18% of cases. Intimate partner assault however remained significant at 5% of cases, while ex-intimate partners and family members accounted for a further 4% of cases each.

The Rotunda SATU provides a 24/7 service, 365 days per year. Over the course of 2021, 38% of cases were seen during the hours of 8pm and 8am. Despite significant restraints on core staffing due to prolonged leave and COVID-19 challenges, 92% of all patients were seen within three hours of notifying the SATU, even amongst those contacting the unit at night. Timely access to the service is very important in both addressing forensic evidence collection and being able to offer best medical care. A total of 82% of patients sought care within seven days of the sexual assault, either through An Garda Siochana or self-referral, allowing for timely provision of both care and evidence collection.

Some key performance indicators (KPIs) were however negatively impacted by COVID-19 during 2021. Limited attendance on-site by crisis support volunteers resulted in a significant reduction in availability of a psychological crisis worker for patients at their first attendance. However, notable improvements in this were seen towards the latter part of the year as COVID-19 restrictions lifted, and the team continues to work closely with colleagues at the Dublin Rape Crisis Centre (DRCC) and Accompaniment Support Services for Children to ensure this vital early access to support is available for patients.

Follow-up sexual health care, including STI screening and relevant vaccination, is also provided by the Rotunda SATU. Improved attendance at follow-up appointments was noted during 2021 at 66%. However, significant numbers of patients may never return to the SATU, emphasising the importance of providing optimal prophylactic care at the initial evaluation.

### **SUCCESSES & ACHIEVEMENTS 2021**

### **EDUCATION & TRAINING**

Throughout 2021, COVID-19 pandemic restrictions continued, making on-line education provision particularly valuable. New training videos continued to be useful for new assisting nurses who joined the team as well as the new DRCC volunteers recruited in 2021. Monthly peer review across the SATU network became embedded in the service.

An Interagency SATU Study Day was hosted by the team in Cork. This was a virtual meeting and was a great opportunity to bring together allied agencies involved in the provision of care to those who experience sexual violence. Rotunda Forensic Medical Examiner, Dr. Daniel Kane presented his research into national uptake rates of 'Option 3 – Collection of Evidence without Immediate Garda Reporting'. An update was provided on the National Sexual Violence Survey which has been delayed due to the COVID-19 pandemic and is eagerly awaited.

The Rainbow Badge initiative was introduced in 2021 at the Rotunda SATU. This HSE initiative is a training programme which ensures that staff recognise the challenges posed by LGBTI+ people when accessing healthcare. The badge is a visual symbol which identifies its wearer as someone who commits to promoting the SATU as an environment that is open, tolerant and inclusive.

Work to update new national guidelines has commenced and is being coordinated by Ms. Sarah O'Connor, with expected outputs in 2022.

Outreach education to schools and other support agencies continued, albeit in a limited capacity by Ms. Deirdra Richardson who, along with Ms. Noelle Farrell, are especially thanked for managing a full clinical workload despite reduced staffing throughout most of the year. Special thanks are also required for the team of assisting nurses who continue to provide excellent support to the forensic examiners on-call.

### **ENHANCING PATIENT CARE**

Continued use of iPads for part of the SATU attendance helped facilitate a reduction in face-to-face time, while maintaining rapport with patients.

An audit performed by Ms. Naomi Finnegan showed that early evidence kit use was not optimised and, through a liaison committee meeting, this information was provided back to An Garda Siochana and to the Forensic team members at the Rotunda to increase utilisation of this valuable part of the forensic evidence. This process will be re-audited in 2022 to ensure optimal use of early evidence kits.

### **STAFF SUPPORT**

A Department of Health review of SATU services agreed to increase staff supports. The nature of the work in SATU means that staff are particularly at risk of vicarious trauma and burnout, with high attrition rates of SATU staff being identified by this review. Towards the end of 2021, a programme of professional psychological support was rolled out nationally for all SATU staff.

This year the team said goodbye to administrative assistant Ms. Rita O'Connor, who retired in February 2021. We wish her a long healthy and happy retirement.

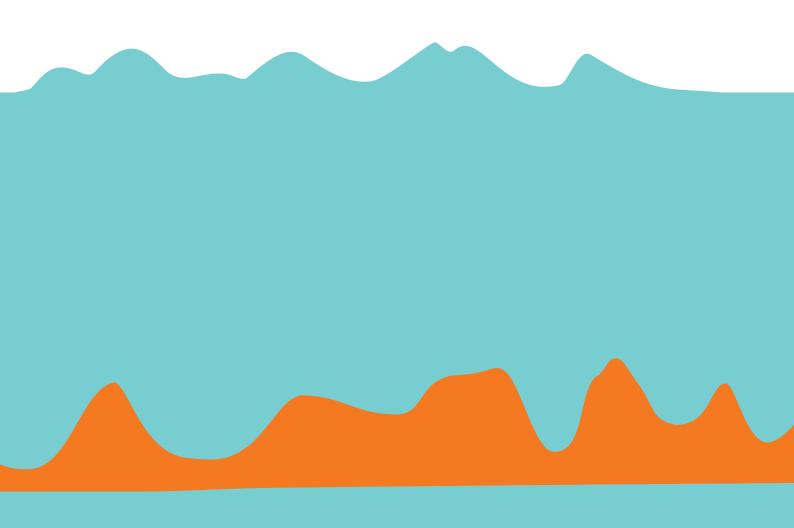
### **CHALLENGES 2021**

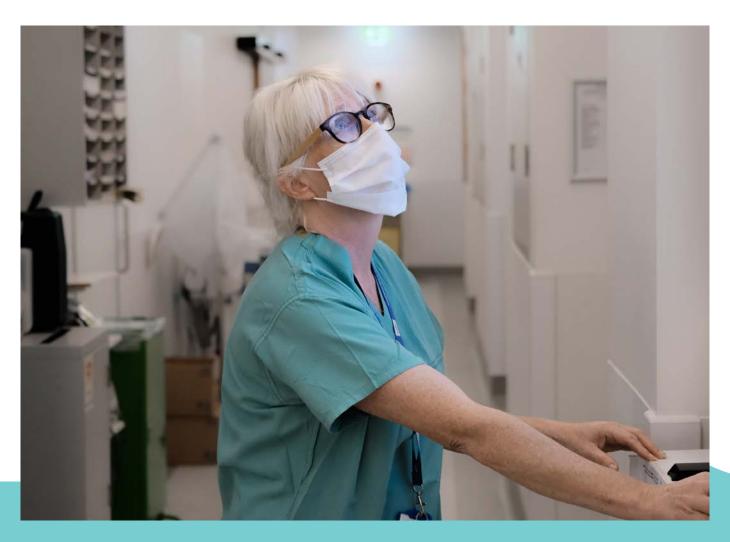
The ongoing restrictions of the COVID-19 pandemic and staffing limitations due to some temporary leave caused significant challenges in 2021.

### PLANS FOR 2022

- It is hoped to add a healthcare assistant to the SATU team in 2022, to improve daytime support for forensic medical examiners
- Updated national guidelines are awaited in 2022 and it is hoped that all staff will have completed Rainbow Badge Initiative training
- Engagement with local A&E departments and other relevant clinical departments with outreach training and education will be expanded during 2022
- It is hoped to improve care pathways for patients with underlying mental health problems who may need additional mental health support during the acute aftermath of a sexual assault
- Prioritising SATU staff wellbeing will be emphasised, with good engagement with available professional therapeutic supports
- It is hoped to revert to an in-person training day, rather than virtual, to help support the invaluable interagency teamwork that is crucial for SATU services
- More formal research into SATU services will be optimised by the appointment of Dr. Daniel Kane who will commence an MD in this regard in 2022

# Neonatology







# **Department of Neonatology**

### **HEADS OF DEPARTMENT**

Prof. Naomi McCallion, Consultant Neonatologist

### STAFF\*

Prof. Michael Boyle, Consultant Neonatologist

Prof. David Corcoran, Consultant Neonatologist

Dr. Katie Cunningham, Locum Consultant Neonatologist

Prof. Afif El Khuffash, Consultant Neonatologist

Prof. Adrienne Foran, Consultant Neonatologist

Dr. Breda Hayes, Consultant Neonatologist

Dr. Margaret Moran, Consultant Neonatologist

**Dr. Jan Franta,** Consultant Neonatal Transport

Dr. Hana Fucicova, Consultant Neonatal Transport

**Dr. Wendy Ferguson,** Clinical Specialist Paediatric Infectious Diseases

Dr. Shaishi Vaish, Locum Consultant Neurodevelopmental Paediatrics

Dr. Fiona McElligott, Consultant Paediatrician in Palliative care

Dr. Orla Franklin, Visiting Consultant Paediatric Cardiologist

**Dr. Sarah Chamney, Visiting Consultant Paediatric Ophthalmologist** 

\*Supported by a team of nurses, midwives, non-consultant hospital doctors, health and social care professionals and healthcare assistants.

### **SERVICE OVERVIEW**

The Department of Neonatology provides high quality and evidence-based specialist care for all newborn infants delivered in the Rotunda Hospital. Critical care is provided in the intensive, high dependency and special care baby areas, however the department also supervises screening, feeding and examination of well infants on the postnatal wards, as well as delivering specialist neonatal outpatient clinic care. The neonatal team provides both ante- and postnatal counselling for parents and families, as well as having strong links to quaternary referral centres when required. As ever, the service relied on the commitment, resilience, strength and flexibility of all team members during 2021, particularly when faced with the dual challenges of COVID-19 and the HSE cyberattack. The dedication of staff, as well as the understanding and support of our families, have made it possible to continue to provide excellence in neonatal care despite the many challenges of 2021.

Over 1,200 infants were admitted to the Rotunda Hospital Neonatal Intensive Care Unit (NICU) for special, high dependency or intensive care during 2021. The unit remains one of the busiest in the country, with an increase in the number of very low birth weight infant deliveries during 2021. It is one of four national tertiary referral centres for neonatal intensive care and one of three providing neonatal transport services. The Rotunda NICU is recognised as a national referral centre for therapeutic hypothermia and management of extreme prematurity, as well as for state-of-the art specialist therapies, such as high frequency ventilation and inhaled nitric oxide. The Rotunda NICU cares for sick and preterm infants, including infants delivered with complex congenital malformations and those who unexpectedly require special, high dependency or intensive care after delivery. The service provides care for infants born in the Rotunda as well as those transferred from the RCSI Hospitals Group partner hospitals (Our Lady

of Lourdes Hospital, Drogheda, and Cavan General Hospital), as well as other hospitals nationally. The service is closely integrated with the Rotunda Fetal Medicine Service and has strong service links to the Dublin Paediatric Centres, supporting patients and families throughout their postnatal journeys.

During 2021, a total of 1,255 infants were admitted to the NICU. Within the NICU, 7 cot-spaces are designated as providing intensive care (level 3 support), 12 high dependency care (level 2 support) and 20 for special care (level 1 support), although all cots are used flexibly to respond to the needs of the service. In 2021, these patients required 1,993 intensive care days (slightly lower than in 2020 but nonetheless an increase on previous years). There was a 15% increase in high dependency days (4,050 days) compared with 2020, and an increase to 6,453 days of special care. Average daily bed occupancy rates remained high during 2021, and often underestimated acute peaks of intensive activity reflecting the unpredictable nature of neonatal intensive care

The Department of Neonatology at the Rotunda Hospital is the tertiary neonatal centre for the RCSI Hospitals Group and works closely with the paediatric services in both Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital to provide seamless patient care, as well as to develop guidelines for best practice and educational support for staff across all three sites. In addition, the department shares responsibility for delivery of the National Neonatal Transport Program (NNTP) with the Coombe Women and Infants' University Hospital and the National Maternity Hospital Dublin. The Rotunda provides key NICU and educational links for the NNTP transport fellow, and a transport consultant post is being developed within the Rotunda service.

The intensive care provided to sick infants at the Rotunda Hospital requires skilled input from specialist health and social care professionals, not only during their acute admission but also in the later follow-up of high-risk infants. The service benefits from strong links with the Rotunda's Radiology Service, Dietetics Service, Pharmacy Service, Physiotherapy Service, Medical Social Work Service, Chaplaincy Service, clinical microbiology and lactation consultant support. Additional resources were provided in 2021 for appointment of a second neonatal dietician, as well as a Neonatal Speech and Language Therapist. Additionally, the Department of Neonatology relies on the crucial support of the administrative team, healthcare assistants, porters and household staff to ensure delivery of the highest possible standard of neonatal care.

### **CLINICAL ACTIVITY**

In both 2019 and 2020, the NICU experienced multiple infectious outbreaks of ESBL-producing organisms, which resulted in a risk-mitigation strategy of restricting bed occupancy to 70% whenever possible, in an attempt to reduce the risk of further outbreaks. An extensive, multidisciplinary infection prevention and control strategy helped bring these outbreaks under control, and although individual patients were identified as carrying similar organisms during 2021, there were no further infectious outbreak events. Unfortunately, the COVID-19 pandemic required the imposition of significant restrictions

on bed availability when infants of COVID-positive mothers required NICU admission. Although the majority of infants were successfully cared for with their mothers, as per best practice, those with special or intensive care needs occasionally required prolonged isolation periods. Despite the additional workload entailed, 116 very low birth weight (<1,500g) infants were managed in the Rotunda during 2021, an increase of 17% on the previous year.

# **NEONATAL NURSING**

Having a highly skilled and highly trained nursing team is the cornerstone of good neonatal care. It is a testament to the abilities and professionalism of the nurses in the Department of Neonatology that they continued to deliver the highest possible standard of infant care during 2021, despite the challenges brought by repeated outbreaks of COVID-19 infection, and, in particular, to the unprecedented impact of the HSE cyberattack in May 2021. Their rapid and organised response to the latter ensured safety and continuity of care for all of babies, for which the Rotunda management team is extremely grateful.

# **NURSE EDUCATION**

Education is key to maintaining a highly skilled workforce. Despite COVID-19 restrictions, the hospital continued to support the professional development of the nursing staff in the neonatal unit. Four staff members completed the RCSI Postgraduate Diploma in Neonatal Nursing during early 2021 and a further four were registered to commence the programme in September 2021.

Educational support was also provided through multiple shorter courses attended by neonatal nurses, including the 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' in the Centre for Midwifery Education, both of which have NMBI approval. NICU clinical facilitators play a key role in supporting staff through the neonatal unit orientation programme along with providing updates and ongoing in-house education to all staff throughout the year.

# **NURSING RECRUITMENT**

2021 was another challenging year in relation to the recruitment and retention of nursing staff. An active recruitment campaign continues, and successfully identified new neonatal nurses for recruitment. This process will continue into 2022. The Rotunda received approval for an increase in the number of whole time equivalent nurses for the neonatal unit, which is in line with the recommendations for staffing levels in neonatal units by the British Association of Perinatal Medicine (BAPM 2020).

A number of new specialist nursing roles were approved and appointed in 2021, to support the tertiary-level neonatal care provided in the Rotunda. Ms. Tara Moore was appointed in May 2021 as Clinical Nurse Manager in Neonatal Transport for the Rotunda, which is a role funded by the NNTP but also benefits staff and services in the Rotunda NICU. The appointment of Ms. Christina Kilpatrick in July 2021 as the Neonatal Resuscitation Officer will improve resuscitation education, ongoing development of resuscitation practices, coordinating

resuscitation skills and drills, and auditing this aspect of the service. While this post has been initially funded for one year on a pilot basis, it is hoped that this vital role will become a permanent post into the future. In November 2021, Ms. Ailish O'Leary was appointed as the new Neonatal Neurology Liaison Nurse, which will improve nursing expertise in neonatal neurology and the management of infants at greatest risk of neurodisability, including infants with hypoxic-ischaemic encephalopathy.

The Rotunda was the first hospital to introduce the role of neonatal Advanced Nurse Practitioner (ANP), with Ms. Christine McDermott, Ms. Edna Woolhead and Mr. Mark Hollywood continuing to support all aspects of neonatal services in this regard. They continue to play a key role in neonatal resuscitation training, as well as supporting other education roles within the Department.

# **VERMONT OXFORD NETWORK (VON) OUTCOMES**

The Rotunda NICU measures key performance indicators (KPIs) for very low birthweight (VLBW) infants (birth weight <1,500g) and submits anonymised data to the Vermont Oxford Network (VON) to benchmark outcomes against over 1,000 international centres of excellence, encompassing over 55,000 VLBW infants worldwide. The Rotunda consistently performs very well against international standards for antenatal corticosteroid administration, overall neonatal survival, retinopathy of prematurity, and various measures of infection. A higher than anticipated rate of necrotising enterocolitis (NEC) was noted in the Rotunda in 2020, and a multidisciplinary taskforce was established to evaluate areas for improvement. Changes in donor breast milk use, additional lactation support for mothers and a review of cases of unconfirmed NEC were all introduced as part of an ongoing process to improve outcomes. This quality improvement effort has been extremely successful with the 2021 VON data already demonstrating a 50% reduction in NEC among VLBW infants at the Rotunda, which is now in line with expected network results. A steady reduction in late-onset infections has been noted over the last two years, with a 20% decrease in such infections compared with 2019, which is also now in line with other VON centres. The incidence of chronic lung disease (or bronchopulmonary dysplasia) has been noted to exceed the VON average, although this difference is no longer significant when controlled for infant gestation, condition at delivery and other contributing factors (Table 2.5). However, this trend to increased lung sequelae in our population has triggered the development of two care bundles targeting the early and medium-term care of infants at highest risk of such lung disease. These include new quidance on perinatal management of the delivery of extremely low birth weight infants (<1,000g), and a bronchopulmonary dysplasia care bundle to provide additional evidence-based interventions. The reduction of chronic lung disease, and associated lung morbidities, remains a key quality improvement project for the NICU going forward in 2022.

# HYPOXIC ISCHAEMIC ENCEPHALOPATHY

During 2021, 23 newborn infants (20 inborn) were identified as having Hypoxic Ischaemic Encephalopathy (HIE). Of these, 22 were treated with therapeutic hypothermia (TH), with one baby not having evidence

of encephalopathy at initial presentation. That baby subsequently developed seizures, together with an MRI pattern of injury consistent with HIE. All 23 babies survived. Outcome is available for all inborn babies, as outborn babies were followed in their referral centre.

Amongst infants with HIE in 2021, 21 (18 inborn) were classified as having grade 2 HIE and two (both inborn) were classified as having grade 3 HIE. As in previous years, all babies identified with grade 2 HIE had favourable outcomes. To date all inborn babies identified with isolated grade 2 HIE without other neurological co-morbidity have had typical development for age at their most recent review. Two infants with HIE complicated by additional neonatal complications had concerns diagnosed at follow-up, one baby had co-existing neonatal abstinence syndrome and a history of antepartum compromise, and the second baby had MRI features of right cerebral watershed territory infarction. Of inborn infants with isolated grade 2 HIE, initial MR brain imaging was abnormal in 9/16 (56%), although all have displayed typical development to date. This confirms the appropriateness of providing a positive prognosis for cases of isolated grade 2 HIE in the era of therapeutic hypothermia. However, all such children will continue to be monitored closely by both neonatology and physiotherapy to confirm normal longer-term outcome, which includes a detailed developmental assessment at two years of age by a clinical psychologist. Unfortunately, two babies (both inborn) were identified as having grade 3 HIE, and while both children survived both have some evidence of neurological impairment.

Because of a perceived increase in the incidence of HIE, a multidisciplinary HIE Reduction Taskforce had been established at the Rotunda, which provided an exhaustive analysis of potential underlying factors in all cases, followed by a detailed series of risk reduction interventions. The report of this Taskforce was published in 2021 and these recommended interventions were implemented later in 2021. It is hoped to see a significant reduction in HIE incidence in 2022 in response to this quality improvement initiative.

# PAEDIATRIC OUTPATIENTS DEPARTMENT (POPD)

The neonatal outpatient clinic at the Rotunda hospital remains one of the busiest in Ireland, with a notable move away from telemedicine appointments in 2021 and a return to in-person assessments of infants and young children where possible. While telemedicine appointments continued to be provided at times of increased COVID-19 restrictions, over 96% of outpatient appointments were conducted in person in 2021. The POPD remained extremely busy, offering 9,592 appointments and resulting in 8,666 patient attendances. Unfortunately, 10% of patients did not attend (DNA) their outpatient appointment, which negatively affects the availability of outpatient services for other patients. This is a marginal increase in DNA rates compared with previous years and may reflect continued COVID-19 restrictions during 2021. Despite infrastructural and infection control challenges, the POPD continued to monitor term, preterm and high-risk infants effectively, with experienced nurses and nurse managers providing both routine and COVID high-risk clinics as needed. POPD nursing staff are to be commended for the growth and development of the new midwifeled clinic, which started in 2020, and which provided care for 26% of all infants seen (2,274 attendances) in the POPD in 2021. This new service has a comparatively low DNA rate of 6%. In addition to general neonatal clinics, additional specialist clinic services are provided in the POPD, including infectious diseases, dietetics and neurodevelopmental assessment. The Neonatal Dietetics Clinic provided 162 in-person attendances, with 41 additional telemedicine clinics, with a 17% DNA rate.

# PAEDIATRIC INFECTIOUS DISEASE SERVICE (RAINBOW CLINIC)

The Paediatric Infectious Disease Service (Rainbow Clinic) is a longstanding specialist service in the Rotunda that manages infants with antenatal, perinatal or postnatal exposure to harmful infectious diseases. Dr. Wendy Ferguson provides inpatient and outpatient care of vulnerable infants with infectious concerns including care of infants with CMV, toxoplasmosis, HIV, Hepatitis C, Hepatitis B, syphilis, TB, malaria, genital HPV and other sexually transmitted diseases. Optimal management of these infants can reduce the lifelong burden of illness of these conditions. In addition, Dr. Ferguson supervises the perinatal care and surveillance of infants born to COVID-19 positive mothers during 2021. The service is integrated with adult and paediatric services, and links families from the adult Infectious Disease Service at the Rotunda (DOVE Clinic) to the National Rainbow Infectious Disease specialty services at Children's Health Ireland. In 2021, the Paediatric Infectious Disease Service provided care to 332 affected families and their infants, including the provision of 30 telemedicine appointments, as well as providing expert guidance, staff education and guideline development on the management of infectious conditions in the newborn.

# NEONATAL DEVELOPMENTAL SCREENING PROGRAMME

Many NICU graduates are at higher risk of neuro-disability than the general population, particularly those born extremely prematurely, those with HIE and those who are critically ill during the newborn period. Early identification, assessment and onward referral to specialist multidisciplinary teams have been shown to improve neurodevelopmental outcomes.

The Neonatal Developmental Screening Programme at the Rotunda formally assesses the development of VLBW babies (birthweight < 1,500g), and those with a history of HIE, in keeping with recommended standards of the 2015 Model of Care for Neonatal Services. Assessment is via the Bayley Scales of Infant and Toddler Development, third edition (BSID-3) ideally at two years corrected gestational age for the preterm population, and two years chronological age for the term population. Using the BSID-3 system, scaled scores ≥ 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 ≤ 4 (composite score equivalent 55-70) are suggestive of mild, moderate or severe developmental delay. The domains assessed include gross motor skills, fine motor skills, expressive and receptive language skills and cognition. Developmental outcomes are available on all children assessed. Clinical presentation during assessment forms an integral part of the assessment process. Parental impressions regarding socialemotional development and adaptive behaviour skills development

are reported in addition to scores for cognitive, language and motor domains. A full-time permanent psychologist, Dr. Liezl Wienand, provides this service.

The impact of COVID-19 health restrictions on non-essential clinics led to 33 children born in 2017 and 2018, due for developmental assessments in 2020, being seen after February 2021, when nonessential clinical appointments were recommenced. A total of 80 eligible children had formal Neonatal Developmental Screening assessments during 2021. The overall number of at-risk infants receiving assessment in 2021 was lower than in prior years, due to the impact of COVID-19 restrictions and the HSE cyberattack. Amongst these 80 assessments, a total of 70 were of VLBW babies, and seven were of babies who had received therapeutic hypothermia for HIE. An additional three children were assessed following direct consultant referrals from neurodevelopmental screening clinics for priority assessments. One child had cerebral palsy and was awaiting input from the Central Remedial Clinic, while the other two children (one born in 2020) were referred because of concerns regarding potential autism spectrum condition. Of the 70 VLBW infants, 53 had outcomes in the typical/ normal range, while four children had evidence of isolated language delay and three children had global developmental delay. One of these had an additional significant visual impairment. Ten of the 70 VLBW children were found to have clinical features of autism, with two having typical/normal outcomes in cognitive development. Amongst the seven children who had been treated for HIE, four were assessed as having typical/normal developmental outcomes, one had language delay, and two had typical/normal development but with clinical features of autism.

# **NEURODEVELOPMENTAL CLINIC**

The development of a Neurodevelopmental Clinic since 2019 has allowed the seamless management and onwards referral of infants identified as having significant neuro-disability and behavioural issues in appropriate high-risk follow-up clinics. This service facilitates early access and intervention for children displaying developmental patterns of concern, which has been demonstrated to improve outcomes. This clinic works closely with the Neonatal Developmental Screening Programme and is held in the Summerhill Primary Care Centre, adjacent to the Rotunda, but remaining under the governance of the Rotunda Hospital. The clinic provided comprehensive neurodevelopmental assessments of 81 high-risk infants in 2021, with 21 of these being virtual/telemedicine assessments, fast-tracking access to key multidisciplinary, specialist and community support for these babies. Dr. Shaishi Vaish finished in this role in November 2021 and was replaced by Dr. Mahmoud Farhan in a locum capacity pending development of a substantive post linked with CHI developmental services.

# **NEONATAL DIETETICS CLINIC**

The Neonatal Dietetics Clinic, managed by Ms. Anna Claire Glynn and Ms. Naomi Hasting, provides specialist paediatric dietetic advice and management for infants with complex nutritional needs, and infants with faltering growth. The team collaborates closely with general neonatal clinics, and supports parents managing feeding issues at home, including the use of specialist feeds. The clinic provided 162

in person appointments in 2021, and an additional 41 telemedicine consultations.

#### SPECIALIST CARDIOLOGY SERVICES

Patients in the Rotunda Hospital benefit greatly from the expertise and management of term and preterm cardiac problems by a visiting Consultant Paediatric Cardiologist, Prof. Orla Franklin, who provides a critical link to cardiac and cardiothoracic surgical services in Children's Hospital Ireland at Crumlin. In addition, the in-house expertise in functional echocardiography of Prof. Afif El Khuffash guides the management of functional cardiac concerns and critical pulmonary hypertension for neonates in the Rotunda. Further development of the neonatologist-performed echocardiography (NPE) service has been identified as a priority for service development in 2022. This NPE service has been greatly facilitated by the Rotunda Foundation, with extremely generous donors, who's support allowed the purchase of key echocardiography equipment for this service.

# **ROTUNDA FOUNDATION SUPPORT**

The support of the Rotunda Foundation has been key to many of the advances in parent and family support in the NICU, as well in the purchase of equipment to support best clinical practice, which is greatly appreciated. In addition to assistance with supporting the purchase of echocardiography equipment, the Foundation also helped raise funds to purchase the Retcam photography system to manage retinopathy of prematurity, a leading but preventable cause of blindness. Additionally, the Foundation plans to support the purchase of the Angel-eye video system early in 2022, which provides video footage of infants in real time for parents who cannot be with their babies in the NICU, building on the success of the Rotunda's V-create program from 2020. World Prematurity Day was again celebrated with all the Rotunda NICU graduates at a distance in 2021, although it is hoped to return to an inperson celebration in 2022.

# **RESEARCH**

The Department of Neonatology has an active and productive research program, with seven postgraduate research students producing innovative clinical research during 2021. Drs. Adam Reynolds, Aisling Smith and Claire Murphy, and Ms. Kamelia Kryziak are enrolled in PhD programmes, while Drs. Sean Armstrong, Aine Fox and Mahmoud Farhan are enrolled in MD programmes. Research areas include prematurity, neonatal echocardiography, nutrition, haemostasis, pharmacodynamics, perinatal asphyxia and infectious diseases, with 32 peer-reviewed publications during 2021.

# **CHALLENGES 2021**

The challenges of the COVID-19 pandemic continued throughout 2021, although the successful rollout of public and staff vaccination programs allowed the gradual relaxation of some restrictions on parental visiting, including extended visiting hours, family time and the rejuvenation of the FiCare programme. While the NICU has not yet returned to pre-pandemic practices, due largely to the infrastructural restrictions within patient care areas, it is hoped that further positive steps in fully re-opening the NICU will be taken in 2022. The understanding and

forbearance of parents and extended family members throughout this time is greatly appreciated. The limitations of the Rotunda's physical infrastructure created significant challenges in caring for infants who were COVID contacts in the NICU, who often required prolonged isolation. The significant burden of staff illness due to COVID-19 infection also caused significant difficulties in maintaining optimal NICU staffing. The HSE cyberattack in May 2021 brought additional challenges, as staff urgently deployed back-up electronic records and emergency paper charts to maintain all aspects of patient care. Effective teamwork and a rapid multidisciplinary and management response ensured minimal disruption to paediatric services in the hospital.

#### PLANS FOR 2022

It is hoped that 2022 will bring a normalisation of care pathways in the NICU, in line with the gradual lifting of COVID-19 related public health restrictions within society. The COVID-19 pandemic has again highlighted the infrastructural constraints on the neonatal service at the Rotunda in particular, where maintaining a safe distance is not possible during visiting times. The recognition of the importance of developing a new Critical Care Wing on the west side of Parnell Square, including a completely new NICU, is extremely welcome. It will allow the further development of state-of-the art, high-quality, evidence-based tertiary neonatal intensive care in a family-centred environment.

TABLE 1.1:
ADMISSIONS AND DISCHARGES TO THE NEONATAL UNIT

	2017	2018	2019	2020	2021
Admissions*	1,146	1,116	1,300	1,181	1,255
Discharged alive	1,094	1,114	1,265	1,199	1,253
Infants > 1,500g	975	1,097	1,176	1,103	1,130
Infants treated on the ward	773	967	875	442**	483**

<sup>\*</sup>Infants are not always admitted and discharged within the same clinical year

TABLE 1.2: CATEGORIES OF NEONATAL CARE\*

	2017	2018	2019	2020	2021
Total number of intensive care days	1,855	1,568	1,838	2,039	1,993
Total number of high dependency days	2,343	3,403	3,281	3,528	4,050
Total number of special care days	6,222	5,081	4,278	5,398	6,453

<sup>\*</sup> British Association of Perinatal Medicine. Categories of Care 2011.

TABLE 1.3:
ADMISSIONS TO THE NEONATAL UNIT BY BIRTH WEIGHT

	2017	2018	2019	2020	2021
< 500g	2	2	3	1	0
501-1,000g	51	44	30	36	47
1,001-1,500g	68	63	55	59	76
1,501-2,000g	115	126	114	117	109
2,001-2,500g	178	160	158	200	161
Over 2,500g	680	719	905	786	860
Total Discharged	1,094	1,114	1,265	1,199	1,253

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

	2017	2018	2019	2020	2021
Jaundice	326	328	365	546**	540**
Respiratory symptomatology	458	464	447	453	497
Prematurity <37 weeks	332	401	428	471	420
Hypoglycaemia	200	184	167	227	248
Low birth weight < 2,500g	246	397	360	230	240
Congenital abnormalities	174	184	205	208	239
Neonatal abstinence syndrome	16	21	15	24	26
Hypoxic ischaemic encephalopathy (HIE)	25	12	18	23	23
Dehydration	16	11	9	8	14
Social	8	4	8	12	13
Seizures	8	9	10	15	12
Suspected sepsis	28	36	30	23	11
Gastro-intestinal symptoms	3	3	1	2	0

<sup>\*</sup> Some infants are assigned more than one reason for admission

<sup>\*\*</sup>Reflecting policy change regarding antibiotic administration

<sup>\*\*</sup> Affected by postnatal ward bed availability

# TABLE 1.5: RESPIRATORY MORBIDITY IN TERM INFANTS > 37 WEEKS ADMITTED TO THE NEONATAL UNIT

2017 2018 2019 2020								
	2017	2016	2019	2020	2021			
Transient tachypnoea of the newborn (TTN)	209	156	211	176	191			
Respiratory distress syndrome (RDS)	27	35	40	50	51			
Stridor	4	1	9	14	14			
Congenital pneumonia	19	12	7	4	13			
Meconium aspiration syndrome (MAS)	14	9	3	9	7			
Laryngomalacia	0	1	2	3	6			
Congenital diaphragmatic hernia (CDH)	2	1	3	3	3			
Trachea-oesophageal fistula	2	2	0	0	0			
Congenital cystic adenomatoid malformation (CCAM)	1	2	О	0	0			
Pulmonary hypoplasia	1	0	0	1	0			

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

	2017	2018	2019	2020	2021
Patent ductus arteriosus (PDA)	55	62	53	52	74
Dysrhythmia	38	55	65	60	51
Persistent pulmonary hypertension of the newborn (PPHN)	35	27	25	30	24
Ventricular septal defect	36	30	21	30	23
Atrial septal defect (ASD)	11	13	9	11	9
Atrioventricular septal defect (AVSD)	4	2	6	5	6
Transposition of the great arteries (TGA)	6	6	7	5	4
Hypoplastic left heart syndrome (HLHS)	3	1	1	1	3
Tetralogy of Fallot	4	1	8	3	2

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

TO THE NEONATAL UNIT									
	2017	2018	2019	2020	2021				
Inguinal hernia	15	4	6	8	5				
Bowel atresia	1	1	0	5	5				
Omphalocoele	4	5	4	2	5				
Isolated cleft palate	7	1	6	3	4				
Spontaneous perforation	2	1	1	4	3				
Gastroschisis	0	0	1	3	3				
Cleft lip	2	2	6	3	2				
Imperforate anus	4	2	2	3	2				
Pyloric stenosis	o	1	1	0	o				
Tracheo-oesophageal fistula	4	3	0	1	0				

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

	2017	2018	2019	2020	2021
Neonatal abstinence system (NAS)	16	21	15	24	26
Seizures not associated with HIE	8	9	10	15	12
Meningitis	11	8	10	5	6
Erb's palsy	3	2	1	5	3
Schizencephaly	1	2	0	2	2
Microcephaly	6	4	1	6	2
Hydrocephalus	3	4	1	1	0

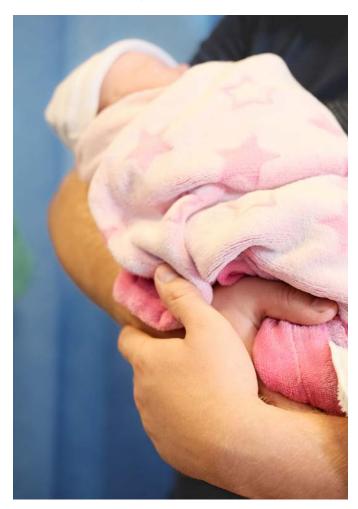










TABLE 1.9:
METABOLIC/ENDOCRINE/HAEMATOLOGICAL ABNORMALITIES
IN INFANTS ADMITTED TO THE NEONATAL UNIT

	2017	2018	2019	2020	2021
Hypoglycaemia	200	184	167	194	209
Anaemia of prematurity	76	68	63	63	64
Thrombocytopenia	38	32	34	36	43
Haemolytic disease of newborn	32	17	27	34	30
Hyperglycaemia	31	29	24	32	22
Polycythaemia	36	44	29	44	20
Disseminated intravascular coagulopathy	7	0	6	4	13
Syndrome of inappropriate antidiuretic hormone secretion (SIADH)	7	17	3	15	12
Anaemia (not associated with prematurity)	8	10	8	6	10
Galactosemia	1	2	2	2	1
Hypothyroidism	1	4	3	5	0

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

	2017	2018	2019	2020	2021
Trisomy 21 (Down syndrome)	18	23	15	14	14
Trisomy 18 (Edwards' syndrome)	2	1	2	0	0
Trisomy 13 (Patau syndrome)	2	1	0	0	0

# TABLE 1.11: JAUNDICE IN TERM INFANTS >37 WEEKS ADMITTED TO NEONATAL UNIT

	2017	2018	2019	2020	2021
Non-haemolytic jaundice	176	178	180	271	243
Haemolytic jaundice					
- ABO incompatibility	32	14	23	31	18
- Rhesus incompatibility	4	4	5	1	4

TABLE 2.1:
BABIES ADMITTED TO NICU WITH BIRTH WEIGHT ≤ 1,500G AND/OR < 29 + 6 WEEKS' GESTATION

	2017		2018		2019		2020		2021	
	All Cases	Excluding Congenital Anomalies								
Infants < 401g but ≥22+0 weeks gestation	0	0	2	2	0	0	0	0	0	0
Infants 401-500g	3	2	2	2	4	3	1	1	2	2
Infants 501-1,500g	111	92	104	94	90	85	93	88	114	106
Infants > 1,500g but ≤29+6 weeks gestation	1	1	1	1	2	2	2	2	0	0
Total	109	95	109	99	96	90	96	91	116	108

TABLE 2.2.1:
SURVIVAL TO DISCHARGE OF INFANTS < 1,500G AND/OR < 29 + 6 WEEKS' GESTATION BASED ON GESTATIONAL AGE (ALL INFANTS, INCLUDING THOSE WITH MAJOR CONGENITAL ANOMALIES)

	2021 Inb	orn		2021 Ou	tborn		2021 Tot Outborn	tal (Inborn & 1)		2016-2020 (Aggregate Inborn & Outborn)		
Gestational Age at birth	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 22 Weeks	0	0	0	0	0	0	0	0	0	3	0	0
22+0-22+6	2	o	0	0	o	0	2	o	0	14	o	0
23+0-23+6	5	1	20	0	О	0	5	1	20	27	4	15
24+0-24+6	13	8	62	0	0	0	13	8	62	47	27	57
25+0-25+6	9	8	89	1	1	100	10	9	90	46	31	67
26+0-26+6	11	10	91	5	2	40	16	12	75	36	30	83
27+0-27+6	4	4	100	1	1	100	5	5	100	61	50	82
28+0-28+6	13	12	92	0	o	0	13	12	100	66	62	91
29+0-29+6	12	12	100	3	3	100	15	15	100	67	61	91
30+0-30+6	10	10	100	1	1	100	11	11	100	65	62	95
31+0-31+6	3	2	67	1	1	100	4	3	75	46	42	91
32+0-32+6	11	10	91	0	О	0	11	10	91	27	25	93
>33+0 weeks	11	11	100	0	О	0	11	11	100	24	21	88
Total	104	88	85	12	9	75	116	97	84	529	415	78

TABLE 2.2.2: SURVIVAL TO DISCHARGE FOR BABIES BORN LESS THAN 1,500G AND/OR <29+6 WEEKS GESTATION BASED ON GESTATIONAL AGE (EXCLUDING THOSE WITH MAJOR CONGENITAL ANOMALIES)

	2021 lnb	orn		2021 Ou	tborn		2021 Tot Outborn	al (Inborn &		2016-2020 (Aggregate Int Outborn)		Inborn &
Gestational Age at birth	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%
<22 weeks	0	0	0	0	o	0	0	0	0	3	00	0
22+0-22+6	2	0	0	0	o	0	2	0	0	14	О	0
23+0-23+6	5	1	20	0	o	0	5	1	20	27	4	15
24+0-24+6	13	8	62	0	o	0	13	8	62	47	27	57
25+0-25+6	9	8	89	0	0	0	9	8	89	47	32	68
26+0-26+6	11	10	91	4	1	20	15	11	73	36	30	83
27+0-27+6	4	4	100	1	1	100	5	5	100	62	51	82
28+0-28+6	13	12	92	0	0	0	13	12	92	66	62	94
29+0-29+6	12	12	100	3	3	100	16	15	94	67	61	91
30+0-30+6	10	10	100	1	1	100	11	11	100	65	62	95
31+0-31+6	3	3	100	0	0	0	3	3	100	46	42	91
32+0-32+6	9	9	100	0	o	0	9	9	100	27	25	93
>33+0 weeks	9	9	100	0	o	0	9	9	100	23	21	91
Total	85	80	94	9	6	66	94	86	91	531	417	79

TABLE 2.3.1:
SURVIVAL TO DISCHARGE FOR BABIES BORN <1,500G AND/OR <29+6 WEEKS GESTATION BASED ON BIRTH WEIGHT (ALL INFANTS, INCLUDING THOSE WITH MAJOR CONGENITAL MALFORMATIONS)

	2021 lnb	orn		2021 Out	tborn		2021 Tot Outborn	tal (Inborn &		2016-2020 (Aggregate Inborn & Outborn)		
Birth Weight	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%
<501g	0	О	0	0	О	0	0	О	0	21	3	14
501-600g	7	2	29	0	О	0	7	2	29	33	11	33
601-700g	12	8	67	0	О	0	12	8	67	50	25	50
701-800g	12	10	83	3	2	67	15	12	80	43	30	70
801-900g	9	6	67	0	О	0	9	6	67	46	34	74
901-1,000g	4	3	75	0	О	0	4	3	75	41	37	90
1,001-1,100g	10	10	100	4	4	100	14	14	100	50	43	86
1,101-1,200g	15	14	93	3	2	67	18	16	89	52	49	94
1,201-1,300g	4	4	100	0	О	100	4	4	100	55	52	95
1,301-1,400g	13	13	100	1	О	50	14	13	93	46	44	96
>1,400g	18	18	100	1	1	100	19	19	100	140	133	95
Total	104	88	85	12	9	75	116	97	84	531	417	79

TABLE 2.3.2: SURVIVAL TO DISCHARGE FOR BABIES BORN <1,500G AND/OR <29+6 WEEKS GESTATION BASED ON BIRTH WEIGHT (EXCLUDING THOSE WITH MAJOR CONGENITAL MALFORMATIONS)

	2021 Inb	orn		2021 Outborn			2021 Total (Inborn & Outborn)			2016-2020 (Aggregate* Inborn & Outborn)		
Birth Weight	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%	N	Survival to discharge	%
<501g	0	О	0	0	0	0	0	0	0	21	3	15
501-600g	6	2	33	0	0	0	6	2	33		11	33
601-700g	12	8	67	0	0	0	12	8	67	50	25	50
701-800g	12	10	83	3	2	67	15	12	80	43	30	70
801-900g	8	6	75	0	0	0	8	6	75	46	34	74
901-1,000g	3	3	100	0	0	0	3	3	100	41	37	90
1,001-1,100g	9	9	100	4	4	100	13	13	100	50	43	86
1,101-1,200g	14	14	100	3	2	67	17	16	94	52	49	94
1,201-1,300g	4	4	100	0	0	0	4	4	100	55	52	95
1,301-1,400g	12	12	100	0	0	0	12	12	100	46	44	96
>1,400g	18	18	100	0	0	0	18	18	100	140	133	95
Total	98	89	91	10	8	75	108	97	90	531	417	79

<sup>\*</sup>Aggregate 2016-2020 includes all infants, including those with congenital anomalies due to reporting methods

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

	Rotunda	a 2021		VON Netwo	rk 2021	Rotund Aggreg	a 2016-202 ate	.0
	No. Cases	No. Infants	%	No. Infants	%	No. Cases	No. Infants	%
Inborn	105	116	91	61,562	87	501	548	91
Male	54	116	47	61,511	50	288	548	53
Antenatal steroids - all infants	98	116	85	61,170	84	459	523	88
Multiple gestation	34	116	29	61,548	24	168	547	31
Antenatal magnesium sulphate	79	116	68	60,859	64	374	509	74
Caesarean delivery	85	116	73	61,504	75	397	548	72
Any major birth defect	8	116	1	61,534	6	81	545	15
Small for gestational age	25	116	22	60,715	21	81	535	15
Surfactant - administered in delivery room	35	116	30	61,428	19	266	543	49
Surfactant - at any time	59	116	51	61,548	57	337	543	62
Any ventilation	76	113	67	61,482	57	277	511	54
Conventional ventilation	76	113	67	59,884	51	273	511	53
High frequency ventilation	24	113	21	59,858	22	68	508	13
Nasal CPAP	96	113	85	59,842	78	428	511	84
CPAP before or without intubation and/or ventilation	29	100	29*	51,057	68	203	449	45
High flow nasal cannula	64	113	57	59,811	52	270	510	53
Inhaled nitric oxide	19	113	17*	59,861	6	67	512	13
Respiratory distress syndrome	101	113	89	59,858	74	469	507	93
Pneumothorax	13	113	12*	59,901	4	41	512	8
Chronic lung disease	32	83	39*	51,623	26	96	390	25
Chronic lung disease in infants < 33 weeks	32	72	44*	46,819	28	93	367	25
Corticosteroids for chronic lung disease	28	112	25*	59,813	13	45	506	9
Early bacterial infection	1	112	1	59,875	1	16	512	3
Late bacterial infection	9	109	8	57,177	7	46	488	9
Coagulase negative Staphylococcus infection	1	109	1	57,178	3	28	488	6
Fungal infection	1	109	1	57,180	1	0	489	0
Any late infection	10	109	9	57,177	7	62	488	13
Necrotizing enterocolitis (NEC)	7	113	6	59,884	5	49	512	10
Patent ductus arteriosus (PDA)	54	112	48*	59,780	24	180	511	35
Ibuprofen for PDA	14	112	13*	59,701	6	42	510	53
Retinopathy of prematurity (ROP)	23	86	27	43,568	31	84	365	23
Severe ROP	3	83	4	43,568	6	11	365	3
Anti-VEGF treatment for ROP	3	113	3	59,631	3	8	511	2
Severe intraventricular haemorrhage	16	109	15*	53,168	8	50	481	10

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

	Rotunda	2021		VON Networ	·k 2021	Rotunda 2016-2020 Aggregate		
	No. Cases	No. Infants	%	No. Infants	%	No. Cases	No. Infants	%
Cystic periventricular leucomalacia	3	109	3	55,064	3	7	483	1
Mortality	19	116	16	60,488	14	114	531	22
Mortality excluding early deaths	15	112	13	58,085	11	75	492	15
Survival	97	116	84	58,085	86	417	531	79
Survival without specified morbidities	60	116	52*	60,383	56	266	531	50

Nosocomial Infection: defined as late bacterial infection or coagulase negative staphylococcus infection. Any late infection: defined as any late bacterial infection, 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 periventricular leukomalacia. \* Rotunda figures falling outside interquartile range for VON network 2021.

TABLE 2.5: SHRUNKEN STANDARDISED MORTALITY RATIOS & MORBIDITY RATES

	Rotunda 2	2021			Rotunda :	2018-2020		
Measure	n	SMR*	Lower 95%	Upper 95%	n	SMR	Lower 95%	Upper 96%
Mortality	116	1.1	0.7	1.6	273	1.3	1	1.7
Mortality excluding early deaths	112	1.2	0.7	1.9	261	1.3	1	1.8
Death or morbidity	116	1	0.8	1.3	273	1.2	1	1.4
Chronic lung disease	83	1.4	1	1.9	207	1.3	1	1.7
Chronic lung disease < 33 Weeks	73	1.4	1	1.9	193	1.3	1	1.6
Necrotising enterocolitis	113	1.1	0.5	1.9	271	1.8	1.2	2.5
Any late infection	109	0.7	0.4	1.2	260	1.1	0.7	1.4
Late bacterial infection	109	1	0.5	1.6	260	1.4	0.9	1.9
Coagulase negative Staphylococcus infection	109	0.3	0	0.8	260	1	0.5	1.5
Fungal infection	109	0.8	0	2.8	260	0.2	0	0.9
Pneumothorax	113	1.8	1	2.7	272	1.5	1	2.1
Severe intraventricular haemorrhage	109	1.4	0.9	1.9	252	0.9	0.6	1.3
Cystic PVL	109	1	0.3	2	254	0.7	0.2	1.3
Any retinopathy of prematurity	86	0.9	0.6	1.2	190	1	0.7	1.2
Severe retinopathy of prematurity	86	0.8	0.3	1.5	190	0.4	0.1	0.8

\*Shrunken standardised morbidity/mortality ration (SMR) and its 95% confidence intervals indicate whether the centre has more or fewer infants with the outcome than expected given the characteristics of the infants being treated. If the upper 95% confidence interval is <1, the centre has fewer infants with the outcome than expected. If the lower 95% confidence interval is >1, the centre has more infants with the outcome than would be expected. If the upper and lower 95% confidence intervals include 1, then the number of infants with the outcome is not significantly different from the number of infants expected to have that outcome, 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 3.1: MORTALITY AMONGST INFANTS DELIVERED IN 2021 - EXCLUDING INFANTS WITH MAJOR CONGENITAL MALFORMATIONS

Birth Weight (g)	Gestation	Delivery	Apgar scores (1, 5, 10 minutes)	Age at Death	Principal Cause of Death
530	22+4	SVD	2,2,1	1 hour	Extreme prematurity (previable)
550	22+4	SVD	2,1,1	1 hour	Extreme prematurity (previable)
590	23+5	IVD	7,8	6 days	Tension pneumothorax, evolving CLD
590	23+4	SVD	2,4,5	6 days	Candida sepsis
640	24+4	SVD	3,4,7	19 days	Pneumothoraces, PIE, severe RDS
640	23+2	SVD	1,4	12 days	Respiratory failure due to severe PIE, pulmonary hypertension
690	24+0	CD	9,5	24 days	PDA, IVH with associated intraparenchymal component, NEC, PIE, severe RDS
690	24+4	SVD	5,8	7 days	Severe RDS, pneumothorax, bilateral IVH with associated intraparenchymal component, PDA
730	25+0	CD	5,3,7	10 days	Severe NEC, bilateral IVH, acute renal failure
825	24+4	CD	4,8	3 days	IVH with associated intraparenchymal component and midline displacement, severe RDS
840	26+0	CD	1,5,5	12 hours	Respiratory failure secondary to pulmonary hypoplasia

SVD: spontaneous vaginal delivery; IVD: induced vaginal delivery; CD: caesarean delivery; CLD: chronic lung disease; PIE: pulmonary interstitial emphysema; RDS: respiratory distress syndrome; IVH: intraventricular haemorrhage; PDA: patent ductus arteriosus

TABLE 3.2: MORTALITY AMONGST INFANTS DELIVERED IN 2021 – INFANTS WITH MAJOR CONGENITAL MALFORMATIONS

Birth weight (g)	Gestation	Mode of Delivery	Apgar Scores	Age at Death	Principal Cause of Death
850	32+5	SVD	not recorded	2 hours	Renal agenesis
920	28+2	CD	3,3	1 hour	Trisomy 13
1,820	34+4	SVD	7,7	3 days	HLHS, TOF, oesophageal atresia, chromosomal 7 abnormality
2,090	36+5	IVD	2,1	25 minutes	Renal agenesis
2,100	37+0	SVD	8,8	19 days	TGA with intact septum, restrictive foramen ovale
2,400	36+3	IVD	4,7	14 hours	Right atrial isomerism, DORV, pulmonary atresia, hemiazygos continuation of IVC to left SVC
2,500	33+5	CD	not recorded	7 hours	Noonan syndrome, bilateral pleural effusion, pneumothoraces
2,700	37+2	IVD	8,8	25 days	I Cell Disease (mucolipidosis II)
2,920	38+4	IVD	3,7	20 days	Semilobar holoprosencephaly, midface hypoplasia, midline cleft lip, hypopituitarism
3,100	30+6	CD	0,0	3 days	Severe NIHF, PPHN

SVD: spontaneous vaginal delivery; LSCS: lower segment caesarean section; IVD: induced vaginal delivery

TABLE 4.1: HYPOXIC-ISCHAEMIC ENCEPHALOPATHY (HIE)

	2	2017	2	018	2	019	2	020	2	021
	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn
Total	22	9	13	1	10*	7	18*	5	20*	3
Mild (Grade1)	12	-	5	-	Not Report Inaccuracy Ascertainn	with Case	Not Repor Inaccuracy Ascertainn	with Case	Not Report Inaccuracy Ascertains	y with Case
Moderate (Grade 2)	8	6*	5	1	4	3	14	4	18	3
Severe (Grade 3)	2	3**	3	-	6	4**	4	1	2	0
Therapeutic Hypothermia	10	8	8	1	9***	6	16** <sup>§</sup>	5	19	3

\*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

\*Grade 1 Encephalopathy not included \*\* Commenced at 13 hours in 1 case § Therapeutic hypothermia not commenced in one child given extensive coagulopathy and severe pulmonary hypertension and in a second child who initially showed signs in keeping with mild encephalopathy but who progressed with onset of seizures at 20 hours following birth.

\*Grade 1 Encephalopathy not included

TABLE 4.2: CLINICAL DETAILS OF NEWBORN INFANTS WITH SIGNS OF MODERATE TO SEVERE HIE

Grade HIE	Inborn/Outborn	Gestation	Mode of delivery	Arterial Cor	d Gas	Venous Co	ord Gas	1 Minute Apgar	5 Minute Apgar	
				рН	Base Excess	рН	Base Excess			
2	Inborn	39+1	SVD	6.78	-20.5	6.87	-18.8	1	5	
2	Inborn	37+1	CD	7.06	-8.3	7.17	-9.6	3	6	
2	Inborn	41+3	CD	7.19	-9.0	7.31	-3.0	2	6	
2	Inborn	39+2	IVD	7.16	-8.4	7.29	-6.2	2	7	
2	Inborn	39+2	SVD	7.23	-5.0	7.32	-6.3	4	5	
2	Inborn	39+6	SVD	7.15	-8.5	7.19	-8.8	9	2	
2	Inborn	38+4	CD	7.07	-15.4	7.24	-11.1	1	2	
2	Inborn	39+2	SVD	6.9	-18.2	7.33	-8.5	4	5	
2	Inborn	38	CD	7.08	-2.6	7.21	-2.5	1	4	
2	Inborn	40	SVD	7.15	NA	7.26	NA	2	7	
2	Inborn	41+3	CD	6.91	-14.5	6.95	-14.5	7	7	
2	Inborn	40+3	OVD	7.14	-13.5	7.18	-13.4	9	10	
2	Inborn	40+3	CD	6.99	-12.0	7.13	-12.5	3	4	
2	Inborn	41+3	IVD	7.08	-16.8	7.28	-10.4	1	3	
2	Inborn	40+4	SVD	7.28	-8.5	7.32	-5.9	1	3	
2	Inborn	39	OVD	NA	NA	NA	NA	2	4	
2	Inborn	39+5	COVD	7.1	-9.0	7.34	-4.0	1	7	
2	Inborn	38+3	COVD	7.22	-4.3	7.33	-4.3	8	9	
3	Inborn	40+5	CD	6.91	-16.2	7.35	-0.7	1	1	
2	Outborn	41+1	OVD	<6.8	NA	NA	NA	0	3	
2	Outborn	40+6	CD	7.23	-2.0	7.3	-3.0	3	6	
2	Outborn	40+6	CD	NA	NA	NA	NA	2	3	

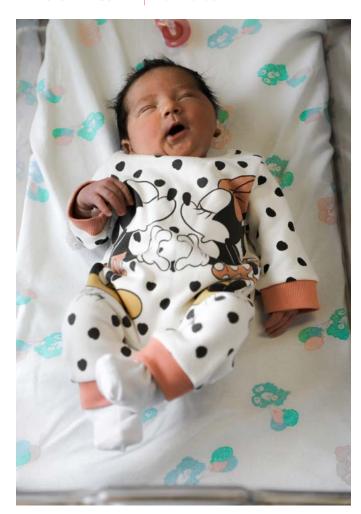
SVD = spontaneous vaginal delivery; IVD = induced vaginal delivery; OVD = operative vaginal delivery; COVD = combined operative vaginal delivery (vacuum plus forceps); CD = caesarean delivery; NA= Not available

PLIC = Posterior limb of the internal capsule

<sup>\*</sup>Did not meet criteria for therapeutic hypothermia on initial assessment

10 Minute Apgar	Therapeutic Hypothermia	Seizures	Brain MRI	Neurodevelopmental Last Review	Progress at
				Outcome	Age
7	Yes	Yes	Day 5: Subtle T1 hyperintensity in globus pallidus bilaterally	Typical development	12 months
7	Yes	Yes	Day 8: High T1/T2 signal in caudate and lentiform nuclei bilaterally; thalami swollen but normal signal; dentate nuclei of the cerebellum indistinct with high signal particularly on left	Typical development	10 months
8	Yes	No	Day 8: Normal	Typical development	6 months
N/A	No	Yes	Day 6: Bilateral parasagittal injury affecting superior frontal and parietal lobes	Typical development	9 months
N/A	Yes	No	Day 8: Normal	Typical development	9 months
5	Yes	No	Day 6: Normal	Typical development	9 months
N/A	Yes	Yes	Day 8: Subtle T2 hyperintensity in mammillary bodies and posterior thalami bilaterally	Typical development	12 months
6	Yes	No	Day 8: Normal	Typical development	10 months
7	Yes	Yes	Day 8: Motion degraded study (co-existing neonatal abstinence syndrome) Cranial ultrasound showing diffuse increased echogenicity affecting both cerebral hemispheres and basal ganglia and thalami	Sensori-neural hearing 9 Referred to Children Health Ireland at 3 mo further care	s
N/A	Yes	No	Day 6: Normal	Typical development	7 months
N/A	Yes	No	Day 5: Normal	Typical development	6 months
N/A	Yes	Yes	Day 6: Possible reduced diffusivity in spenium of corpus callosum and along left PLIC; bilateral subdurals	Typical development	6 weeks
7	Yes	Yes	Day 8: Right cerebral watershed territory infraction	Sensorineural hearing loss; evolving left sided weakness	6 months
4	Yes	No	Day 6: Normal	Typical development	6 months
4	Yes	Yes	Day 9: Reduced diffusivity in right PLIC	Typical development	6 weeks
7	Yes	Yes	Day 10: Normal	Mild head lag	6 weeks
N/A	Yes	No	Day 8: Normal	Typical development	5 weeks
N/A	Yes	No	Day 6: Restricted diffusion in corpus callosum and anterior commissure; focus in white matter inferolateral to left PLIC	Typical development	6 weeks
3	Yes	Yes	Day 6: Extensive reduced diffusivity bilateral anterior cerebral pundicles, thalami, basal ganglia, perirolandic regions, optic radiation and corpus callosum; subtle reduced diffusion in white matter of superior frontal lobes bilaterally	Evolving cerebral palsy	3 months
5	Yes	Yes	Day 8: T2 hyperintensity posterior thalami and lentiform nuclei; restricted diffusion in posterior lentiform, corpus callosum, optic radiation and white matter of the centrum semiovale	Follow up with local pateam	aediatric
-	Yes	Yes	Day 6: Normal	Follow up with local pate	aediatric
6	Yes	No	Day 6: Normal	Follow up with local pateam	ediatric

# THE ROTUNDA HOSPITAL | NEONATOLOGY

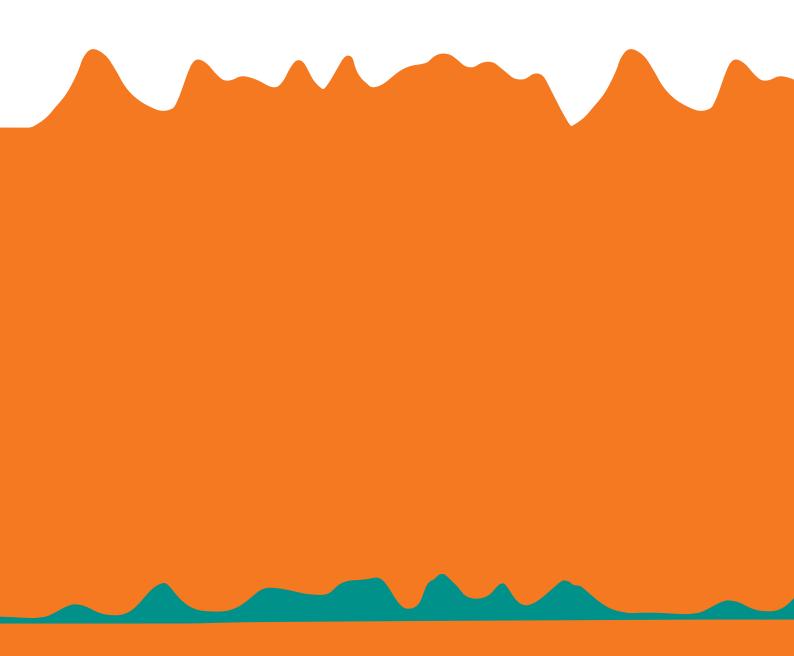


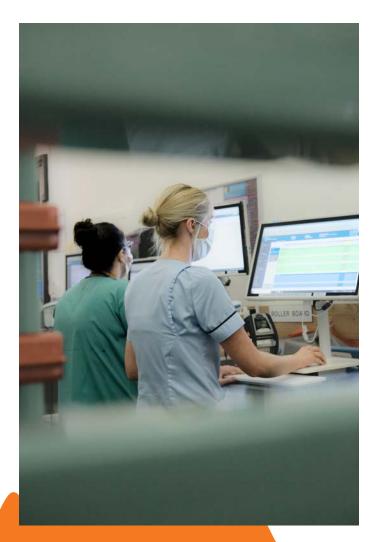






# **Allied Clinical Services**











# **Laboratory Medicine Service**

# **HEAD OF SERVICE**

Dr. Noel McEntagart, Consultant Pathologist

#### **STAFF**

Mr. John O Loughlin, Laboratory Manager
Ms. Susan Luke, Laboratory Quality Manager
Ms. Caroline Bosse, Laboratory Administration Team Leader

# SERVICE OVERVIEW

2021 surpassed 2020 as arguably the most challenging year experienced by the hospital laboratory in its long 120-year history. The COVID-19 pandemic continued to put enormous pressure on all divisions within the Laboratory Service, with increased testing and increased COVID-19 staff absences. There were significant challenges in maintaining current services and introducing new tests and systems to respond to the rapidly evolving pandemic. The laboratory introduced good infection control measures to maintain the quality management system and ensure continuity of service.

In 2020, the laboratory demonstrated that the transition to more molecular-based assays had been hugely advantageous when initially introducing COVID-19 testing. This was further demonstrated in 2021 by the laboratory's ability to quickly respond to new COVID-19 variants as they emerged. Investment in the Point-of-Care service also proved advantageous as systems were in place to quickly deploy the Abbott Rapid COVID-19 devices in the Emergency Assessment Unit and in the Delivery Suite. This allowed for rapid COVID-19 testing of patients when being admitted in an emergency.

The biggest new challenge faced by the Laboratory Service in 2021 was undoubtedly the HSE cyberattack. It dwarfed the COVID-19 pandemic in terms of its impact on the ability of the laboratory to deliver its service and in terms of the resources required to ensure business continuity. The laboratory's contingency plans fell short of what was required in a cyberattack of such scale. The Rotunda Laboratory is very IT-dependent and relies on several databases and interfaces to function efficiently. The loss of all IT (including PCs and printers) was far worse than any anticipated downtime. The laboratory resorted to issuing manually written results and telephoning results to the wards. Additional staff had to be rostered on a 24/7 basis to deal with this additional paperwork. Fortunately, due to the quick thinking of the Rotunda IT Department, the laboratory was able to get its alternative APEX IT system operational very quickly. It was one of the most challenging events that the laboratory and indeed the Rotunda has had to deal with in living memory.

The Rotunda has only one main biochemistry analyser which operates on a 24/7 basis. The analyser malfunctioned during a long weekend and as a contingency all biochemistry samples were tested at the Children's Health Ireland at Temple Street laboratory. This resulted in long delays for some tests, and put significant pressure on both hospital's staff. Given the potential clinical risk of a repeat episode, a decision was made to extend the current Rotunda contract with Roche and urgently replace the single larger analyser with two smaller analysers. This

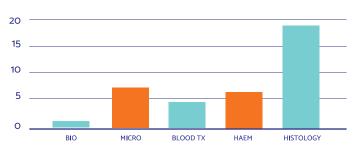
solution ensures a back-up analyser is available in the event of planned or unplanned downtime. Other challenges occurred with blood gas analysers, which needed to be replaced due to a manufacturing fault.

The laboratory infrastructure continues to be an issue, with the laboratory needing to expand and be upgraded to allow adequate responsiveness to emerging demands. Recruitment also remains very challenging with several clinical and scientific positions remaining unfilled.

# **CLINICAL ACTIVITY**

# FIGURE 1: WORKLOAD SUMMARY (% CHANGE)

# % Change 2021 v 2020



# Abbreviations

Bio = Biochemistry; Micro = Microbiology; Blood Tx = Blood transfusion; Haem = Haematology; Histology.

There was an increase in workload across all divisions. The large increase in histology specimens was primarily due to the prior reduction due to COVID-19 clinic cancellations that occurred in 2020, but were then reinstated in 2021, which was one of the busiest on record. The most notable change was a 30% increase in coagulation screens, while the Division of Biochemistry noted a 14% increase in paediatric bilirubin levels, a 57% increase in Vitamin D assays, and 38% increases in both AMH and FT3 assays. There was also a 21% drop in urinary PCR tests. Also of note, there was a notable increase in blood transfusions in both adults (+37%) and peopates (+28%)

# **SUCCESSES & ACHIEVEMENTS 2021**

2021 saw the introduction of a new coagulation analyser and a new histology processor. There was also a significant expansion of COVID-19 testing across several platforms including point-of-care.

The Laboratory Service retained its ISO15189 and ISO22870 accreditation with INAB and extended its scope of practice to include a significant number of new tests.

# **CHALLENGES 2021**

The COVID-19 pandemic and the HSE cyberattack were the most challenging issues in 2021. Other challenges included managing the risks of having only one biochemistry analyser. The poor performing blood gas analysers was a particular challenge during the COVID-19 pandemic.

The laboratory infrastructure, both in terms of size and condition, continues to be a major challenge for the service. It is also coming under renewed pressure due to the significant increase in workload across all divisions. There are issues with space and some of the floors and shelving need to be addressed as soon as possible.

Recruitment of medical scientists and consultant histopathologists remains a challenge for the service, with a failure of a number of recruitment competitions to replace several key staff members. This is a cause for concern going forward as there is a national shortage in medical scientists and consultant histopathologists.

# PLANS FOR 2022

The major projects planned for 2022 include:

- Urgently replace the single biochemistry analyser with two smaller analysers
- Replace both full blood count analysers in the Division of Haematology
- Replace the X-ray machine in the mortuary
- Replace the Flow Cell Cytometer in the Division of Haematology and Blood Transfusion
- Replace microtomes in the Division of Histopathology
- Expand laboratory 'bench' space by temporarily moving nonscientific staff to an alternative location This is required to enable validation of the new analysers
- Recruit laboratory ICT Coordinator

# **Division of Biochemistry and Endocrinology**

# **HEAD OF DIVISION**

Dr. Ingrid Borovickova, Consultant Chemical Pathologist

#### **STAFF**

Ms. Grainne Kelleher, Chief Medical Scientist

Ms. Sharon Campbell, Senior Medical Scientist

Ms. Ava Brazier, Medical Scientist

Mr. Ernest Czerkies, Medical Scientist

Ms. Emma Young, Medical Scientist

Ms. Aiveen O'Malley, Biochemist

Mr. Paul Reilly, Laboratory Aide

#### SERVICE OVERVIEW

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

# **CLINICAL ACTIVITY**

# **TABLE 1: CLINICAL ACTIVITY**

	2020	2021	% Difference
Biochemistry and Endocrinology	342,963	355,537	+1%

Highlights for clinical activity in 2021 included:

- A continued increase in paediatric bilirubin requests (14%)
- A significant decrease in urinary PCR requests (22%) following a user meeting with Dr. Geary & Dr. Ramphul as part of the laboratory's demand management strategy
- Significant increases noted in requests for Vitamin D (57%), AMH (37%) and FT3 (39%) as part of our increasing infertility workload
- A surge was observed with ROMA requests (39%) which is referred to an external laboratory at a notable cost

# **SUCCESSES & ACHIEVEMENTS 2021**

In 2021, the Division had several notable achievements:

- The Division retained INAB accreditation for laboratory testing for Biochemistry and Endocrinology
- Ongoing expansion of MN-CMS electronic healthcare record to include new tests and improve functionality
- Preparation for the procurement process for two new Biochemistry analysers

# **ENHANCING PATIENT CARE**

 Streamlining of the hypoglycemic work up protocol for neonates in MN-CMS has led to improved functionality

#### **EDUCATION & TRAINING**

- Continued staff development with completion of postgraduate qualifications at MSc level
- Ongoing projects at PhD and MSc level with clinical staff
- Facilitated a student-training program for the TUD higher diploma in Biomedical Science
- Provision of post graduate specialist lectures to Trinity Clinical Chemistry Masters students
- Attended a number of courses and training days as part of continuous professional development
- CORU registration for all Medical Scientist staff

# **INNOVATION**

 Streamlining of the hypoglycemic work up protocol for neonates in MN-CMS has led to improved functionality

# **CHALLENGES 2021**

- Serious staffing constraints in 2021 led to significant strain on services in the context of a very competitive recruitment environment
- The COVID-19 pandemic led to profound operational challenges including splitting the service into two teams to ensure minimised risk of staff infection
- Continuing to deliver clinical services 24/7 whilst maintaining urgent turnaround times in the challenging context of 2021 with both Covid-19 and the HSE cyberattack
- Continued cost saving and income generation initiatives within the department
- Due to ageing equipment and maximum analyser capacity it has not been possible to adequately expand Biochemistry and Endocrinology services

# PLANS FOR 2022

- Continue to review the Biochemistry laboratory infrastructure and layout to ensure best use of limited space
- Verification of two new biochemistry analysers
- A team will examine the feasibility of introducing new tests and expanding the test repertoire to better serve our patient population
- Implement a Biochemistry / Microbiology on-call session to help manage the on-call workload

# **Division of Clinical Microbiology**

# **HEAD OF DIVISION**

Dr. Richard Drew, Consultant Microbiologist

#### **STAFF**

Dr. Meaghan Cotter, Consultant Microbiologist

Mr. David Le Blanc, Chief Scientist

Ms. Niamh Cahill, Specialist Grade Medical Scientist

Ms. Ellen Lennon, Senior Medical Scientist

Ms. Jenny Tormey, Senior Medical Scientist (Andrology)

Mr. Tom Murphy, Senior Medical Scientist

Mr. Stephen Byrne, Medical Scientist

Ms. Ita Cahill, Medical Scientist

Ms. Caroline Doherty, Medical Scientist

Ms. Meave Fogarty, Medical Scientist

Ms. Laura-Jane McGowan, Medical Scientist

Ms. Gemma Tyrrell, Medical Scientist

Ms. Shauna Devine, Laboratory Aide

# **SERVICE OVERVIEW**

The Division of Clinical Microbiology provides serology, molecular (including SARS-CoV-2) and routine bacteriology testing to the hospital. The andrology laboratory provides initial semen analysis as part of subfertility investigations.

# **TABLE 1: CHANGES IN TEST VOLUME 2020 TO 2021**

Location	2020	2021	% difference
Microbiology	63,528	66,653	+5%
Serology	55,429	55,158	-1%
PCR	19,546	26,618	+27%
Referral	15,283	13,162	-16%
Andrology	4,959	8,492	+42%
Total	158,745	170,083	+7%

# SUCCESSES & ACHIEVEMENTS 2021

In 2021, the Division had several notable achievements:

- Continuation of SARS-CoV-2 Testing on four platforms (Seegene, GeneXpert, FilmArray and Luminex) and introduction of IgG antibody testing on the Abbott Architect platform
- Continual verification of SARS-CoV-2 tests on all platforms as assays evolve in line with new variants
- Maintenance of ISO 15189 Accreditation for microbiology, serology, molecular testing and andrology
- Introduction of a seven-day service for microbiology
- New dedicated Andrology Laboratory opened to provide both screening and testing for infertility and vasectomy
- Introduction of HSV 1 and 2 testing on the Luminex platform
- Introduction of routine testing for Hepatitis C commenced on all antenatal booking bloods in line with international best practice

# **EDUCATION & TRAINING**

- Continued staff training in all areas of laboratory operations, including introduction of SARS-CoV-2 IgG testing and HSV 1 and 2 testing
- Training and education for all staff in the new Andrology Laboratory and improved process flow for patients
- Continued professional education for all staff particularly in areas of molecular testing and CORU enrolment

# **RESEARCH**

• Peer-reviewed publications were produced on areas such as COVID-19, bacteraemia and neonatal eye infections

#### INNOVATION

 Dr. Richard Drew was shortlisted for the Health Service Executive Frontline Innovation Award for a project around machine learning and maternal bloodstream infections

# **CHALLENGES 2021**

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

- Significant workload associated with SARS-CoV-2 testing throughout the year, with a requirement for continued analysis and adjustment for new variations in the virus
- Space has become a particular concern and the movement of the andrology testing to a standalone laboratory in the Ambulatory Gynaecology Unit was particularly welcome for both staff and
- As staff either retired or resigned, it has become increasingly challenging to recruit and retain highly trained laboratory personnel
- With the growing complexity of specialised testing out-of-hours, training of non-microbiology staff to provide an effective on-call service has proved difficult

# **PLANS FOR 2022**

The Division's plans for 2022 include:

- Investigate the possibility of an upgrade to the Abbott Architect System
- Retain and recruit sufficient medical scientists
- Review of the liaison and the flow of varicella testing in serology
- Implement a microbiology and biochemistry roster to aid the current multidisciplinary on-call scientist

# Division of Haematology and Blood Transfusion

# **HEAD OF DIVISION**

Prof. Fionnuala Ní Áinle, Consultant Adult Haematologist

#### **STAFF**

Dr. Barry Mac Donagh, Consultant Haematologist

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. Edel Cussen, Medical Scientist

Ms. Meabh Hourihan, Medical Scientist

Ms. Ellen O'Connor, Medical Scientist

Ms. Lilliana Rasidovic, Medical Scientist

Ms. Catriona Ryan, Medical Scientist

Ms. Catherine Conran, Laboratory Aide

Mr. Knowledge Denehere, Laboratory Aide

Ms. Karen Fennelly, Laboratory Aide

Ms. Catherine Guinan, Laboratory Aide

Ms. Daina Voguliene, Laboratory Aide/ Scientist

# **CLINICAL ACTIVITY**

Given the overall 10% increase in delivery volume at the Rotunda in 2021, it was not surprising that this resulted in a significant increase in demand for laboratory services, in particular haematologic tests and requests for blood transfusion. Tables 1 and 2 summarise the numbers of blood transfusion tests and haematology tests performed during 2020 and 2021. The FREDA Test is a novel approach to prenatal diagnosis of fetal Rhesus D status by analysing cell free fetal DNA (cffDNA) in the maternal circulation, and its utility grew significantly in 2021.

# TABLE 1: BLOOD TRANSFUSION ACTIVITY 2020 TO 2021

Activity	2020	2021	% Difference
Total Blood group tests	63,605	66,318	+4%
Group and Save	9,590	9,799	+3%
Direct anti-globulin tests	3,484	3,939	+13%
FREDA (cffDNA for Fetal RhD)	498	1,281	+157%
FMH estimation by flow cytometry	756	833	+10%

#### TABLE 2: HAEMATOLOGY LABORATORY ACTIVITY 2020 TO 2021

Haematology Activity	2020	2021	% Difference
Full Blood Count	43,361	44,928	+4%
Coagulation screen	2,534	3,286	+30%
Cord blood electrophoresis	1,943	2,276	+18%
Manual blood count differentials	664	886	+33%
LUPUS screens	223	259	+15%

# **TABLE 3: HAEMOVIGILANCE ACTIVITY 2020 TO 2021**

Haematology Activity	2020	2021	% Difference
Number of postnatal women transfused	143	196	+37%
Number of babies transfused	95	122	+28%

During 2021, there were 11 reports made to the National Haemovigilance Office. The obstetric transfusion rate was 24 per 1,000 patients, which compares with a national average rate of 26 per 1,000. This included 196 women transfused during the postnatal period, as described in Table 3.

# **SUCCESS & ACHIEVEMENTS 2021**

The targeted routine antenatal anti-D prophylaxis (tRAADP) programme is now embedded in the antenatal care plan for rhesus (RhD) negative patients. The fetal RhD typing, or FREDA test as it is referred to in the Rotunda, allows changes to the management of rhesus negative antenatal patients for sensitising events. By accurately identifying rhesus negative mothers early in pregnancy who are carrying a rhesus negative fetus, large numbers of pregnant women can safely avoid prophylactic administration of anti-D immunoglobulin, which can be reserved soley for those rhesus negative mothers who are carrying a rhesus positive fetus. Administration of anti-D immunoglobulin can also be avoided in relevant rhesus negative mothers who have a sensitising event, such as maternal trauma.

The following audits were conducted in collaboration between haemovigilance and clinical staff:

- Audit of blood sampling and labelling in the clinical area
- Blood component vertical audit
- AML-BB article 14 traceability
- AML-BB article 15 serious adverse events

Anti-D compatibility report forms were removed from circulation in order to reduce the generation of paper reports, thereby contributing to the reduction in carbon footprint.

During 2021 the blood transfusion laboratory in conjunction with the Irish Blood Transfusion Service and the maternal medicine multidisciplinary team managed the first case of an anti-P, P1 Pk in a patient in Ireland. This is an antibody to a high frequency antigen that

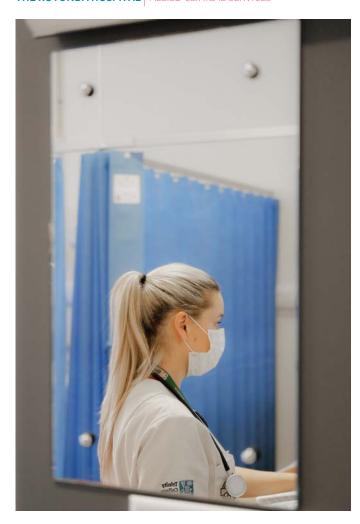
results in immediate haemolytic transfusion reaction in the patient, and due to its rarity its impact on haemolytic disease in the fetus or newborn was unknown. Blood was imported to cover the mother and baby during delivery, both of whom had a good outcome without any requirement for blood products.

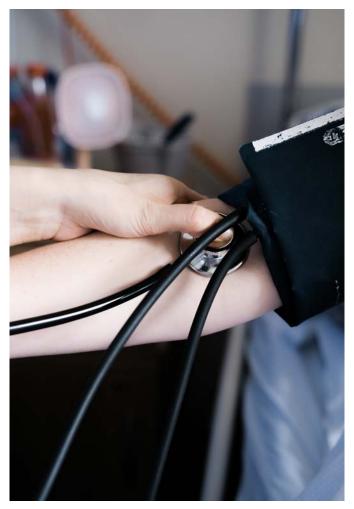
# PLANS FOR 2022

The Division of Haematology acquired two new full blood count analysers in late 2021, which will be installed and verified in 2022 after minor renovations to the laboratory infrastructure. The COVID-19 pandemic and other changes to hospital expansion plans impacted on the laboratory's renovation plans, which will be progressed in 2022.

Following a neonatal team evaluation of the feasibility of electronic positive patient identification (PPID), it is hoped to remove the ability to bypass barcode scanning in 2022.

The laboratory will progress its green agenda by further reducing its paper usage and waste in 2022.













# **Division of Histopathology**

# **HEAD OF DIVISION**

Dr. Eibhlís O'Donovan, Consultant Histopathologist

#### **STAFF**

Dr. Emma Doyle, Consultant Histopathologist

Dr. Noel McEntagart, Consultant Histopathologist

Dr. Keith Pilson, Consultant Histopathologist

Dr. Shane Brennan, Histopathology Registrar

Dr. Daniele Di Cappua, Histopathology Registrar

Mr. Kieran Healy, Chief Medical Scientist

Mr. Michael Smith, Senior Medical Scientist

Ms. Lorna Thomas, 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

Ms. Lauren Moran, Laboratory Aide

# **SERVICE OVERVIEW**

The Division of Histopathology provides diagnostic interpretation of human tissue specimens. These include routine surgical specimens, placentas and perinatal pathology cases (e.g. autopsies). The Division also provides a diagnostic cytopathology service for surgical specimens. All diagnoses of malignancy and pre-malignancy are reported to the National Cancer Registry.

# **KEY PERFORMANCE INDICATORS (KPIS)**

The Division of Histopathology routinely measures turnaround times each month. The Division also participates in the National Quality Assurance Intelligence System – Histopathology (NQAIS) which monitors many key performance indicators (KPIs) and facilitates comparison to other Irish laboratories. The Division of Histopathology maintains accreditation to the ISO 15189 standard and participates in several external quality assurance schemes. The Division performed satisfactorily in all of these KPIs in 2021.

There was an increase in the clinical activity of the Division as various clinics increased service as COVID-19 pandemic restrictions were lifted. Despite the pandemic, 2021 was the busiest year the Division has ever had in terms of surgical workload, as summarised in Table 1.

# **TABLE 1: CLINICAL ACTIVITY 2020 TO 2021**

	2020	2021	% difference			
Surgical cases	4,983	6,165	+24%			
Surgical specimens	6,329	7,902	+24%			
Surgical blocks	12,564	12,565	+21%			
Placental cases	1,443*	1,695	+17%			
Placental blocks	5,436	6,402	+18%			
Full autopsy cases	71	81	+14%			
Limited autopsy cases	21	14	-33%			
Cytology cases	63	32	-49%			
Total cases	6,571	7,987	+22%			
Total blocks	19,079	22,724	+19%			

<sup>\*</sup>error in previous figures

# **ENHANCING PATIENT CARE**

The Division provides the only CervicalCheck histopathology service on the north side of Dublin. The Division also continues to provide a centre for perinatal pathology to the RCSI Group of hospitals as well as to the Mater Misericordiae University Hospital (MMUH).

In addition to the training of NCHDs and student Medical Scientists, two staff members have undertaken a training course in histo-dissection.

Expanding the range of gynaecology cases catered for is a significant opportunity for the Division, although the current infrastructure will make increased workloads difficult.

# **SUCCESSES & ACHIEVEMENTS IN 2021**

- Accreditation to ISO1589 was maintained
- Issues with in-house tissue processing were resolved and processing was further enhanced with the replacement of underperforming equipment
- The Division rapidly responded to the emergence of COVID-19
  associated placentitis by processing more cases to histology and
  introducing two new stains for SARS-CoV-2 in order to better
  understand this entity

# **CHALLENGES 2021**

- Retaining and recruiting staff, including providing appropriate training opportunities for staff
- Resolving ongoing issues with tissue processing

# **PLANS FOR 2022**

- Maintain ISO15189 accreditation
- Support the hospital's strategic development plan by continuing to up-skill staff and expand the repertoire of stains
- Recruit and train replacement staff, including up-skilling of laboratory aides to medical scientist grades

# **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. Gemma Tyrrell, Point-of-Care Testing Coordinator

Ms. Sarah Kelly, Deputy Point-of-Care Testing Coordinator

Ms. Aiveen O'Malley, Health and Safety Officer

Mr. Michael Smith, Deputy Health and Safety Officer

Mr. John O'Loughlin, Acting ICT Coordinator

Ms. Niamh Cahill, Training and Development Training Officer

Ms. Miriam Hurley, Deputy Training and Development Officer

# **ACTIVITY**

The Rotunda Hospital and its laboratory endured probably one of the most challenging years ever in 2021, with the laboratory managing to provide a robust laboratory service to users throughout the year.. The COVID-19 pandemic continued to place extra requirements on the testing service and staff rostering. In February, the laboratory returned to split teams, and an additional point-of-care blood gas analyser was redeployed to care for patients affected by COVID-19.

In May, the hospital-wide HSE cyberattack was successfully managed by the laboratory and colleagues throughout the hospital enabling a continuous laboratory service. The laboratory service contingency plan was instigated and laboratory testing and reporting of results was successfully maintained until normal services resumed. Due to MN-CMS and APEX being unavailable for a short time during the HSE cyberattack, manual instrument printouts were issued as final reports.

A number of vertical audits were performed following the HSE cyberattack which confirmed that the emergency continuity plan had succeeded in ensuring that all laboratory results were managed correctly. Andrology services were temporarily suspended, with no adverse effect to the clients of this service. Extra clinics were provided in the weeks following recovery from the HSE cyberattack.

The laboratory underwent a scheduled INAB assessment in April 2021 and this assessment was successfully completed for laboratory testing and point-of-care testing. The assessment focused on the ICT component of reporting of results, point-of-care for haematology services and blood gas analysis. Continuous quality improvements in the laboratory and investigation of non-conformances and analysis of extent were reviewed. The infrastructure of the laboratory and the ability of the laboratory to provide its services and to expand created much discussion and the laboratory was requested to submit a Failure Mode and Effect Analysis (FMEA). This risk assessment confirmed that laboratory services were not compromised, although it concluded that expansion of services could be a challenge.

The laboratory submits an Annual report for Blood Transfusion to the Health Products Regulatory Agency (HPRA). This report is required to be submitted under EU Directive 2002/98/EC and reports on blood usage and wastage, planned changes and accreditation status. The

compilation of this report is managed by Ms. Emily Forde, senior scientist in Blood Transfusion and deputy quality officer.

The laboratory is audited by the Health and Safety Authority (HSA) Dangerous Goods Safety Advisor (DGSA) twice a year, which is managed at the Rotunda by the Health and Safety Officer, Ms. Aiveen O'Malley. The safedoc.ie compository was identified as requiring updating and this was completed by the laboratory Health and Safety Committee.

# **SUCCESSES & ACHIEVEMENTS 2021**

During 2021, the laboratory continued to ensure services were revised to provide the most up-to-date testing platforms available. Through flexible scope of practice, the Division of Histopathology placed into service a new tissue processor, the Division of Haematology replaced a coagulation analyser with a new Top 550, and the Division of Biochemistry upgraded the testing platform for LDH. Flexible scope of practice enabled the laboratory to make these changes in service without a break in accreditation and with no cost incurred by requiring an INAB assessment.

Training videos in the use of Q-Pulse were made available on the hospital Q-Pulse platform and videos demonstrating processes in blood transfusion, andrology and specimen reception were created with the help of the hospital communication officer. These were utilised in the INAB assessment and commended by the INAB assessors.

The quality management system functioned satisfactorily in 2021. The audit schedule was successfully completed by a small team, although it is planned to widen the number of auditors for 2022. Non-conformances, equipment, and supplier records were maintained and any hard copy records created during the HSE cyberattack were transferred to Q-Pulse as it came back on-line.

# PLANS FOR 2022

- Continue to review laboratory infrastructure and layout to ensure best use of space available until a permanent new location on-
- Explore alternative means to portray laboratory testing and advisory services to clients by use of social media and refreshed
- Assist laboratory management in achieving the 'My Green Lab' certification
- Maintain the quality improvement process to investigate nonconformances to reduce requirements to repeat phlebotomy which is especially important in the neonatal population
- Continue to add to the video training repertoire of laboratory processes which are useful for training and information purposes

# **Clinical Nutrition and Dietetics**

# **HEAD OF SERVICE**

Ms. Laura Kelly, Dietitian Manager

#### **STAFF**

**Ms. Alexandra Cunningham,** Senior Dietitian (Obstetrics and Gynaecology)

Ms. Naomi Hastings, Senior Dietitian (Neonatology)

Ms. Hilary Devine, Clinical Specialist Dietitian (Diabetes)

Ms. Anna-Claire Glynn, Clinical Specialist Dietitian (Neonatology)

# **SERVICE OVERVIEW**

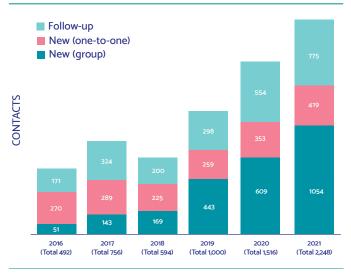
The mission of the Clinical Nutrition and Dietetics Service is to provide the highest quality dietetic service to women and children attending the Rotunda, in order to improve clinical and quality of life outcomes.

#### **CLINICAL ACTIVITY**

# **OBSTETRICS AND GYNAECOLOGY DIETETIC SERVICES**

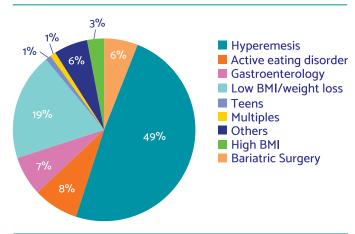
Individual dietetic consultations (in-person and telehealth) increased by 32% in 2021. The antenatal nutrition webinar also continues to prove more popular with patients, with attendance up 78% from 2020. Figure 1 demonstrates the significant year-on-year clinical throughput with the service.

# FIGURE 1: OBSTETRICS & GYNAECOLOGY SERVICES ACTIVITY (2016-2021)



Services remain prioritised to patients at highest nutritional risk, with the breakdown of activity in 2021 detailed in Figure 2 below. Hyperemesis Gravidarium continues to dominate service requirements, while supports for gynaecology are limited with current resources.

# FIGURE 2: DIETETIC ACTIVITY: OBSTETRICS & GYNAECLOGY SERVICES (2021)



#### **DIABETES IN PREGNANCY DIETETIC SERVICES**

The diabetes in pregnancy service remains extremely busy, with new referrals to dietetics up 11% in 2021. Intensive dietetic support (in-person and telehealth) is provided to women with diabetes in pregnancy at standalone dietetic clinics and at the weekly multidisciplinary diabetes clinic. Education for gestational diabetes (GDM) continues to be provided in group webinar format as an efficiency measure. Figure 3 summarises the diabetic demands on the service.

# FIGURE 3: DIABETES DIETETIC SERVICES ACTIVITY (2016-2021)



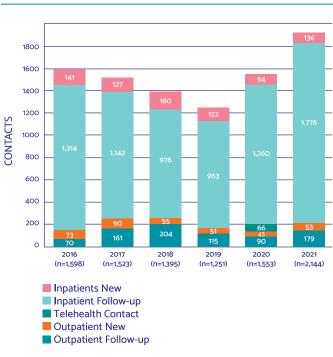
Care for women with diabetes in pregnancy continues to increase in complexity (such as use of insulin pumps, changing diabetes technology, and routine glucometer use for GDM), placing a greater demand on time input from dietitians. In July 2021, the service welcomed a new Clinical Specialist Dietitian for Diabetes. This additional resourcing facilitated maintenance of existing services, which continue to operate above capacity (due to demands of supporting routine glucometer use for GDM) and is still not in line with best practice international guidelines.

#### **NEONATOLOGY / PAEDIATRIC SERVICES**

The neonatal dietetic service is predominantly based in the NICU and is currently prioritised to infants <32 weeks' gestation or birthweights <1.5kg. Dietitians provide input at ICU (daily) and HDU/SCBU ward rounds (weekly or bi-weekly). A weekly outpatient service is also provided.

Figure 4 demonstrates the 41% increase in inpatient dietetic activity and 17% increase in outpatient activity in 2021 for neonatology, which was facilitated by the addition of a new senior dietitian in 2021. Additionally, the neonatal dietitians have non-clinical roles and responsibilities including dietetic training and supervision; medical and nursing teaching; quideline development; local and national committee involvement; as well as audit and research to enhance patient care.

# FIGURE 4: NEONATAL DIETETIC SERVICE ACTIVITY (2016-2021)



#### **SUCCESSES & ACHIEVEMENTS 2021**

# **ENHANCING PATIENT CARE**

- Secured new diabetes and neonatal dietetic posts
- Audit of education and postnatal outcomes for diabetes services completed
- Patient satisfaction survey of antenatal nutrition class completed
- Updated and created new education webinars for woman with diabetes in pregnancy
- Created videos on diabetes management for women with Type 1 or Type 2 diabetes for the Rotunda website
- Patient resources were updated on wound healing; healthy eating (Romanian translation): education for GDM: GDM resources for African and Indian foods
- Updated GDM webinar produced, including weekly evaluations
- Developed question and answer 'highlight' section on GDM for the Rotunda Instagram service
- Participated in the Rotunda Virtual Open Day
- Developed a care-plan for the Rotunda for women who have undergone bariatric surgery
- Updated the enteral nutrition guideline, as well as revised donor human milk criteria and enteral feeds flowsheets
- Participated in a new Necrotizing Enterocolitis prevention working group
- Participated in Family Integrated Care (FiCare) in the NICU, including weekly parent education sessions and contribution to the service's Charter Day poster
- Contributed an educational article on infant growth for the Rotunda GP Connect e-Zine

# **CONTINUING PROFESSIONAL DEVELOPMENT**

- Facilitated a 5-week student placement for MSc dietetic students from UCD
- Dietetic representative for the national Model of Care for Diabetes in Pregnancy Programme
- Developed Moodle diabetes education module for Rotunda nursing and midwifery staff
- Created a video for education on dietetic referral criteria and circulated to midwifery staff
- Regular nutrition teaching sessions provided to NCHDs, nurses and midwives, including hyperemesis, diabetes and neonatal nutrition, much of which was bedside teaching
- Actively involved in various national professional groups: Maternity Dietitians Ireland; Neonatal Dietitians Ireland; Neonatal Dietitians Interest Group UK & Ireland; and UK Neonatal Dietitians Community of Practice

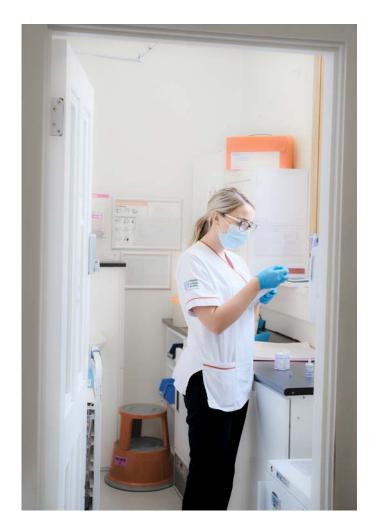
Participated in Virtual CPD education and training events:
 Behaviour change training; Eating disorders webinar; Bariatric
 surgery webinar; Diabetes in Pregnancy UK conference; BDA
 Maternity & Fertility Nutrition Study Day; HSE and Slaintecare
 webinars; BDA Module 5 course on neonatal nutrition;
 International FiCare conference 2021; JENS conference

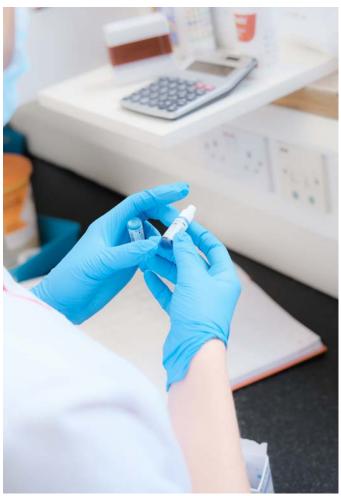
# **CHALLENGES 2021**

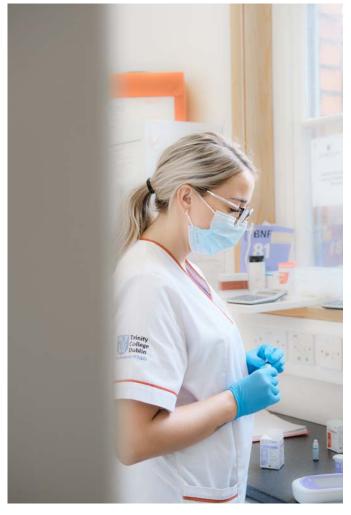
Prioritisation of dietetic services remains challenging when covering periods of leave (planned and unplanned). Reported activity data does not reflect the true demand at the Rotunda, with current staffing levels remaining below optimal numbers. While the service strives to provide quality care in line with best practice international guidelines, it is recognised that women and infants require more intensive dietetic support to optimise outcomes. This remains challenging with current resources. Furthermore, due to increasing demands of high-risk obstetric referrals, it has not been possible to provide the same degree of prioritisation for gynaecology and fertility patients.

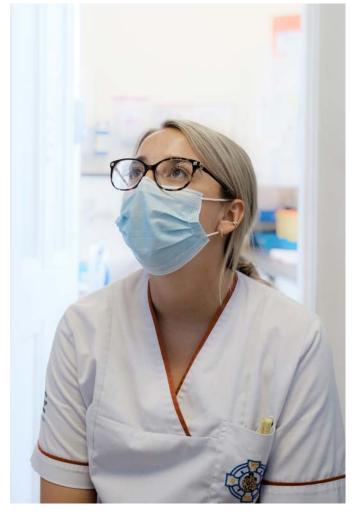
# PLANS FOR 2022

- Seek approval and funding for additional staffing to support optimisation and expansion of dietetics support for gynaecology and diabetes services
- Enhance the use of online and social media platforms to provide nutrition information to patients/parents
- Review and update policies and care-plans for diabetes and explore expansion of joint consultations
- Evaluate service-user experience for online education and webinars for GDM patients
- Develop additional patient resources, including diabetes in pregnancy (meal-planning, recipe, visual and translated resources); nutrition at discharge for preterm infants; and mealtime management leaflets
- Undertake research to investigate whether specific gravity is a superior marker than ketones to assess hydration status in women with hyperemesis
- Expand dietetic services for neonatology and update standard operating procedures
- Develop additional resources to support breastfeeding in the NICU
- Finalise a 'Salt & Sugar Calculator' with the Pharmacy Service
- Continue to seek opportunities and provide regular nutrition teaching sessions to midwifery and NCHD colleagues locally, to GP and community colleagues, and to colleagues in the RCSI Hospitals Group
- As part of Nutrition and Dietetics Institute, to organise a virtual study day for neonatal nutrition
- Continue to undertake neonatal nutrition audit/research/service evaluation where appropriate









# **Medical Social Work Service**

# **HEAD OF SERVICE**

Ms. Sinead Devitt, Head Medical Social Worker

#### **STAFF**

Ms. Stefanie Fobo, Senior Medical Social Worker

Ms. Pauline Forster, Senior Medical Social Worker

Ms. Clare Naughton, Senior Medical Social Worker

Ms. Louise O'Dwyer, Senior Social Work Practitioner

Ms. Laura Feely, Medical Social Worker

Ms. Susan Finn, Medical Social Worker

Ms. Rebecca Haughan, Medical Social Worker

Ms. Connie Mullen, Medical Social Worker

# **SERVICE OVERVIEW**

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

#### **CLINICAL ACTIVITY**

# **CHILD PROTECTION**

In 2021, the medical social work team was involved in 178 child protection cases. This was a 17% increase in activity from the previous year. The main types of concerns where a referral was made or received from Tusla in 2021 are described in Table 1.

# **TABLE 1: REASONS FOR TUSLA INVOLVEMENT**

	2017	2018	2019	2020	2021
Drug use	53	57	46	60	64
Domestic violence	34	48	38	30	37
Child welfare	16	24	23	29	25
Underage pregnancy	22	34	14	15	22
Mental health	9	7	8	1	9
Previous children in care	4	9	6	6	9
Child neglect	3	3	6	2	4
Alcohol misuse	3	1	8	3	3
Retrospective disclosure	0	3	1	2	3
Learning difficulty	2	1	1	3	2
Adoption	2	0	2	1	О
Total	148	187	153	152	178

The majority of child protection cases are complex and involve a medical social worker working in partnership with parents, multidisciplinary/medical colleagues in the Rotunda, Tusla and other relevant agencies over a number of months to ensure a baby's safe discharge. When parents are experiencing difficulties, every support is explored to help them take care of their baby. Only in exceptional cases,

are children separated from their parents after all alternative means of protecting them have been exhausted.

#### DOMESTIC VIOLENCE

One of the many consequences of the COVID-19 pandemic was the increased prevalence of domestic violence, as a result of families being confined at home with perpetrators during the lockdown restrictions. In 2021, Gardai investigated almost 50,000 domestic violence incidents throughout Ireland, representing an increase of 10% on 2020. Pregnant women are particularly vulnerable, as research demonstrates that domestic violence often escalates further during pregnancy.

A major role of medical social workers is to provide immediate support and advice to women disclosing domestic violence. In 2021, the three Dublin maternity hospitals acquired the services of a Woman's Aid Maternity Outreach Support Worker, which will enhance referral pathways for support, information and advocacy for woman (including staff) when required.

A total of 27 referrals were made by medical social workers to Tusla, where domestic violence was the primary concern. Another 10 patients were managed where domestic violence was an issue and was already known to Tusla. A referral to Tusla is not an indication that the woman is responsible for the behavior of the perpetrator but reflects Tusla's overall statutory responsibility for assessing all child protection and welfare concerns, which no other agency can carry out. Ultimately, it is the goal of all services working with pregnant women experiencing abuse to ensure that the woman, her baby and her family are safe and appropriately supported.

# PERINATAL MENTAL HEALTH

Women have access to the Specialist Perinatal Mental Health Service for the management of mental health difficulties in pregnancy, and up to a year postnatally. The social worker is part of a multidisciplinary team, working in collaboration with mental health midwives, mental health nurses, psychologists and perinatal psychiatrists to provide appropriate assessment, support and interventions to women, their partners and families.

In conjunction with a senior Rotunda psychologist and other colleagues, the social worker continues to be involved in the co-facilitation of the antenatal anxiety group, 'Me to Mom'. This six-week intervention was facilitated online in 2021 due to the ongoing COVID-19 restrictions. This group is for women who are preparing for the changes and challenges of becoming a mother and looking after a new baby. The group uses principles of cognitive behavior therapy (CBT), compassion focused therapy, and mindfulness to help new mothers prepare for the social, emotional and psychological changes that accompany having a baby.

The mental health social worker facilitated an eight-week Postnatal Depression Group, which ran in partnership with Better Finglas. This is a CBT-based skills development programme, within a supportive group environment, for women who receive a diagnosis of Postnatal Depression within the first year of giving birth.

In December 2021, Rotunda social workers presented on the role of the Perinatal Mental Health Social Worker and on Perinatal Mental Health & Child Protection/Welfare at a study day for Public Health Nurses in the Coombe Women and Infants' University Hospital.

#### TEENAGE PREGNANCY SERVICE

The medical social worker for the Teenage Pregnancy Service offers emotional and practical support to all patients attending the clinic for issues such as unplanned pregnancy, relationships, housing, further education options, parenting support, and benefits/entitlements. Where additional needs are identified at their booking visit, clinical specialist midwives refer patients to a medical social worker for this support. Of the 119 patients who were cared for at the Teenage Pregnancy Service in 2021, 97 were supported by the medical social worker.

#### BEREAVEMENT MEDICAL SOCIAL WORKER

The Bereavement Medical Social Worker offers information and support to families who experience a pregnancy loss at any stage, including ectopic pregnancy, miscarriage, stillbirth, or neonatal death. In 2021, support service was provided to 213 parents who experienced a pregnancy loss. The medical social worker provided face-to-face or telephone support to 88 bereaved families who wished to engage with the service following the loss of their baby.

# **FETAL MEDICINE SERVICE**

The medical social worker attached to the Fetal Medicine Service works closely with the multidisciplinary team to identify patients who may require additional emotional and practical support. The most common reason for a referral to medical social work from the Fetal Medicine Service 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 abnormal prenatal diagnosis. The medical social worker also provided bereavement support where required.

# **NEONATAL INTENSIVE CARE UNIT**

The role of the medical social worker attached to the Neonatal Intensive Care Unit is to help families cope with the stressful experience of having a premature or sick baby. The social worker provides emotional support, information, and practical assistance to parents while their baby is in the hospital and also after their baby has been discharged home. In addition, bereavement support is offered to parents if their baby dies while in neonatal care. The medical social worker provided a service to over 400 families whose babies were admitted to the neonatal intensive care unit in 2021.

# PREGNANCY OPTIONS CLINIC

The availability of impartial and non-directive counselling for women considering a pregnancy termination is essential. A medical social worker specialising in crisis pregnancy offers confidential support and counselling to all women attending the Pregnancy Options Service, and to those who attend the Fetal Medicine Service who seek termination for fatal fetal abnormality, or for those who travel

for a termination abroad. In 2021, the medical social worker met with patients availing of the Pregnancy Options Service where underage pregnancy, child protection, domestic violence, mental health, drug use and homelessness were additional issues. Five referrals were made to Tusla from patients attending the Pregnancy Options Service, after firstly speaking to patients about child welfare or protection concerns. The medical social worker works closely with the multidisciplinary team at the Pregnancy Options Service and is located on-site with midwifery and medical colleagues so that support can be provided to patients immediately as their need dictates.

# **SUBSTANCE MISUSE**

In 2021, the medical social worker attached to the DOVE (Danger of Viral Exposure) clinic provided emotional and practical support to women attending this specialist clinic. Patients attending this clinic are those who have an infectious disease diagnosis and/or substance misuse issues. The social worker liaises closely with the specialist midwives to provide a comprehensive service for women attending the DOVE clinic. As part of the role, the medical social worker helps parents to address their addiction issues, at a time where motivation to cease or reduce substance misuse can be high. A total of 48 women attending the DOVE clinic and who delivered in 2021, were referred to Tusla by the medical social worker. Referrals to Tusla regarding substance misuse also occurred when patients did not attend the DOVE clinic but drug use was identified postnatally.

In 2021, Tusla held 24 Child Protection Conferences in relation to substance misusing Rotunda patients. These conferences are interagency and utilise multidisciplinary meetings where a child protection plan is formulated. Such conferences help 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.

In 2021, there were five babies discharged to substitute care under a Court Order in this cohort of patients. The medical social worker attended Court and participated in these proceedings. It is ultimately a Judge who makes the difficult decision for the baby not to be discharged to the care of their parents.

The medical social worker worked closely with colleagues in the neonatal intensive care unit. In 2021, 17 babies were admitted to the neonatal unit for the treatment of Neonatal Abstinence Syndrome (NAS). The medical social worker balances the often conflicting interests of parents struggling with addiction, a busy neonatal unit, requests from Tusla and instructions from the Courts to ensure that each baby is safely discharged.

# TABLE 2: NUMBER OF DELIVERIES TO SUBSTANCE MISUSING WOMEN

Year	2017	2018	2019	2020	2021
Deliveries to substance misusing women	62	61	56	56	60
Child Protection Referrals to and from Tusla	53	57	46	51	48
Parent(s) signing baby into voluntary care	5	5	3	1	4
Babies taken into care under a Court Order	1	1	1	10	5
Mothers and babies returned home under supervision of non-drug using relative	7	10	19	9	7

# SUCCESSES & ACHIEVEMENTS IN 2021

A success in 2021 was the launch of the Maternity Project, which saw the Rotunda Hospital work in partnership with Woman's Aid, the Coombe Women and Infants' University Hospital, the National Maternity Hospital and Cork University Maternity Hospital, to further enhance the maternity hospitals' response to pregnant women experiencing abuse through the strands of training, awareness and referral. As part of the awareness strand, a 16-day awareness campaign ran in the Rotunda Hospital during November and December 2021. The campaign included a webinar, animation videos, a press release and social media feeds. The medical social work team worked with Woman's Aid and their colleagues in the other maternity units to identify ways to promote awareness on-site, which included banners, posters, leaflets, pens, lanyards, helpline cards and bookmarks. These materials were also distributed to the other maternity units within the RCSI Hospitals Group. An emphasis was placed on promoting awareness of supports for staff as well as patients.

Another success in 2021 was the extension of the HSE Inclusion Health/ Homeless Hospital Discharge Programme to the three Dublin maternity hospitals. This extension resulted in the recruitment of a medical social worker to develop a dedicated expertise around homeless patient presentations at the Rotunda. The vision is to develop a networking and collaborative approach across the maternity hospitals, Children's Health Ireland (CHI), community/voluntary service providers and local authorities, to ensure that service integration and linkages are enhanced.

# **EDUCATION & TRAINING**

The medical social work team attended several courses and training days during 2021 to enhance their continued professional development. These included 'Hidden Losses – Hidden Grief, Untying the Knots' run by the Irish Hospice Foundation and 'Working with Traveler and Roma Communities' and 'Safeguarding Adults: Practice with Service Users who are Homeless' run by the Irish Association of Social Workers (IASW). A medical social worker also attended training on 'Trafficking Human Beings' run by the Immigration Council of Ireland and 'Woman's Mental

Health and Domestic Violence' presented by Social Workers in Adult Mental Health (SWAMH) special interest group.

The medical social worker attached to the Pregnancy Options Service provided lectures to UCD Social Science undergraduate students on the social work role within the Rotunda. Social workers also participated in a masterclass on 'Termination Of Pregnancy for Fatal Fetal Abnormalities' for colleagues in the Cavan Maternity Unit. A medical social worker presented on behalf of the Medical Social Work Service at the Maternity Open Week and the team provided a virtual agency visit in 2021 for social work students from University College Dublin, Trinity College Dublin, Maynooth University, Sligo Institute of Technology and National University of Ireland, Galway.

A medical social worker is part of the IASW Working Group developing a Position Statement on 'The Role of Social Work with Transgender Non-Conforming Clients (TGNC)'. The statement aims to inform practice when working with this client group within various health and social care settings, including maternity.

# **CHALLENGES 2021**

A significant challenge faced by the medical social work service during 2021 was maintaining a high level of service delivery during a period of high staff absenteeism due to the COVID-19 pandemic. This was achieved by the flexibility of team members, who worked across the different areas to meet the needs of vulnerable patients.

On a practical level, the challenge of patients not having essential baby equipment was met by an increased level of generous donations from staff and the public. This facilitated the timely and safe discharge of mothers and babies, when anxieties continued to be heightened by the ongoing pandemic.

The HSE cyberattack in 2021 caused severe disruption across healthcare services throughout Ireland. The medical social work team responded to this challenge by reverting to paper-based systems used prior to the introduction of the MN-CMS electronic healthcare record, to ensure that patients continued to receive a full medical social work service. Child welfare and protection concerns continued to be referred to Tusla by the medical social work team and accurate records were maintained in paper form until electronic services were restored.

# PLANS FOR 2022

The medical social work team, in conjunction with their colleagues across the hospital, plan to work in collaboration with Woman's Aid to develop bespoke and targeted staff training suitable for a maternity setting. The training will be cognisant of the reality that staff working with patients disclosing domestic abuse may also have experience of abuse within their own lives. The training will focus on raising staff awareness of the prevalence of domestic violence during pregnancy, giving staff the language to ask about domestic violence, respond to disclosures sensitively and empower them to know where to refer onwards. In early 2022, a committee will be formed to gather staff's input and ideas on

how best to deliver training in the maternity setting. This will inform a pilot training programme to be evaluated later in the year.

With the addition of a medical social worker dedicated to inclusion health, the plan in 2022 is to develop an expertise around homeless presentations within the Rotunda. This will include developing a more systematic approach to this cohort of patients by establishing clearer discharge pathways and ensuring that all relevant wrap-around supports are in place. This medical social worker will also work closely with colleagues in the Coombe Women and Infants' University Hospital and the National Maternity Hospital, so that the reporting of homeless presentations is consistent over all three sites.

The expansion of the Homeless Hospital Discharge Programme to the three Dublin maternity hospitals and CHI will progress the actions outlined in the 2019 Royal College of Physicians of Ireland (RCPI), Faculties of Public Health Medicine and Pediatrics Report 'The impact of homelessness and inadequate housing on children's health'. This report highlights how living in homeless or temporary accommodation during pregnancy is associated with an increased risk of preterm birth and low birth weight. Low birth weight is particularly associated with poorer long-term health and educational outcomes for children. While the rise in family homelessness in Ireland is linked to a lack of housing supply, it is important to mitigate the long-term consequences for families and children, until such time as this deficit is rectified.

# **Pharmacy Service**

# **HEAD OF SERVICE**

Dr. Brian Cleary, Chief Pharmacist

#### **STAFF**

Ms. Elena Fernandez, Senior Pharmacist

Mr. Gavin Horan, Senior Pharmacist

Ms. Maria McCullagh, Senior Pharmacist

Dr. Fergal O'Shaughnessy, Senior Pharmacist

Ms. Aileen Cullen, Senior Antimicrobial Pharmacist

Ms. Fiona Gaffney, Senior NICU Clinical Pharmacist

Ms. Emer Coll, Senior Pharmaceutical Technician

Ms. Elaine Webb, Senior Pharmaceutical Technician

Ms. Rachel McNamara, Pharmaceutical Technician

Ms. Kamelia Krysiak, PhD Scholar/Research Pharmacist

Ms. Joan Devin, PhD Scholar/Research Midwife

# **SERVICE OVERVIEW**

The Pharmacy Service supports the safe and effective use of medicines. 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 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.

Approximately 250,000 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 on a daily basis (Monday – Friday) 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.

# **SUCCESSES & ACHIEVEMENTS 2021**

There were a number of achievements in 2021, across several areas, including:

Continued development 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 medicines information services, advocacy and research. The Pharmacy Service has engaged with national and international networks and have strengthened collaborations with the National Women and Infants Health Programme (NWIHP), the European Network of Teratology Information Services and the Health Products Regulatory Authority (HPRA)

- Process and technology improvements following the HSE cyberattack and downtime/business continuity planning and learning from system downtime, using remaining resources such as an Antimicrobial App to provide medicines information
- COVID-19: Guidelines on management, updates to Thrombocalc, expanding and adapting practice in response to COVID-19 restrictions (split shifts, remote meetings, huddles, medication safety) restructure of clinical workflows
- Participation in the National Immunisation Advisory Committee (NIAC) and advocating for COVID-19 vaccination in pregnancy
- Roll-out of staff and patient vaccination clinics
- Support of national vaccination roll-out, contribution to national centralised pharmacy processes and co-ordinating efforts to ensure seven doses were achieved from every vial where feasible
- Development, piloting and testing of the national TrackVax system
- Establishment of a centralised vaccination clinic at Croke Park
- Development of IMPS COVID-19 vaccine decision aid and risk communication materials which were viewed hundreds of thousands of times in multiple languages across various online platforms and versions
- Contribution to COVID-19 treatment guidelines
- Participation in the European Medicines Agency COVID-19 vaccination in pregnancy study

In addition to achievements related to COVID-19, the Pharmacy Service was also very productive in other areas:

- Implementation of a vitamin K alert to minimise incidents relating to non-recording of neonates' vitamin K status
- Collaboration with the Finance Department to implement an electronic system for invoicing and inter-departmental communication with finance department
- Ongoing support and optimisation of the Thrombocalc VTE risk assessment tool which has been used to identify and reduce the risk of venous thromboembolism in over 50,000 women to date
- Continued developments in the procurement and implementation of neonatal parenteral nutrition lipid bags and enhanced smart pump functionality, contributing to cost and risk reduction
- Electronic transmission of individualised orders for neonatal parenteral nutrition

- Contribution to Family Integrated Care (FiCare), including provision of medication safety talks and medication counselling with parents of babies in the NICU
- Collaboration with NICU and NHS colleagues on the PADDINGTON study developing parent co-designed drug information for parents and guardians taking neonates home
- Engagement in an EU-wide collaborative project, ConcePTION, leading on work to develop a knowledge bank on medication use in pregnancy and lactation, as well as an education resource for health professionals on medication use in pregnancy and lactation
- Updating and optimisation of the Rotunda Antimicrobial Guide App, with ongoing surveillance of antimicrobial consumption
- Collaboration on a National Antimicrobial Point Prevalence Survey with the European Centre for Disease Prevention and Control
- Continued staff development with completion of postgraduate qualifications at MSc and PhD levels
- Ongoing contribution to the procurement process for the Hospital Medicines Management System, a national project to modernise the hospital pharmacy IT infrastructure
- Progression of the Pharmacy Service refurbishment business case and integration of advanced pharmacy technologies to automate medication supply processes. Approval has been received for procurement of a Pharmacy Robot
- Clinical trials participation, including initiation of IND Home Trial and preparation for the launch of a pilot Partum Trial
- Continued hospital training on MN-CMS and medication safety huddles
- The pharmacy team assembled a time capsule which reflected life in 2021 with photos, artefacts and letters from staff members, which was buried beneath a marked tile near the Boardroom

# RESEARCH, AUDIT AND EDUCATION

- The Pharmacy Service is collaborating with, and providing ongoing support to, a range of maternal and newborn randomised controlled trials on conditions including preeclampsia, thromboprophylaxis and induction of labour
- Ongoing projects at PhD and MSc level with Kamelia Krysiak and Joan Devin. Completion of MSc level qualifications by Claudia Looi
- Successful Fulbright research placement in Children's Hospital of Orange County for Joan Devin

- Other research projects in the areas of neonatal drug delivery and medication safety, health informatics and medication safety, VTE prevention, pharmaco-epidemiology, postpartum bleeding and antimicrobial stewardship
- Development and validation of a retract and reorder tool, allowing automated detection of medication related near-misses to supplement clinical reporting processes
- Completion of a Certification in Data Analytics for MN-CMS team members

# **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
- Medication variance reports: contribution to a pilot of electronic incident reporting in collaboration with the Neonatal Medication Safety Committee
- Continued engagement in the maternal medicine MDT and provision of specialist advice on medication use in pregnancy, as well as relevant pre-conception counselling

# **CHALLENGES 2021**

The Pharmacy Service faced multiple challenges this year including:

- Staffing challenges, COVID-19-related leave, and staff turnover continued to place significant strain on services in the context of a very competitive recruitment environment
- The persistence of the COVID-19 pandemic continued to cause operational problems, particularly with the significant clinical and operational challenge of implementing COVID-19 vaccination in staff and patients
- Issues with physical infrastructure created challenges in service delivery
- Continuing to deliver clinical services while minimising costs of medicines in the challenging context of medication shortages and increasing medication costs due to COVID-19 and Brexit
- The HSE cyberattack presented a major challenge to medication safety. The pharmacy team were closely involved in extracting prescription and administration data from backup systems and in supporting temporary transition to paper-based prescribing while maintaining safe and high-quality pharmacy services

- Temporarily relocate pharmacy services to enable complete refurbishment of the pharmacy space, as well as installation of a Pharmacy Robot
- Establish a new procurement process for epidural products
- Continue 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
- Optimise insulin prescribing processes with the MN-CMS electronic healthcare record, and examine the feasibility of standardised peripartum insulin medication processes
- Expand pharmacy services to theatre and complete the Institute for Safe Medication Practices perioperative medication safety self-assessment
- Implement improvements to processes for women with epilepsy incorporating improved clinical decision support and medicines reconciliation in MN-CMS
- Establish a process for transfer of medication history from GP systems using the antenatal visit messaging interface

# **Physiotherapy Service**

# **HEAD OF SERVICE**

Ms. Cinny Cusack, Physiotherapy Manager

#### **STAFF**

Ms. Brona Fagan, Clinical Specialist Physiotherapist (NICU)

Ms. Anna Hamill, Clinical Specialist Physiotherapist (NICU)

Ms. Niamh Kenny, Clinical Specialist Physiotherapist

Ms. Grainne Sheil, Clinical Specialist Physiotherapist

Ms. Paula Donovan, Senior Physiotherapist

Ms. Nora McCreadie, Senior Physiotherapist

Ms. Aoife Clarke, Physiotherapist

Ms. Katy Holmes, 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 focuses on mothers who are at risk of pelvic floor dysfunction and all mothers are encouraged to attend postnatal classes. All patients who undergo major gynaecologic surgery are reviewed post-operatively.

The outpatient service provides assessment and treatment of pregnant women with musculoskeletal conditions including pelvic girdle pain. These referrals are triaged and patients attend virtual pelvic girdle classes and/or individual appointments. Management of pelvic floor dysfunction includes manual therapy, exercises and lifestyle advice for urinary and faecal incontinence, pelvic floor pain and dyspareunia. Prolapse management also includes pessary fitting and teaching self-management of removable pessaries. Women can self-refer for individualised treatment for pelvic floor dysfunction up to six months' postpartum.

Physiotherapy is a member of the multidisciplinary team that provides a weekly Promotion of Continence Clinic. Suitable patients are triaged directly from the gynaecology waiting list for a course of physiotherapy as conservative management. Patients are subsequently booked into the Promotion of Continence Clinic as required.

The physiotherapy service in the Neonatal Intensive Care Unit (NICU) provides assessment of babies who are preterm or at risk of neurodevelopmental deficits. Prechtl assessment of fidgety movements at 12 - 20 weeks is a reliable predictor of motor outcome and the LAPI assessments performed on preterm neonates accurately predicts the development of cerebral palsy. Education is given to staff and parents on developmental positioning, handling and early neurodevelopmental physiotherapy. Physiotherapy has regular input into Family Integrated Care (FiCare). Discharge planning with parents facilitates transition to outpatient physiotherapy until ongoing care is taken over by the community service or the baby is discharged from treatment.

The service working model due to the COVID-19 pandemic is a mixture of virtual/telemedicine consultations and face-to-face for individual appointments.

# **CLINICAL ACTIVITY**

#### **ANTENATAL CLASSES**

Health promotion and antenatal education form key components of the service. Preparation for Parenthood classes are delivered virtually in collaboration with the parent education midwifery team.

#### **POSTNATAL CLASSES**

Virtual classes include education on good bladder and bowel health, pelvic floor muscle recovery and exercises to reduce the risk of incontinence. Individuals are taught to assess diastasis of the rectus abdominus muscle (DRAM) and are given advice on safe return to exercise, running and fitness.

#### **TABLE 1: ADULT INPATIENT PHYSIOTHERAPY ACTIVITY**

Inpatient Category	2017	2018	2019	2020	2021
Pelvic girdle pain/ carpal tunnel syndrome /respiratory	92	109	77	83	56
Postnatal	7,442	7,690	7,747	7,488	8,069
Gynaecology	200	199	203	105	80

# **TABLE 2: ADULT OUTPATIENT PHYSIOTHERAPY ACTIVITY**

Adult Outpatient Contacts	2017	2018	2019	2020	2021
Pelvic girdle pain	1,566	2,011	2,145	1,845	2,247
Urinary incontinence (Gynaecology)	392	434	205	198	289
Prolapse	118	115	152	141	261
Dyspareunia/Pelvic floor pain	42	87	134	197	234
Urinary incontinence (Pregnancy/postpartum)	Previously amalgamated with UI gynaecology		206	161	202
Carpal tunnel syndrome	78	96	37	108	156
Postpartum self-referrals					104
Previous perineal tear		53	53	46	92
Obstetric anal sphincter injury	138	114	113	124	84
Faecal incontinence	17	17	26	14	16
Total	2,351	2,936	3,071	2,834	3,685

# **PAEDIATRIC SERVICE**

# TABLE 3: NEONATAL/PAEDIATRIC PHYSIOTHERAPY ACTIVITY

Paediatric Inpatient	2017	2018	2019	2020	2021
NICU referrals	9	110	145	182	219
Talipes	Combined referrals		27	53	30
Trisomy 21			14	13	25
Obstetric brachial plexus injury or upper limb fracture	49	77	15	21	25
Head and neck	Combined	l referrals	4	13	5
Total	58	187	205	282	304
Paediatric Outpatient	2017	2018	2019	2020	2021
Neurodevelopmental	43	38	30	26	191
Plagiocephaly and torticollis	75	79	50	59	68
Talipes	34	52	16	17	14
Other musculoskeletal			3	1	2
Total	152	169	99	103	275

# **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 short/long courses and conferences, including:

- Pelvic floor conference
- Female pelvic pain workshop
- Making diastasis easy
- Vaginal pessary course
- ISCP conference
- Neonatal touch and massage
- Early intervention smart course
- Physiotherapy management of bowel conditions
- Review of postnatal trauma course

# PROFESSIONAL WORKING GROUPS

Physiotherapy staff are involved in a range of professional working groups, including:

- Voluntary Hospitals Active Risk Management Forum for Minimal Handling Advisory Group
- National Maternity Strategy Steering Group
- Member of Antenatal Steering Group of ISCP

- Physiotherapy representative to NWHIP
- Chartered Physiotherapists in Women's Health and Continence (CPWHC) Secretary/committee members
- Chair of National Pessary Working Group
- Neonatal Physiotherapy National Network
- RCSI Physiotherapy Managers Working Group

# **SUCCESSES & ACHIEVEMENTS 2021**

- Provision of undergraduate specialist lectures and placements for RCSI School of Physiotherapy students
- Allocation of two half-time WTE Clinical Specialist posts for Ambulatory Gynaecology and Women's Community Health from the National Women's Health and Infants Programme (NWHIP). This will enhance service provision for complex gynaecologic patients and triage service
- Re-configuration of clinical space to provide another treatment cubicle in existing physiotherapy premises

# **CHALLENGES 2021**

- Ongoing challenges of maintaining a high-quality service during the COVID-19 pandemic
- Challenges associated with the HSE cyberattack in May 21

# PLANS FOR 2022

# GYNAECOLOGY

- Recover service levels and address waiting times for gynaecology patients impacted by the COVID-19 pandemic
- Review and update the post-gynaecologic surgery patient information leaflet to include more rehabilitation advice

# **OBSTETRIC**

- Develop two postnatal exercise videos to promote a safe return to fitness postpartum – one to complement the postnatal class and one for more advanced issues
- Develop a pathway for postnatal mothers with prolapse to be assessed and treated using self-management pessaries
- Introduce tibial stimulation as a means of treating faecal incontinence and overactive bladder
- Complete an audit of the patient experience with the online pelvic girdle pain classes and review of patient non-attendance
- Introduce a service using therapeutic ultrasound for mastitis

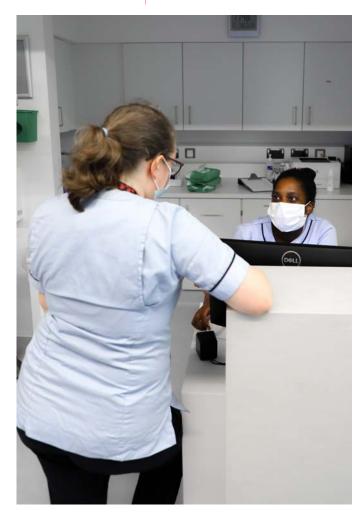
# **PAEDIATRIC**

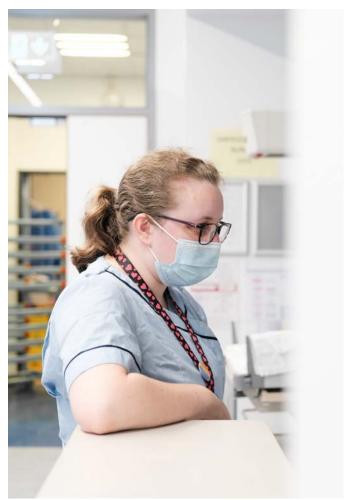
Complete an audit of babies' head shapes using the
 Plagiocephaly Severity Assessment Scale as part of the annual

audit of positioning in the neonatal unit. Deliver cot side education for staff on plagiocephaly prevention including use of gel pillows, peanut pillows and prone positioners

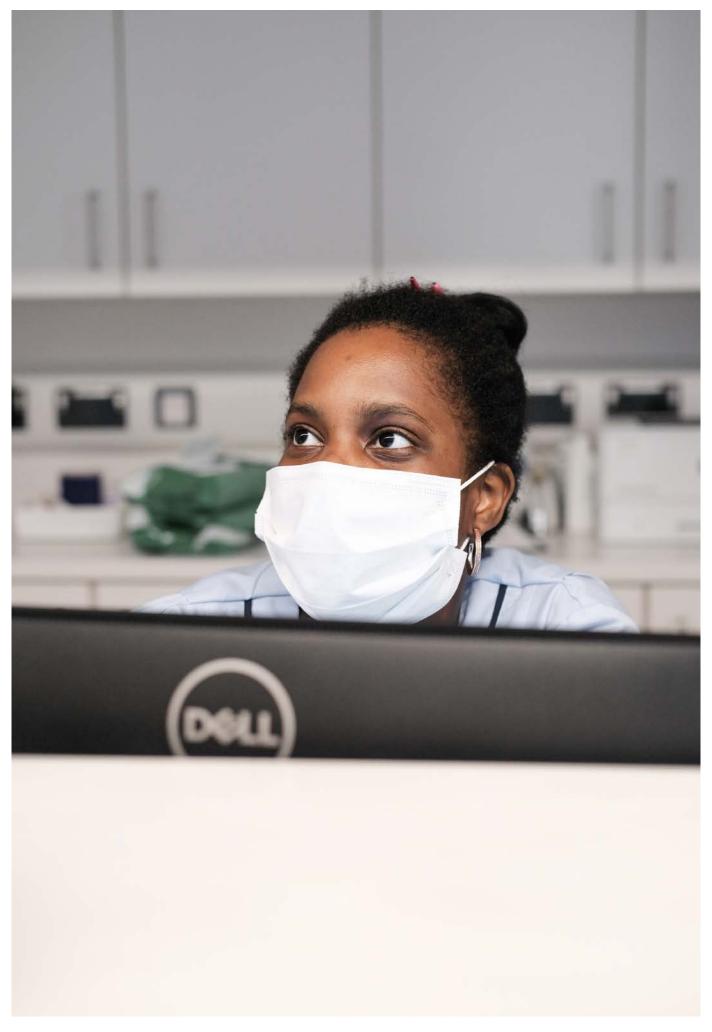
- Re-audit of positioning of babies in incubators in the NICU, including an updated training session for all nursing and medical staff, to be jointly run with NICU clinical skills facilitators
- Implement Prechtl assessment to identify babies (hypoxic ischaemic encephalopathy, therapeutic hypothermia and MRI pathology) who require immediate referral to early intervention services
- Introduce a neonatal touch and massage group for babies who have had a traumatic neonatal course
- Introduction of a weekly multidisciplinary ward round (neonatologist, psychologist, lactation consultant, physiotherapist, social worker, dietitian, neurology nurse and pharmacist) in the neonatal unit to ensure holistic care is provided

# THE ROTUNDA HOSPITAL | ALLIED CLINICAL SERVICES

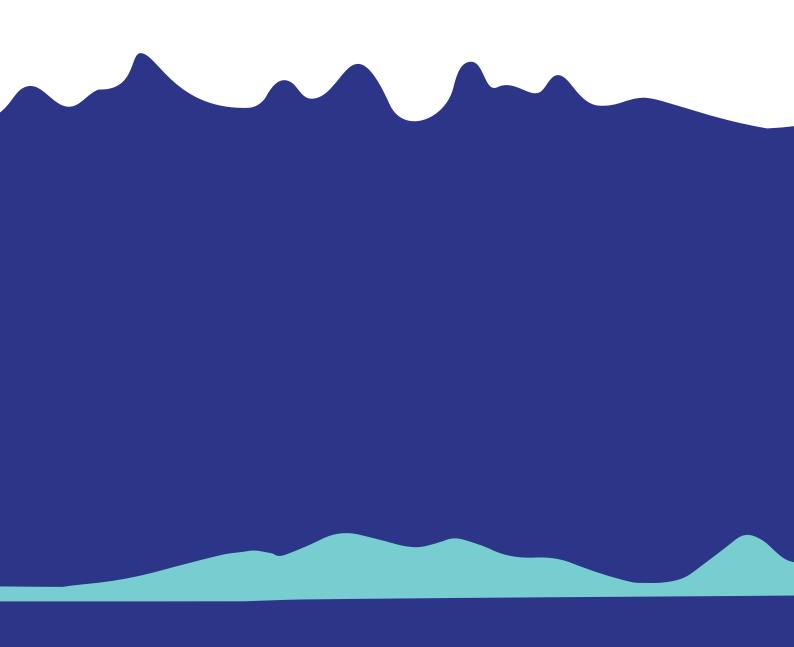


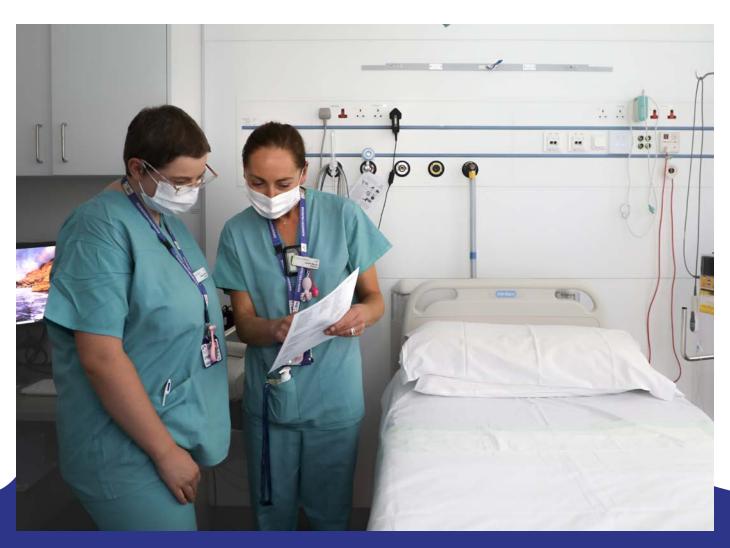






# Quality and Safety Services









# **Quality and Patient Safety Department**

# **HEAD OF DEPARTMENT**

Ms. Sheila Breen, Head of Quality and Patient Safety

# **STAFF**

Ms. Anna Mooney, Information Governance Manager

Ms. Orla Brady, Information Administrator

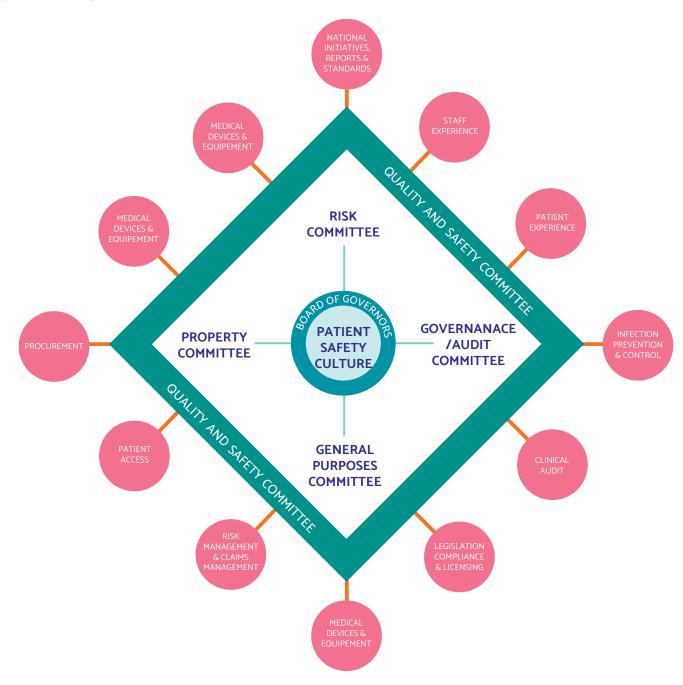
Ms. Leanne Kiernan, Information Administrator

Ms. Emma O'Mahoney, Information Administrator

Ms. Mariam Rachvelishvili, Information Administrator

Ms. Lynn Richardson, Information Administrator

# ORGANISATIONAL STRUCTURE QUALITY & PATIENT SAFETY MANAGEMENT



# **QUALITY & SAFETY SECTION**

#### SERVICE 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 Rotunda Strategic Plan. Committee meetings were curtailed due to the HSE cyberattack. In total, the Committee met on eight occasions during 2021.

#### **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 high-quality service. A summary of all patient feedback received is presented at the Quality and Safety Committee meetings. Relevant reports are also provided to other committees on a regular basis including the Infection Prevention and Control Committee.

# **COMPLAINTS MANAGEMENT**

# **TABLE 1: COMPLAINTS RECEIVED 2020-2021**

	2020	2021	% Change
Complaints received	118	166	+41%
– Written	115	164	+43%
– Verbal	3	2	-33%
Complaints closed	123	159	+29%
– % closed within 30 days	95%	98%	+3%

There was a 41% increase in the number of complaints received in 2021, compared to 2020. This is partly attributed to the impact of restrictions on partners being present for appointments and throughout inpatient stays, which was referenced in 20 complaints. Delayed access to delivery rooms (associated with refurbishment works in the Delivery Suite and a 10% increase in clinical activity) was a source of complaint in the latter half of 2021.

Despite the marked increase in complaints received, 98% were closed within the required 30-day timeframe, which is testament to the cooperation of staff involved in collating responses and to the prioritisation of responding to feedback in a timely manner.

# OTHER PATIENT FEEDBACK

Receipt of positive feedback from 1,130 patients and families was recorded during the year, which was a slight increase on 2020. Seventysix negative comments or suggestions for improvement were received, 33 of these related to the possibility of requesting proof of COVID-19 vaccination for partners visiting the hospital.

# **SUCCESSES & ACHIEVEMENTS IN 2021 QUALITY IMPROVEMENT PLANS 2021 (QIPS)**

Throughout the year, 190 quality improvement initiatives were identified and progressed. By year end, 121 of these (64%) were complete, 51 (27%) remained a work-in-progress, and 18 (9%) were delayed or deferred mainly due to the impact of COVID-19 and the HSE cyberattack.

#### **AUDITS & INSPECTIONS**

No HIQA inspections were undertaken during 2021. However, preparations continued in anticipation of either an announced or unannounced inspection

# HIE TASKFORCE REVIEW

In response to the hospital's recognition of a recent increase in HIE cases (18 cases in 2020), a multidisciplinary taskforce was implemented to review all 18 cases and collate learning and interventions from each case into an action plan to minimise future HIE occurrences. This action plan was shared with the RCSI Hospitals Group through their SIMF Committee, with a view to optimising shared learning across the hospital network. A number of operational changes to management of the Delivery Suite and the Prenatal Ward were implemented. Additional midwifery staffing resources was requested to optimise staffing of the Prenatal Ward due to the increased acuity and number of inductions of labour.

# **COVID-19 VACCINATION PROGRAMME**

All staff are required to undertake training on open disclosure. The Irish Medicines in Pregnancy Service, in collaboration with the Institute of Obstetricians & Gynaecologists and the National Women and Infants Health Programme (NWIHP), developed patient information resources regarding COVID-19 vaccine safety in pregnancy, including frequently asked questions, decision aids and infographics, which were later translated into different languages. The Rotunda proactively encouraged pregnant women (and their partners) to avail of the vaccine, once recommended by the National Immunisation Advisory Committee (NIAC) and facilitated a number of on-site vaccination clinics.

# PATIENT SAFETY AWARENESS WEEK

Patient Safety Awareness Week was held from 14 - 20 March and focused on COVID-19 and on the initiatives and changes implemented to maintain safety and wellbeing of patients. Staff provided a brief outline in poster format on how their services evolved and adapted to the changing needs. These posters were placed on display in the Rotunda Front Hall for all to review over the course of the week. Staff were also encouraged to update their corporate mandatory training during the week, including hand hygiene, fire safety awareness, Children First, data protection and open disclosure. Daily updates on key messages related to medication safety were emailed to all..

# **CONTENT MANAGEMENT PLATFORM**

The Quality and Patient Safety Service introduced a secure content management platform which facilitates the sharing of encrypted links to healthcare records (HCR) with patients requesting a copy of their records. Once the HCR has been scanned, it is uploaded onto the new platform and the requester is provided with a link to review or print the records.

# **OPEN DISCLOSURE**

During 2021, staff were encouraged to complete online open disclosure training on HSeLanD. This included Module 1, 'Communicating effectively through open disclosure', which is applicable to all staff. In addition, Module 2, 'Applying open disclosure principles to practice' was undertaken by staff who are involved in formal open disclosure meetings. By year end, 62% of staff had completed the mandatory training.

#### **MATERNITY OPEN WEEK**

The Rotunda's Maternity Open Week was held in virtual format from 26 September – 2 October. Participants were encouraged to submit questions in advance and responses were recorded by members of the Rotunda multidisciplinary teams, including obstetricians, midwives, sonographers, dietitians, and physiotherapists, which were then posted on the hospital's social media channels. The event proved to be extremely popular, with large numbers of participants throughout the week.

# THE ROTUNDA: SERIES 3

The six-part series was filmed by Scratch Films in the first half of 2021 and aired on RTE 2 television in early September. It provided a unique opportunity to document the reality of providing maternity care during the COVID-19 pandemic and during the HSE cyberattack. Because of COVID-19 limitations on hospital access, filming was completed strictly in accordance with all infection prevention and control requirements, with most footage being obtained by fixed cameras without filming personnel being present. Much of the remaining footage was filmed in a special studio temporarily located outside of the hospital campus. The sixth and final episode was a look back at some of the 76 stories previously featured and to see how these families' stories and lives had evolved since initial filming.

As with the previous two series, the vast majority of feedback was positive, with the participating families being especially thankful for the opportunity to share their stories for broader public education. The Rotunda is extremely grateful to those families and staff members who made such a positive impact through the series, further underscoring the hospital's commitment to its important public service education responsibilities, particularly during the COVID-19 pandemic.

# PLANS FOR 2022

All quality improvement plans will be aligned to one of the strategic objectives or the strategic enabler of the new Rotunda Hospital Strategic Plan 2022 - 2026, so that progress with achieving objectives can be more accurately assessed and monitored. Updates will be presented to the new Quality, Safety and Risk Board Sub-committee on an ongoing basis.

A new wayfinding system will be introduced throughout the campus. Uniformity of signage throughout the campus will provide clear and concise directional information, provide intuitive visual cues, ensure compliance with the requirements of the Official Languages Act, and meet best practice recommendations in relation to signage (including Braille and tactile systems).

The rollout of the National Healthcare Communication Programme (four modules) will commence with the aim of improving communication with patients and family members. The workshops are designed to enable staff to take a skilled, sensitive, and patient-centred approach to all conversations with patients and their families.

# INFORMATION GOVERNANCE SECTION

Information Governance at the Rotunda Hospital is a core quality assurance aspect of hospital function, focusing on monitoring data protection compliance, processing, and releasing personal data when requested, advising staff on data protection issues, and handling requests under the Freedom of Information Act. In 2021, particularly critical information governance challenges were encountered by the HSE cyberattack, in addition to ongoing challenges from the COVID-19 pandemic. This has impacted on timely data sharing including the hospital's obligations in relation to responding to Subject Access Requests, notification to public health nurses of maternal and neonatal discharges and with other stakeholders.

Improving information governance is the key priority to ensuring that the hospital is compliant with the General Data Protection Regulation (GDPR), including timely breach management and reporting, as well as ensuring compliance with the expected data security standards for health and social care, including the right of access to data subjects.

# INFORMATION GOVERNANCE/DATA PROTECTION TRAINING 2021

By year end, 76% of staff had completed all required information governance/data protection training. This was achieved through:

- New staff being trained and updated on requirements and responsibilities as part of the hospital's induction programme
- Continuous monitoring of GDPR mandatory training module rates on HSeLanD and associated Q-Pulse record maintenance
- Issuing advice and guidance via emails, meetings, and face-toface encounters by the Data Protection Officer
- Providing continuous advice on policy/contract-related issues, for example use of social media applications in work-related settings

# FREEDOM OF INFORMATION (FOI) REQUESTS

The Freedom of Information Act 2014 provides members of the public the right to access their information held by the hospital. Table 2 describes trends in information access requests received over the last three years.

# **TABLE 2: INFORMATION ACCESS TRENDS 2019-2021**

	2019	2020	2021
Total FOI requests received	300	267	311
– Personal	273	249	275
– Non-Personal	27	18	36
Subject access requests	1,473	1,404	1,236

Requests must be answered within 30 days and there is no fee payable for processing of personal information. From 2020 to 2021, the number of FOI non-personal requests doubled and the complexity and volume of information sought increased accordingly. Much of this increase was related to COVID-19.

- Further review and audit of the hospital's data protection compliance
- Increase the uptake of data protection training amongst staff to a target of 90%
- Devise and implement an MN-CMS electronic healthcare record access audit tool

# **Infection Prevention and Control Service**

# **HEAD OF SERVICE**

Dr. Richard Drew, Consultant MicrobiologistDr. Meaghan Cotter, Consultant Microbiologistt

#### **STAFF**

**Ms. Anu Binu,** Infection Control Midwife **Ms. Alva Fitzgibbon,** Infection Control Midwife

# **SERVICE OVERVIEW**

The Infection Prevention and Control (IPC) team has a comprehensive and structured infection prevention programme aimed at minimising the risk of acquiring infections at the Rotunda. The team provides training to healthcare workers and advises patients and visitors on how best to reduce the risk of healthcare associated infection, by means of education, audit, surveillance, consultation, posters, leaflets, and the development/implementation of appropriate policies/guidelines.

# **SERVICE ACTIVITY**

The key duties and responsibilities in infection prevention and control encompass many areas, all patient-centred, including clinical, education and training, research, audit, and consultancy.

The IPC team specialists act as change agents, collaborators, clinical leaders, role models and patient advocates. The team advises and supports all hospital staff in the implementation of agreed policies and procedures in their specific areas. The team provides an ongoing educational resource to meet the identified needs of staff and liaises with the Rotunda's training and practice development unit to deliver educational programmes within the hospital. The team promotes nursing research and clinical audit, as well as initiating and participating in trials of new techniques, equipment and materials. The team also participates in critical appraisal and evaluation of infection control measures by means of inspection, audit, and surveillance.

The IPC team measures, validates, interprets, and responds to data relevant to healthcare outcomes, healthcare-associated (HCA) infections, antimicrobial resistance, and related adverse events. The team reports to the hospital Executive via quarterly Infection Control Committee meetings and also participates in the Rotunda Quality and Patient Safety Committee.

The team coordinates and manages the response to infectious outbreaks and emerging infections among patients, healthcare providers, or associated with the healthcare environment. The team detects, evaluates, monitors, and responds to emerging antimicrobial-resistant pathogens and threats by regular surveillance testing of patients and the healthcare environment. This alerts the team to any potential problems early and facilitates rapid intervention to avert outbreaks or healthcare associated infection incidents. Monthly reports are submitted on antimicrobial stewardship and HCA Infection surveillance of multi-drug resistant organisms.

The IPC team promotes good hand hygiene by all staff, by actively engaging in hand hygiene training and participating in regular hospital

and national hand hygiene audits, with monthly reporting both to the Executive and to the RCSI Hospitals Group. The IPC service coordinates regular audits of compliance with care bundles for intravascular devices and decontamination of medical equipment to give assurance of the quality and safety of the care provided.

# **SUCCESSES & ACHIEVEMENTS 2021**

The Rotunda faced a major challenge in the delivery of services during 2021, while still maintaining a safe environment and minimising the risk posed by COVID-19. The hospital, in partnership with the IPC team, helped to achieve this by:

- Focused education and training around COVID-19 issues, hand hygiene, social distancing, mandatory indoor mask wearing, PPE training for all departments as per HSE guidelines, and education on appropriate COVID-19 testing
- Organisation of front door screening questions for all people entering the hospital
- Drive-through swabbing for asymptomatic elective admissions as well as a testing service for symptomatic staff
- COVID-19 helpline to assist patients with queries during the pandemic
- Effective use of social media for education and sharing information about COVID-19
- Tele-booking, and creating appropriate patient time slots for appointments with adequate social distancing
- Weekly recurring agenda item on COVID-19 at the Executive Management Team meetings
- Involvement in procurement of appropriate PPE for staff and ensuring availability at the point-of-care in all clinical areas
- Introduction of point-of-care molecular testing in the EAU, DAU, and OPD for COVID-19 testing, in conjunction with the hospital laboratory
- Installation of automatic hand gel dispensers at hospital entrances
- Actively participated in weekly COVID-19 department-head meetings, updating staff on most recent data and quidance changes
- Updating COVID-19 information to staff and patients through the hospitals communications department and various communications channels
- Liaison with all clinical ward managers to resolve day-to-day issues related to COVID-19
- Relocation of clinics to enable better social distancing

In addition to optimising COVID-19 responsiveness, the IPC team used new technology for training and education, such as online recorded videos. The IPC team, with the support of the Centre of Midwifery,

created online IPC sessions for all staff in maternity hospitals. The IPC team achieved 97% hand hygiene compliance in national hand hygiene audits, which took place in May and October 2021. The IPC team worked with the hospital to open both the new three-storey operating theatres extension, as well as the new Ambulatory Gynaecology Centre during 2021.

# **CHALLENGES 2021**

Not surprisingly, many of the ongoing IPC challenges related to COVID-19, including:

- Staff shortages due to staff illness
- Increased clinical activity levels in the hospital
- Increased isolation requirements due to the high volume of symptomatic patients, as well as needing to identify and isolate 'close contacts' of positive cases of COVID-19
- Increase in non-COVID-19 related viral infections which necessitated use of isolation facilities
- Infrastructure deficits, especially lack of sufficient isolation facilities on-site
- Increased numbers of patients with severe respiratory illness, who required more specialised and frequent care at a time of reduced staffing numbers
- Ensuring communication of IPC issues and updates to staff across the hospital
- Increasing patient needs related to need for access to translated patient information leaflets
- Provision of appropriate COVID-19 contact tracing
- Ensuring the safest possible clinical environment for all patients while balancing other risks and priorities during the COVID-19 pandemic
- Dynamic changes in prevalence of the SARS-CoV-2 virus and the emergence of new more infectious variants
- Significant confusion for patients and their families when changes in public health guidance and measures for the general public differed from those affecting acute healthcare facilities, such as relaxed mask mandates and social-distancing rules in the community but not in hospitals

- Ongoing support for Train-the-Trainer and Link Nurse programmes
- Support the re-introduction of a Surgical Site Infection (SSI) Surveillance programme with introduction of interventions to reduce the incidence of SSI
- Develop and implement a track-and-trace system for neonatal incubators to assist control of infections in NICU, in particular, outbreak management

- Continue to promote expansion of automated decontamination methods for re-usable medical equipment as per best practice
- Together with neonatology colleagues, to participate in the NeoIPC Clinical Practice Network
- Introduce IPC patient information leaflets for non-English speaking patients to ensure better communication

# **Clinical Audit Service**

#### **HEAD OF SERVICE**

Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

#### **STAFF**

Ms. Mary Whelan, Clinical Audit Facilitator and Assistant Director of Midwifery

Dr. Valerie Jackson, Clinical Audit & Surveillance Scientist

Mr. Colin Kirkham, Research Officer

Dr. Bobby O' Leary, NCHD representative

# **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 Clinical Audit Service provides a forum for the sharing and dissemination of clinical audit work throughout the hospital, which is facilitated using the clinical audit database. Unfortunately, the COVID-19 pandemic and the HSE cyberattack, negatively impacted on the delivery of the Biannual Clinical Audit and Research Meetings, as well as on the Interim Results Meetings.

# SUCCESSES & ACHIEVEMENTS 2021 ENHANCING PATIENT CARE

# Register of Clinical Audit

In total, 67 clinical audits were registered in 2021 (45 first time audits and 22 re-audits), compared with 64 audits registered in 2020. A total of 36 clinical audits were completed in 2021, which was the same as in 2020 (Table 1).

# TABLE 1: NUMBER OF COMPLETED CLINICAL AUDITS 2017-2021

Audit type	2017	2018	2019	2020	2021
First audits	34	41	38	23	21
Re-audits	15	14	17	13	15
Total	49	55	55	36	36

# Clinical Audit Group Weekly Meeting

The core group within the Clinical Audit Service continues to meet throughout 2021 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 continued to provide advice, guidance and support to clinical audit personnel in other hospitals upon request.

#### **EDUCATION AND TRAINING**

The clinical audit team regularly delivers in-house educational sessions on the clinical audit cycle for all disciplines. However, due to COVID-19 restrictions, no such sessions were possible during 2021. Virtual meetings were facilitated for the new intakes of obstetrics, paediatrics, and anaesthesiology NCHDs. A virtual education session was also delivered to Trinity College Dublin MSc Midwifery students.

The December occurrence of the biannual Clinical Audit and Research Meeting was deferred into early 2022 and is planned as a virtual display of video presentations, which will be accessible to staff online. These meetings normally provide a forum for audit leads to discuss their findings and actions for quality improvement. However, despite the absence of our formal meetings, clinical audit results and action plans were still disseminated to all key stakeholders to ensure required learning points were available to all. The regular Interim Results Meetings were also cancelled as per COVID-19 restrictions on indoor gatherings. The clinical audit teams' attendance at external audit meetings and conferences throughout the year also did not occur.

A number of audits were presented at the UK Royal College of Paediatrics and Child Health (RCPCH) conference in March 2021, and at a virtual session of the Junior Obstetrics and Gynaecology Society (JOGS) national meeting in November 2021. These included:

- An Audit of Next Birth after Caesarean Section (NBAC) Obstetric Care. Grace Madigan (JOGS)
- Major Post Partum Haemorrhage: The Management Pathway. Sie
   Ong Ting (JOGS)
- An Audit of the impact of routine Hepatitis C screening in pregnancy. Roisin Gryson (JOGS)
- Risk factors associated with Obstetric Anal Sphincter Injury. Cathy Rowland (IOGS)
- Audit of Reassurance Scan Service Provision in the EPU. Aoife Corcoran (IOGS)
- Irelands First Manual Vacuum Aspiration Clinic in the Rotunda Hospital - A year in review. Aoife Corcoran (JOGS)
- Compliance with aspirin prescribing guidelines for the prevention of preeclampsia. Sahr Yambasu (JOGS)
- Audit of the use of fibrinogen in a tertiary NICU 2018–2020.
   Hammam Mousa (RCPCH)

The winners of the December 2021 Biannual Clinical Audit Competition were:

# 1st Place:

Dr. Aoife Corcoran (Audit of Manual Vacuum Aspiration Service provision)

# Joint 2nd Place:

Dr. Claire McCarthy (Reviewing the past to inform the future: An eightyear review of severe maternal morbidity)

Dr. Sahr Yambasu (Compliance with aspirin prescribing guidelines for the prevention of preeclampsia)

# Joint 3rd Place:

Dr. Liz Tunney (Postmenopausal Bleeding Referrals: an audit of current practice in the Rotunda Hospital OPH setting)

Dr. Aliona Vilinsky Redmond (Perineal and Abdominal wound infection)

Ms. Anna Claire Glyn (Retrospective audit of occipital frontal circumference (OFC) measurements)

# **CHALLENGES 2021**

- The COVID-19 pandemic and the HSE cyberattack were unprecedented occurrences that necessitated the redeployment of key clinical audit staff to other areas within the hospital, thereby reducing their availability for core clinical audit activities during 2021
- The HSE cyberattack prevented access to the electronic patient record for the purpose of data collection for clinical audits for several months during 2021
- The HSE cyberattack prevented access to the Clinical Audit Database for several months during 2021,

# PLANS FOR 2022

It is hoped to maximise engagement with the clinical audit leads and other clinical audit services within the RCSI Hospitals Group, as well as with other maternity hospitals. This should enable further innovative methods to share the results and recommendations of clinical audits for the benefit of patients regionally and nationally.

Further engagement with the HSE National Centre for Clinical Audit (NCCA), via membership of the Irish Clinical Audit Network (ICAN) Committee, will also further enhance Clinical Audit Service functions.

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# **Clinical Risk and Patient Safety Service**

# **HEAD OF SERVICE**

Ms. Siobhan Enright, Clinical Risk and Patient Safety Manager

#### **STAFF**

Ms. Juliana Clarke, Clinical Risk Co-ordinator
Dr. Aliona Villinsky, Clinical Risk Co-ordinator
Ms. Brid Leahy, Clinical Risk and Claims Administrator
Ms. Orla Brady, Clinical Risk Administrator

# **SERVICE OVERVIEW**

The Clinical Risk and Patient Safety Service is responsible for the ongoing management and development of a comprehensive clinical risk management service across the hospital and the management of claims relating to clinical incidents. The service manages clinical risks, incidents and responses in compliance with the appropriate legal and regulatory requirements of the State Claims Agency (SCA), HSE, and HIQA. This includes requirements for the management and reporting of Serious Reportable Events (SREs).

# **CLINICAL RISK MANAGEMENT**

Risk management is a process of clearly defined steps, which serves to support decision-making through improved insight into risks and their impact. Day-to-day management of clinical risk is the responsibility of all staff within the hospital. The Clinical Risk Team works collaboratively with other hospital staff and managers in performing risk analyses using the Rotunda Risk Assessment Form (adapted from the HSE Integrated Risk Management Policy, 2017). The resultant risk evaluation and rating, combined with the strength of any mitigating control measures, determines if a particular risk needs to be escalated to the Corporate Risk Register. The Clinical Risk and Patient Safety Manager is a member of the Hospital Risk Committee. In 2021, 19 clinical risk assessments were performed and reviewed, four of which were escalated to the Corporate Risk Register.

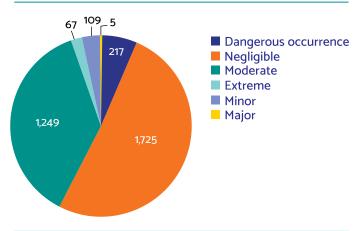
# **INCIDENT MANAGEMENT**

A clinical incident is an event or circumstance that could have resulted, or did in fact result, in unnecessary harm to a patient during the provision of care. All clinical incidents that fulfil established reporting criteria are recorded on the National Incident Management System (NIMS).

# **ACTIVITY**

Figure 1 provides a breakdown of the number of incidents reported to SCA through NIMS and the severity category. There was a 5% increase in incident reporting compared to 2020 figures, which was notable despite a 10% increase in hospital activity during the same time period.

# FIGURE 1: INCIDENTS REPORTED TO THE STATE CLAIMS AGENCY (SCA) 2021 (N=3,372)



Examples of incidents and severity category include:

- Minor: delay in treatment with no impact on care
- **Dangerous Occurrence:** incidents related to failure of equipment, security, resources etc.
- Negligible: incident where no intervention was required e.g. medication error
- Moderate: intervention was required e.g. medication for PPH
- Major/Extreme: intrauterine death/stillbirth with birth weight > 500q

The majority of incidents reported were categorised as negligible or moderate. A small percentage (< 1%) of incidents reported required further in-depth review at the hospital's weekly Initial Incident Review Meeting (IIRM). The purpose of the IIRM is to provide rapid and timely initial review of relevant incidents including SREs and Serious Incidents (SIs) to find out what happened, why it happened, and whether lessons can be learned.

The Clinical Risk Team prepares incident review reports (analogous to a concise desktop review) for the weekly IIRM sessions. The process follows the SBAR (Situation, Background, Assessment, Recommendations) format, adapted from the template provided in the HSE Incident Management Framework (2020) and includes scope of review, analysis, findings and outcome. The IIRM group in 2021 consisted of Drs. Carole Barry, Fionnuala Breathnach and Sam Coulter-Smith (Consultant Obstetrician Gynaecologists), Dr. Breda Hayes (Consultant Neonatologist), Dr. Anne Doherty (Consultant Anaesthesiologist), Ms. Geraldine Gannon (Assistant Director of Midwifery/Nursing), the Assistant Masters and clinical risk representatives.

Through systematic analysis of clinical incidents, key learnings are identified and disseminated to clinical staff. In 2021, there were 165 cases reviewed at these Initial Incident Review Meetings. Clinical cases that were reviewed include stillbirth, neonatal encephalopathy,

postpartum haemorrhage, shoulder dystocia, and unplanned return to the operating theatre. The outcomes of these reviews are presented to the hospital EMT at their weekly meetings, where timely decisions are taken regarding further review (Comprehensive or Concise Systems Analysis) that may be required or whether further risk mitigation steps need to be implemented.

Table 1 below provides data on the number of Systems Analyses performed from 2019 to 2021, with the reduction in the number being attributed to a more robust system for concise desktop review where analysis, findings and recommendations are efficiently made. There has been an increase in the total number and quality of reviews completed. This has been achieved through quality improvement initiatives within the Clinical Risk and Patient Safety Service to ensure the incident review process aligns with national and international best practices. Governance and oversight by the Rotunda Board, the EMT and senior multidisciplinary team members has ensured the high standard achieved through the incident review process is sustainable into the future.

# **TABLE 1: CLINICAL RISK AND PATIENT SAFETY INCIDENT REVIEWS COMPLETED**

Review Type	2019	2020	2021
Preliminary assessment and review (clinical risk coordinator/manager)	760	1,634	2,140
Preliminary review report (clinical risk coordinator/manager & consultant review)	231	360	320
Concise desktop review (senior multidisciplinary team)	69	136	165
Concise systems analysis	3	5	2 (Amniotic Fluid Emboli)
Comprehensive systems analysis	5	3	1 (HIE Grade 2)

Feedback on the outcome and learning from reviews is provided to patients by a senior clinician, and to all relevant staff. A monthly summary report is provided as part of the CEO's report to the General Purposes Committee of the Board on Serious Reportable Events, new Comprehensive and Concise System Analysis Reviews commissioned, and the number of Initial Incident Reviews completed. Additionally, a summary of the learnings from SREs and SIs is shared with the Rotunda's Board.

During the period of 2020 to 2021, the Rotunda's risk monitoring systems noted an increase in the number of neonatal encephalopathy cases, in response to which the EMT immediately commissioned a Neonatal Encephalopathy Taskforce to perform an aggregate review of all cases. This Taskforce produced a number of key recommendations, following which an Implementation Group was formed to ensure that recommendations were promptly enacted. The majority of recommendations had been implemented by the end

of 2021, with plans to complete all remaining recommendations in 2022. These pending recommendations for completion mainly involve optimising midwifery staffing numbers.

An overview of Serious Reportable Events and Serious Incidents is also shared at monthly RCSI Hospitals Group Senior Incident Management Forum (SIMF) meetings to support dissemination of learning from relevant cases across all Group hospitals. The Clinical Risk and Patient Safety Service presented 39 cases at SIMF meetings during 2021.

# **TABLE 2: SERIOUS REPORTABLE EVENTS (2021)**

Serious Reportable Events	2019	2020	2021
Encephalopathy	10	21	20
Stillbirths	9	8	8
Neonatal death	8	4	0

# **CLAIMS MANAGEMENT**

Claims management relating to clinical incidents is also a key function within the Clinical Risk and Patient Safety Service. The Clinical Risk and Claims Administrator and the Clinical Risk and 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 further learning and disseminates this output to clinical staff. In 2021, there were 15 medico-legal claims settled and 32 new proceedings served. There was one Coroner case heard in 2021, with the COVID-19 pandemic significantly impacting on the Coroners' Court services resulting in delayed hearing of cases.

# **SUCCESSES & ACHIEVEMENTS 2021**

A Virtual Patient Safety Awareness Week was held in March 2021, with the theme being COVID-19 and how to optimise impacted services. Electronic posters summarising patient safety improvements were displayed in the hospital for staff members to view during the week. These showcased new departmental patient safety initiatives that were implemented during the pandemic to maintain and improve the safety of patient care and enhance the overall patient experience. Topics presented included virtual management of gestational diabetes, virtual visiting for the NICU, optimising Community Midwifery Team attendances, COVID-19 Vaccination Clinics, and COVID-19 testing services.

A number of patient safety and quality improvement initiatives were introduced throughout the year through multidisciplinary team engagement. The majority of these initiatives arose in response to clinical incidents or near miss reporting. These included:

- Prevention of retained swabs
- Improving the MN-CMS electronic healthcare record work-flow
- Prevention of baby falls
- Positive patient identification

- Management of patients after serious incidents
- Management of wound infections
- Improving reporting of medication safety incidents
- Reducing the incidence of laboratory sample rejection

- Implementation of electronic Clinical Incident Reporting in all clinical areas
- Further development of the ZOHO Incident Management System including implementation of a risk assessment App
- Continuation of Quality Improvement Projects with multidisciplinary teams, focussing on prevention of postpartum haemorrhage, improving patient care following HDU admission, optimising wound infection management, and improving medication safety

# **Clinical Information Service**

# **HEAD OF SERVICE**

Ms. Kathy Conway, Head of Clinical Reporting

#### **STAFF**

Ms. Martina Devlin, HIPE Clinical Coder

Ms. Carmen Gabarain, HIPE Clinical Coder

Ms. Mary O'Reilly, HIPE Clinical Coder

Ms. Aideen Preston, HIPE Clinical Coder

Ms. Ruth Ritchie, Clinical Data Validation Officer

Ms. Marian Barron. Vermont Oxford Network Administrator

# SERVICE OVERVIEW

The Clinical Reporting Service oversees and validates the production of hospital data reports for internal and external use. Activity is validated between current electronic systems such as the Patient Management System (iPMS), the Maternity and Newborn Clinical Management System (MN-CMS) and the Hospital In-Patient Enquiry system (HIPE). Routine periodic reports are produced for the hospital Executive Management Team, various hospital committee meetings and for various heads of departments as required. Additionally, reports are exported to the Health Service Executive, RCSI Hospitals Group and other external agencies where appropriate

# **INTERNAL REPORTS**

- A monthly report with a suite of key performance indicators is produced to enable hospital management to analyse and plan for service activity in all areas. This report is also circulated to the General Purposes Committee of the Board of Governors
- Ad hoc reports on specific activity are produced as required
- Reports for the purpose of audit or research are also produced as required

# **EXTERNAL REPORTS**

The following reports are provided by the Clinical Information Service for various external agencies:

- RCSI Hospitals Group Senior Incident Management Forum (SIMF)
- Irish Maternity Indicator System (IMIS) report to the HSE
- Patient Activity Statement to the RCSI Hospitals Group and to the HSE, as published on the Rotunda Hospital website
- Business Intelligence Unit report to the HSE
- Annual submission of Neonatal Intensive Care Unit data for the Vermont Oxford Network database
- Export HIPE data to the HSE Hospital Pricing Office (HPO)

# **SUCCESSES & ACHIEVEMENTS 2021**

Increasing hospital activity required a significant increase in detailed hospital coding, with a total of 12,923 day cases and 13,130 inpatient cases coded during 2021. An efficient mechanism was developed to identify infants receiving care and treatment on postnatal wards.

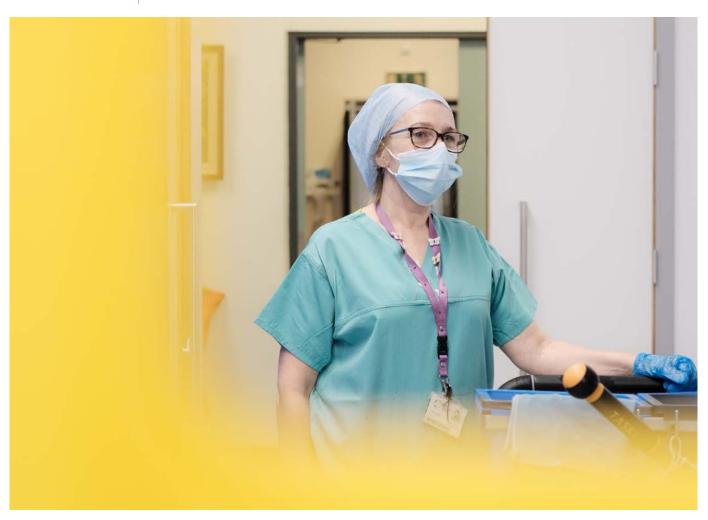
# **CHALLENGES 2021**

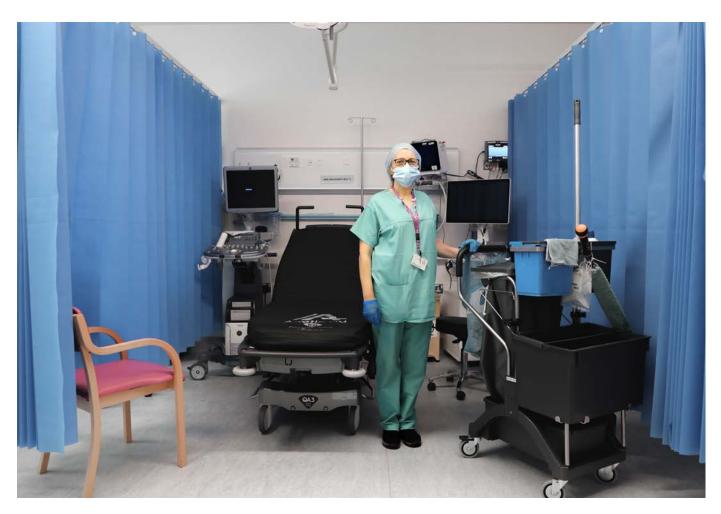
The biggest challenges for the service in 2021 were the COVID-19 pandemic and the HSE cyberattack. The HSE required that surveillance data on all COVID-19 patients be coded and returned on a daily basis, in an anonymised format. The service was extremely fortunate that no service team member acquired COVID-19 infection, such that there was a full complement of staff available at all times. Unfortunately, the HSE cyberattack had serious consequences for the Clinical Information Service, as all required data had to be obtained manually for one month, which created significant challenges in acquiring all necessary data fields. The coders carried out administrative duties on the hospital wards due to lack of electronic systems during the HSE cyberattack. This resulted in a backlog in coding of all information and the coding deadlines from May to December 2021 not being met. Full compliance with this system will not be achieved until early 2022.

The IT midwifery role has been incorporated and expanded into the Clinical Information Service, to provide data validation across all clinical systems. This supports the delivery of optimum healthcare service provision and service initiatives.

Delivering substantiated business intelligence reports from MN-CMS remained challenging in 2021. Without the backup of other systems, such as HIPE and iPMS, it would be impossible to provide the information required for external and internal reports and research.

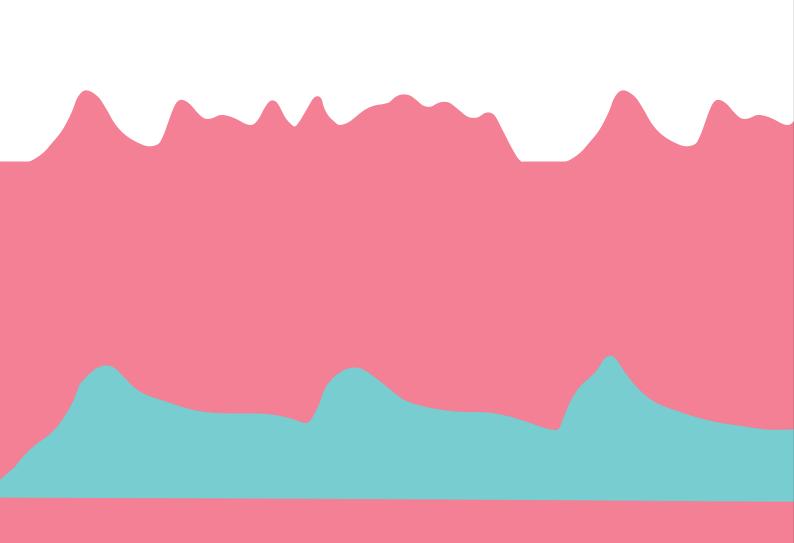
- To ensure that all reports are appropriately validated before issuing internally or externally
- To continue to ensure that all required reports are produced in a timely fashion
- To ensure that all HIPE deadlines for coding are achieved
- To fully integrate the MN-CMS and Vermont Oxford Network (VON) systems to facilitate the automated extraction of data
- To reconcile all documented and reported obstetric and neonatal risks and complications to ensure accurate data for Irish Maternity Indicator System (IMIS)







# Academia









# **Department of Research**

# **HEADS OF DEPARTMENT**

Dr. Joanna Griffin, Director of Research and Clinical Innovation (Rotunda)
Dr. Zara Molphy, Director of Obstetrics and Gynaecology Research (RCSI)
Dr. Liz Tully, Director of Obstetrics and Gynaecology Research,
National Clinical Network Manager (RCSI)

#### **STAFF**

Ms. Alma O'Reilly, Clinical Operations Manager

Mr. Cormac McAdam, Communications Manager

Ms. Elisa Belmonte, Communications Officer

Mr. Mark Kerins, Graphic Designer

Ms. Emer Martin, Outreach Coordinator

Ms. Eimear Curtin, Clinical Research Coordinator

Ms. Susan Hatt, Clinical Research Coordinator

Ms. Lucy Murphy, Clinical Research Coordinator

Ms. Denisa Ramona Asandei, Clinical Research Coordinator

Ms. Hollie Byrne, Research Administration Assistant

Ms. Amy Phelan, Research Administration Assistant

# **SERVICE OVERVIEW**

The Department of Research is jointly run operationally with our major academic partner, the Royal College of Surgeons in Ireland. We continue to expand and develop a portfolio of research studies and clinical trials along with outreach and research dissemination. This includes an extensive suite of randomised clinical trials (RCTs) and other observational and pilot studies. While 2021 witnessed significant challenges in conducting clinical research trials in the setting of the COVID-19 pandemic, the Research Department continued to grow and innovate. Two of our research leaders, Drs. Joanna Griffin and Liz Tully left the Rotunda to develop new professional opportunities in 2021, and we wish them every success in their new ventures after many years of dedicated service to the research mission of the Rotunda and RCSI.

# **RESEARCH PORTFOLIO 2021**

- IRELAND multicentre RCT investigating the role of aspirin in pregnancy outcomes of women with pre-gestational diabetes first launched in November 2020 in the Rotunda Hospital, the Coombe Women and Infants University Hospital (CWIUH), and the National Maternity Hospital. Since then, it has expanded to include Our Lady of Lourdes Hospital in Drogheda, Galway University Hospital and Cork University Maternity Hospital
- HOME IND A randomised open-label trial to assess outpatient induction of labour and compare efficacy of Propess versus Dilapan for induction of labour at 39 weeks' gestation in normal risk nulliparous women
- HIGHLOW An open label RCT comparing different doses of low-molecular-weight heparin (LMWH) to prevent recurrence of potentially life-threatening blood clots in pregnant women.
   Recruitment was completed at three Irish sites including the Rotunda Hospital, CWIUH, and University Hospital Limerick, with results of the trial expected to be published in 2022

- MINT pilot study to assess the feasibility of a multicentre definitive intervention trial of milrinone therapy in neonates with persistent pulmonary hypertension (PPHN) finished recruitment in 2021
- H2020 Big Medilytics This pilot assesses the merit of a selfmanagement programme for women with newly diagnosed gestational diabetes. Recruitment for this trial finished in December 2021 with publication of results expected in late 2022
- UMBER A study set up to build on previous umbilical cord research, to create a fully functioning biological and biochemical heart valve substitute
- PARTUM The purpose of this pilot trial is to determine whether low-dose aspirin is efficacious and safe at preventing postpartum venous thromboembolism (VTE) in women at increased risk of VTE, compared to placebo
- Al\_PREmie (Artificial Intelligence to prevent preterm birth due
  to preeclampsia while protecting mothers' lives) is an SFI Future
  Innovator AI for Societal Good Award-winning project launched
  in late 2020. The Rotunda has partnered with UCD, NMH and
  CWIUH. Al\_PREmie is a combination of patient bio-marker testing
  and risk assessment powered by machine learning that not only
  diagnoses preeclampsia but also predicts patients' outcome
- PDA RCT (Randomised Controlled Trial of Early Targeted Patent Ductus Arteriosus Treatment Using a Risk Based Severity Score)
   The objective of this single-centre, randomised controlled pilot study is to evaluate the feasibility of recruiting preterm infants to a randomised controlled trial of patent ductus arteriosus (PDA) treatment based on a PDA severity score (PDAsc) and to characterize challenges in obtaining consent, compliance with the protocol, and PDA closure rates
- Longitudinal Assessment of Cardiac Function and Pulmonary
  Haemodynamics in Infants with Down Syndrome Using Novel
  Echocardiography Technique congenital heart disease
  (CHD) and pulmonary hypertension (PH) are the commonest
  morbidities affecting the cardiovascular system in Down
  syndrome. This study aims to characterise myocardial function
  and pulmonary haemodynamics in infants with Down syndrome
  during the transitional period (over the first week of age) and
  throughout the first two years of age

# **CLINICAL INNOVATION UNIT (CIU)**

The three main research themes for 2021 were:

#### Research into COVID-19

The Clinical Innovation Unit is an informal collaborative of staff based in the Rotunda laboratory and the wider hospital campus, that aims to facilitate, support, and develop research projects with the goal of introducing the latest diagnostic advances to the Rotunda. By working with colleagues across different disciplines and academia, this team ensures that the Rotunda is a leader in diagnostics for obstetrics, gynaecology, and neonatal care. The CIU works closely with Children's Health Ireland (CHI) through cross-appointed laboratory consultants given the significant overlap in terms of clinical problems.

In 2021, the research output of 14 peer-reviewed papers centred around three key themes, in partnership with Children's Health Ireland and the Irish Meningitis and Sepsis Reference Laboratory. Dr. Richard Drew was also awarded a Health Service Executive Spark Innovation Funding award for a project around machine learning and maternal bacteraemia.

# Artificial intelligence and clinical prediction tools

- Systematic review of clinical prediction rules to predict hospitalisation of children with pneumonia
- Machine learning to examine carriage of meningococcus
- Prediction of obstetric bacteraemia using a machine learning algorithm

# Obstetric and gynaecologic infections

- Introduction of hepatitis C screening
- Mycoplasma genitalium
- Group B Streptococcus, including preterm premature rupture of the membranes
- Common infections such as neonatal eye infections and urinary tract infections
- MRSA and infection control

# **RESEARCH COMMUNICATIONS**

In 2021, the Research Department continued the management and development of the Rotunda Hospital website. Rotunda.ie had over 1.8 million page views in 2021, and over 830,000 unique users. The Research Department expanded the social media reach of the Rotunda Hospital, with social media being an especially useful tool for communicating with patients over the course of the COVID-19 pandemic and the HSE cyberattack. The Rotunda Hospital gained over 983 new followers on Twitter, with over 5,800 followers at the end of the year. The Rotunda Hospital Facebook community grew by over 2,500 users in 2021, resulting in a total of 14,614 followers. The Rotunda Hospital Instagram channel, set up in 2019, has expanded by over 3,500 followers, with a total of 12,540 followers at the end of 2021.

# **RESEARCH DISSEMINATION EVENTS**

In-person research dissemination events came to a standstill in March 2020 due to the global COVID-19 pandemic. The research team moved these events online for 2020/2021 and look forward to holding inperson events in the very near future.

# **SCIENCE WEEK 2021**

After an initial pilot project, the RCSI/Rotunda Research Department received funding from Science Foundation Ireland to expand its 'BIAS' project, creating a one-week festival focusing on inequalities in women's healthcare and the healthcare profession, as well as looking at how improvements could be made. The festival included a virtual tour of the history of women's health and research, an online 'Career Fair' for Transition Year secondary school students focussed on promoting pathways to careers for women in Science and Medicine, and a Q&A session with Dr. Jennifer Gunter, New York Times bestselling author of the 'Menopause Manifesto'. Obstetric and gynaecologic stories and interviews from women who have experienced bias in healthcare were also presented, and finally a live panel event was hosted by Today FM presenter Alison Curtis, joined by guests from the Rotunda Hospital, the Women's Health Taskforce, and National Women's Council of Ireland.

# **BREAKFAST CLUB COMIC**

'The Breakfast Club' was a project funded by the Health Research Board (HRB) under the Knowledge Exchange and Dissemination Scheme (KEDS) led by Prof. Fionnuala Breathnach. The research team documented the lives of women attending a special clinic for gestational diabetes (known as 'the Breakfast Club') for women who received a diagnosis of diabetes during their pregnancy. In 2020, patient interviews were finalised, and in 2021 a graphic novel was prepared with the aim of raising awareness of diabetes during pregnancy and how women with this diagnosis navigated their own personal journey through pregnancy. Over 5,000 copies of the graphic novelette were distributed to each of the national maternity units.

# **VIRTUAL MATERNITY OPEN DAY**

In 2021, due to the COVID-19 pandemic, the second Virtual Maternity Open Week was hosted on the Rotunda Hospital social media channels. Videos of Rotunda experts answering questions from the public were recorded and posted over the course of the week, and were viewed over 70,000 times on Instagram, with a very extensive reach and impressions of over 200,000. It was very successful, allowing the hospital to reach many more people than an 'in-person' event, and it is planned to stay with the online format for the future.

# **FUNDING SUCCESS**

The Research Department secured €274,000 in funding from the Science Foundation Ireland Discover Programme 2021. Debunking the Myths: The Science Behind Our Sexual Health is a STEM expertled series of interactive workshops and online engagement tools to discuss sexual health with teenagers and debunk associated myths. It was developed to complement the Relationships and Sexuality Education (RSE) provision in secondary schools, responding to the need

of teachers and students for a trustworthy source of information on a range of clinical topics. This project is led by Prof. Fergal Malone.

# **AWARDS & ACHIEVEMENTS**

# IRISH HEALTHCARE AWARDS

BIAS: Gender Inequality in Healthcare and Research was shortlisted in the Equality Initiative of the Year category at the Irish Healthcare Awards 2021

The Rotunda Hospital Virtual Maternity Open Week was shortlisted in the Patient Education Project of the Year (Non-Pharmaceutical Category at the Irish Healthcare Awards 2021)

# **CHALLENGES 2021**

- The COVID-19 pandemic created many logistical and communicative challenges for carrying out existing research projects or implementing new research trials
- Ongoing challenge of maintaining and growing diverse funding streams
- Research and office space continues to pose a challenge for the department while maintaining social distancing guidelines
- Establishing new and effective communication channels with staff, media, industry and the public during the COVID-19 pandemic

- Continue to support multiple PhD projects across both the Department of Obstetrics and Gynaecology and the Department of Paediatrics
- The Debunking the Myths national campaign will host four in person half-day workshops and live stream into classrooms nationwide
- To host a national Fetal Cardiac Study Day where sonographers, radiographers, consultants and NCHDs from the 19 national maternity units will convene in the RCSI Simulation Centre for a series of expert led talks followed by a live patient scanning event
- Publish the findings of HIGHLOW, an investigator-initiated, multicentre, international, open-label randomised trial
- The Clinical Innovation Unit hopes to continue its collaborative approach throughout the hospital, and hopes to further expand Al approaches used in the hospital, as well as ensuring that the hospital has a comprehensive sexual health service by introducing novel sepsis biomarkers to routine practice

# **Research Ethics**

# **HEAD OF COMMITTEE**

**Prof. David Corcoran,** Co-Chair **Dr. Sharon Cooley,** Co-Chair

# **COMMITTEE MEMBERS\***

Dr. Sean Armstrong

Dr. Aoife Corcoran

Prof. Déirdre Dalv

Dr. Anne Doherty

Dr. Emma Doyle

Dr. Richard Duffy

Di. Mchara Darry

Prof. Michael Geary

Dr. Joanna Griffin

Ms. Fiona Hanrahan

Mr. Colin Kirkham

Prof. Fergal Malone, Master

Ms. Anna Mooney

Dr. Claire Murphy

Prof. Fionnuala Ní Áinle

Mr. John O'Loughlin

Dr. Aisling Mary Smith

Dr. Liezl Weinand

Ms. Mary Whelan

Ms. Margaret Woods

(\*with administrative support provided by Ms. Margaret Griffin)

# **SERVICE OVERVIEW**

The Research Ethics Committee (REC) 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 Rotunda staff or external staff members.

# **ACTIVITY**

In 2021 there were 31 REC applications considered, 23 of which were approved to commence (seven were awaiting amendments at year-end, and one is on hold until a staff member returns from maternity leave).

There were 24 applications considered by the Research Advisory Group (RAG) and brought to the attention of the Research Ethics Committee. In contrast to full REC applications, the RAG focusses on review and approval of clinical audit proposals, although these proposals are also ultimately reviewed and approved by the REC.

In 2021, Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist and Prof. David Corcoran, Consultant Paediatrician were appointed as Co-Chairs of the REC, and they chair alternate meetings. They replaced Prof. Michael Geary, as Chair. Prof. Geary's significant contribution to the committee over many years is acknowledged.

Dr. Sean Armstrong joined the committee as a senior paediatric NCHD representative, and Dr. Aoife Corcoran joined as a senior obstetrics and gynaecology NCHD representative.

Dr. Anne Doherty, Consultant Anaesthesiologist, Dr. Joanna Griffin, Director of Research, and Ms. Deirdre Daly, Assistant Professor of Midwifery, resigned their positions in 2021, and their significant work on behalf of the committee was acknowledged.

#### **CHALLENGES 2021**

In 2021 the biggest challenge facing the Research Ethics Committee was maintaining an active and safe research programme at the Rotunda during the limitations of the COVID-19 pandemic. The REC continued with a hybrid series of meetings where a number of members met in person with the appropriate social distancing and mask wearing, while some of the group joined meetings virtually, with a significant number of research projects being successfully reviewed and approved.

#### **PLANS FOR 2022**

It is hoped that in 2022 the membership of the committee will be increased, and invitations have been issued to relevant staff. The hospital is always grateful for those who undertake this work on behalf of the hospital with the primary focus of advancing and prioritising patient care.

# 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. Karen Flood, Senior Lecturer

Dr. Naomi Burke, Senior Lecturer

Dr. Niamh Daly, Senior Lecturer

Prof. Sam Coulter-Smith, Honorary Clinical Professor

Prof. Michael Geary, Honorary Clinical Professor

Dr. Carole Barry, Honorary Senior Lecturer

Dr. Kushal Chummun, Honorary Senior Lecturer

Dr. Sharon Cooley, Honorary Senior Lecturer

Dr. Jennifer Donnelly, Honorary Senior Lecturer

Dr. Maeve Eogan, Honorary Senior Lecturer

Dr. Conor Harrity, Honorary Senior Lecturer

**Dr. Mary Holohan,** Honorary Senior Lecturer

Dr. Edgar Mocanu, Honorary Senior Lecturer

Dr. Sieglinde Mullers, Honorary Senior Lecturer

Dr. Hassan Rajab, Honorary Senior Lecturer

Dr. Meenakshi Ramphul, Honorary Senior Lecturer

Dr. Rishi Roopnarinesingh, Honorary Senior Lecturer

Dr. Claire Thompson, Honorary Senior Lecturer

Dr. Ann McHugh, MFM Subspecialty Fellow

Dr. Ronan Daly, Specialist Registrar/Tutor

Dr. Catherine Finnegan, Specialist Registrar/Tutor

Dr. Orla Smith, Specialist Registrar/Tutor

Dr. Suzanne Smyth, Specialist Registrar/Tutor

Dr. Sarah Nicholson, Specialist Registrar/Tutor

Dr. Dan Kane, Honorary Clinical Lecturer

**Ms. Zara Molphy,** Research Manager

Ms. Ann Fleming, Midwife Sonographer

Ms. Claire O'Rourke, Midwife Sonographer

Ms. Fiona O'Donohue, Sonographer

Ms. Fiona Cody, Research Sonographer

Ms. Sophie Conheady, Research Phlebotomist

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 2021, a total of 3,989 fetal ultrasound examinations were performed at the Centre.

First trimester screening using now relies almost exclusively on 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 standalone separate test at 11-13 weeks' gestation to screen for additional fetal malformations.

#### **TEACHING**

165 medical students participated in the RCSI Obstetrics and Gynaecology core six-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, Coombe Women & Infants University 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 of Obstetrics and Gynaecology continues its strong collaborative relationship with Rotunda Hospital research partners during 2021. This included further integration of a shared research endeavor with the Rotunda Hospital, encompassing perinatal research both at local site and national level. Please see the section on the Rotunda/RCSI Research Department for further information.

# **SUCCESSES & ACHIEVEMENTS 2021**

In 2021, the Department published 20 scientific articles in international publications with major scientific impact, and was one of the more prominent international participants at the world's largest obstetric research meeting, the Society for Maternal Fetal Medicine, held virtually from the United States due to the COVID-19 pandemic, where eight scientific projects were presented.

Five postgraduate research theses were in progress in 2021, with five active PhD students at year end.

# **CHALLENGES 2021**

The main challenge for the Department in 2021 was trying to maintain high standards of clinical teaching for undergraduate medical students despite the COVID-19 pandemic. This caused significant disruption to face-to-face teaching at the bedside for students, which for many years has been the hallmark of our strong clinical exposure for students. The quality of teaching has however been maintained through the recruitment of additional academic staff and dynamic tutor registrars, as well as harnessing the 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, in a small group setting.

# PLANS FOR 2022

Given the evolving, endemic nature of COVID-19 infection, it is likely that limitations to numbers of medical students taught at the bedside will continue through 2022. This will require continued use of innovation in small-group teaching, and further expansion of the use of the main RCSI York Street Simulation Centre.

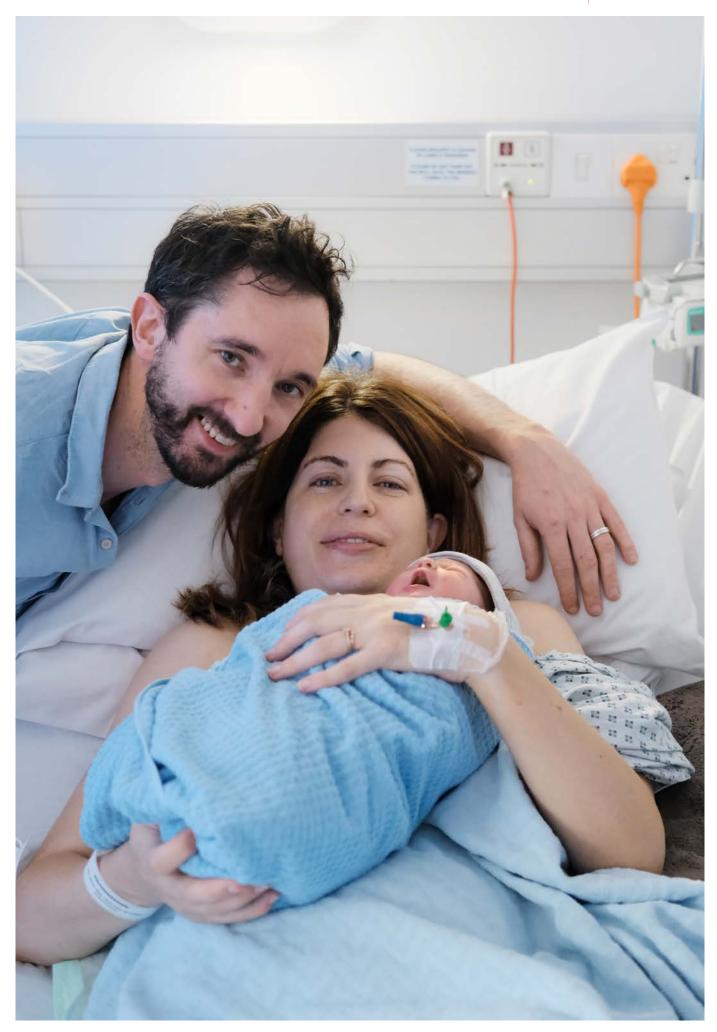
Further expansion of the Department's clinical research trials portfolio is of major importance for the academic team, including attracting the best talent for research and education of our undergraduate and postgraduate teams.











## **Library & Information Service**

#### **HEAD OF SERVICE**

Ms. Anne O'Byrne, Head Librarian

#### SENIOR LIBRARY ASSISTANT

Ms. Elaine Peppard

#### **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. Trinity College Dublin's midwifery students may also use the 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, including providing training on evidence-based resources.

As in 2020, the COVID-19 pandemic had a major impact on the provision of LIS at the Rotunda. The principles of social distancing are strictly adhered to, with a reduced number of study spaces being available to create 'safe space' for LIS users. In general, users have adhered to these principles, in mutual respect for each other, and LIS staff continue to appreciate their co-operation and understanding. To increase access to services and to combat reduction in services, the LIS team has increased loan facilities and access to the Rotunda Discovery Platform. The latter continues to be invaluable in providing access to users working out-of-hours and remotely. Resources accessed electronically continue to be provided to users and to support the research base.

Through the provision of online training and prescribed literature searching and document delivery, LIS continues to equip busy hospital research staff with the skills to undertake audit, research and publication. Support for publication and open access publishing increases the profile of the hospital as a research organisation.

Despite COVID-19 restrictions, the LIS continues to welcome RCSI medical students to the service. Working in cooperation with the RCSI student administrative office, as well as with the Midwifery Practice

Development Team at the Rotunda, appropriate preparations are made for each new student intake, including their registration and induction.

New NCHD groups commence in January and July every year, and they are welcomed to the LIS, with encouragement to register fully for access to the Rotunda Discovery Platform, both on-site and remotely through ATHENS authentication.

#### **SUCCESSES AND ACHIEVEMENTS 2021**

Due to COVID-19 restrictions, the LIS team adapted to new ways of communicating and delivering training for our services. Virtual meetings were embraced, which included recording LIS induction programmes for new Rotunda staff. Contact with peers was maintained through online training initiatives including systematic review webinars, SAP procurement training, OVID PICO, OVID Expert Tools, and OVID Grey Literature Searching.

The LIS communication tool, 'Trimester' Newsletter, continued to be issued throughout 2021, to inform and advise users through its quarterly production.

#### **CULTURE NIGHT 2021**

As with other group gatherings, the annual 'Culture Night' event at the Rotunda became impossible in its physical form. However, due to the enthusiasm of the organisers, the Rotunda was invited to contribute to a 'Virtual Culture Night' on 17 September 2021. The Rotunda again contributed recordings of previous presentations in the historic Rotunda Chapel. Feedback from this event was very positive, with virtual viewing numbers being consistent with 2020 figures, showing ongoing demand for information on the Rotunda's history from the public.

#### **CHALLENGES 2021**

The greatest challenge to service in 2021 was the HSE cyberattack, which also impacted LIS networks and systems. Security measures put in place after the attack were necessary to protect hospital data, although the removal of systems was challenging to daily work during the period from May to July 2021. The positive impact from this experience has been renewed respect for the manner in which data are stored, and the appropriateness of up-to-date security systems to protect the organisation. In cooperation with the Rotunda's IT Service, full LIS systems were quickly restored.

#### PLANS FOR 2022

The Rotunda's Historical Committee, chaired by the Head Librarian, as well as its Plaques Committee plans to make submissions to Dublin City Council in relation to commemoration of the recent 275th anniversary of the hospital. The site of the original Rotunda Lying in Hospital from 1745 has been identified and work has commenced on getting relevant permissions.



### The Rotunda Foundation



#### **BOARD OF DIRECTORS**

Dr. Mary Holohan, Secretary/Director

Ms. Margaret Philbin, Director

Ms. Marie Malone, Director

Ms. Frances Edith Barron, Director

Mr. Mark Simpson, Director

#### **STAFF**

Ms. Sheila Costigan, General Manager

Mr. Chetan Chauhan, Marketing and Development Executive

Ms. Emer Martin, Communications Executive

#### **OVERVIEW**

The Rotunda Foundation is the official fundraising arm of the Rotunda Hospital and operates as a registered charity CHY 20091 / CRA 20079529, since it was incorporated in 1971 as a company, limited by guarantee, not having a share capital. The Board of the Rotunda Foundation has a firm commitment to transparency, accountability and an adherence to good governance, best practice, and performance.

Its main objectives are to provide a sustainable funding base to support and promote maternal and child health, the hospital's high-quality research programme, and support for the various services provided by the Rotunda.

The charity also supports the hospital's 'Wish Lists' through fundraising activities for carrying out building projects, improvements within its infrastructure and the purchase of additional equipment, that are not directly funded by the State.

The Foundation works closely with Rotunda staff and its donors to help develop and fund new and on-going patient care initiatives, such as the 'Beads of Courage Initiative,' 'Aidan & Donnacha's Wings – Ceramic Hand and Foot Prints', 'Tentacles for Tinies', 'The Journey Initiative' and several social welfare and bereavement support services.

The Foundation welcomes the opportunity to collaborate with other charities and professional organisations in order to meet its strategic objectives and fundraising goals.

#### **ACTIVITY**

The Foundation was well prepared to enter the second year of the COVID-19 pandemic having faced unprecedented fundraising challenges since the pandemic started in March 2020.

Further government restrictions concerning the holding of gatherings continued well into 2021 with all 'in-person' events forced to cancel. Fundraising activity took on a virtual form from the summer of 2020 until the last quarter of 2021, when restrictions eventually eased.

The Pillar Room complex remained closed to commercial letting from the start of the pandemic until late October 2021, resulting in a substantial loss of unrestricted income to the Foundation. However, other new income streams were recognised which compensated for

some of this loss. During this period, the hospital needed to exclusively utilise the space to run clinics that complied with social distancing guidelines in place at that time. The venue was returned to the Foundation's operational management and commercial letting resumed in December 2021.

#### **SUCCESSES & ACHIEVEMENTS 2021**

Throughout 2021, the Foundation continued to successfully increase engagement with its stakeholders, promoting fundraising efforts via its social media platforms. 'Calls for Help' from the Public for items that were hard to purchase at the time were responded to in an overwhelming manner and gifts such as iPads for mothers with babies in the NICU, Moses baskets, nappies, baby wear and car seats were donated in support of the hospital.

By September, 'in-person' fundraising activities had returned and the Foundation was able to organise its annual golf outing at Killeen Castle Golf Club together with the club's Captains' Charity Day. These combined events raised over €35,000. A Christmas Raffle in aid of the NICU raised a further €12,000, and a collaboration with *The Fighting Blindness Foundation* helped raise the remaining balance of €30,000 towards the purchase of a new Retinal Camera for the Rotunda's Ophthalmology Screening Service, at a total cost of €136,000. A grant of €25,000 from *The Community Foundation* was secured for the purchase of five Angel Eye Cameras for the NICU.

Equipment purchased during the year included:

- 1 Bilimeter for Community Midwifery Team @ €5,550
- 1 Brainz Monitor for the Delivery Suite @ €20,964
- Pastoral Care Silver Bags and Ribbons for Chaplaincy Services @ €2,500
- Angel Sun Catchers for the Fetal Assessment Unit @ € 1,400
- Naming Certificates, Certificates of Life, and Blessing Certificates for Chaplaincy Services @ €850
- Sofa for the NICU staff restroom @ €1,151
- 1 Electric Breast Pump for Medical Social Work department distribution @ €145
- Bladder Scanner for Physiotherapy / Gynaecology Services @ €5,700
- Mobile Trolley for HD5 @ €462
- 20 Calypso Double Breast Pumps for the NICU @ €2,557
- 2 Ardo Calypso Double Breast Pumps for the Lactation Unit @
   €288
- Beads of Courage for the NICU @ €770
- 1 Moses Shnuggle Basket Dressing @ €1,110
- Hand & Foot Ceramic Prints (Aidan & Donnacha's Wings) @
   €3,500

#### PLANS FOR 2022

The Charity aims to expand upon the solid foundations it has built during the current term of its Board of Directors. It hopes to continue to grow its fundraising capability and strengthen its communications strategy in 2022. A new *Fundraising and Communications* post will be advertised and a staff development programme will be introduced. The Board of Directors will seek to expand their membership and skills set by inviting a new member with financial expertise to join the Board.

A new website is under development for the Foundation which will incorporate a new e-commerce platform for the sale of branded merchandise.

The Foundation intends to continue to develop a business plan for the Pillar Room and a new website will also be designed for the venue's future reservations.

Fundraising events such as the VHI Women's Mini Marathon in June 2022, the Rotunda Golf Outing – The Master's Cup at Milltown Golf Club in June 2022, a Rotunda Hospital Charity Lunch at the Shelbourne Hotel in September 2022 and a Rotunda Hospital Christmas Fundraiser and Raffle have all been scheduled, while continuing with all other fundraising opportunities.

# **Corporate Services**











## **Human Resources Department**

#### **HEAD OF DEPARTMENT**

Ms. Johanne Connolly, Head of Human Resources and People Development Manager

#### **STAFF**

Ms. Laura Best, Human Resources Business Partner

Ms. Niamh Gilleece, Human Resources Business Partner

Ms. Anne Leen, Human Resources Business Partner

Mr. Anton Nesterenko, Human Resources Business Partner

Ms. Sinead Smyth, Human Resources Business Partner

Ms. Cathy Ryan, Strategic Human Resources Manager

Ms. Denise Mc Namara, Human Resources Business Manager

**Ms. Lesley Owens,** Human Resources Data and Information Business Partner

Ms. Marie Carr, Human Resources Administration Support

#### **SERVICE OVERVIEW**

The Human Resources Department provided HR corporate services successfully and efficiently throughout 2021, during a time when the health services nationally were under significant pressure due to the continued response required to the COVID-19 pandemic and the HSE cyberattack. Not surprisingly, during 2021 the primary HR focus was business continuity and ensuring that all public health guidelines and protocols were being followed. The focus was on ensuring the safety of all staff and ensuring that the hospital was supported through robust yet flexible HR processes. HR services expanded into a new era of needing rapid responses and ensuring that processes were in place to help mitigate a series of unprecedented and unknown challenges. The HR team supported the Executive Management Team and various Department Heads in providing advice and guidance on good practices, optimising employee relations and other issues. The HR team continued to uphold the principles of accountability, confidentiality and trust.

Figure 1 below provides an overview of the functions and services provided by the HR team.



#### **KEY METRICS 2021**

- 185 recruitment competitions were actioned
- Staff headcount was 1.081, 919 WTE
- Average employee absence was 4.78%
- Compliance with a variety of mandatory training requirements is as follows:

#### **TABLE 1: MANDATORY TRAINING COMPLIANCE**

Mandatory Training	Compliance Percentage
Children's first	92%
Fire safety	61%
GDPR	66%
Hand hygiene	95%
Manual/patient handling	52%

#### **SUCCESSES & ACHIEVEMENTS IN 2021**

The Human Resources Department continued to recruit over 300 (this includes NCHD rotations) quality healthcare workers for all staff categories within the hospital which improved the quality of patient care.

The majority of interviews were held on Zoom. Zoom interviews were effective and convenient for both candidates and interviewers. In October, the Human Resources Department was delighted to attend a recruitment fair in the RDS, to meet perspective candidates, and to network with healthcare colleagues from other hospitals.

The hospital recognised the importance of a 'thank you' and appreciation for our employees for their commitment shown to our patients and service delivery during the pandemic. 38 appreciation days were held with employees receiving a total of 13,376 treats.

#### **CHALLENGES 2021**

The hospital, along with healthcare services worldwide, experienced significant challenges in addressing skills shortages and gaps in all staff categories.

A longer recruitment cycle was experienced with new recruits joining, due to delays in recruits being released from duty from their employers and travel restrictions for those coming from overseas.

The ongoing pandemic and cyberattack caused disruption to services within the hospital. These disruptions lead to the majority of training and development programmes being curtailed or cancelled as employees were unable to attend scheduled training sessions due to service delivery and business continuity requirements. Mandatory training was undertaken but compliance percentages dropped due to reduced staff availability. Mandatory training compliance will be a key deliverable for 2022.

#### **PLANS FOR 2022**

#### HR STRATEGIC OBJECTIVES

- Further develop and roll-out an employee induction programme
- Expand and coordinate monthly workforce reporting
- Develop a Learning and Development strategic plan
- Roll-out HR clinics on policies and procedures for linemanagement functions to aid in managing employee queries and performance management
- Develop a Service of Excellence employee recognition scheme
- Development an updated Rotunda HR strategic plan
- Develop an exit interview process and information reporting tool

#### HR BUSINESS MANAGEMENT OBJECTIVES

- Support workforce planning strategies and processes with linemanagement functions
- Ensure compliance and best practice with regard to employment control and recruitment processes
- Improve HR metrics reports
- Ensure employee relations matters are managed in a timely manner and queries are managed appropriately
- Ensure compliance with national level agreements
- Improve operational compliance controls

## **Finance and Procurement Department**

#### **HEAD OF DEPARTMENT**

Mr. Peter Foran, Head of Finance and Procurement

#### **STAFF**

Ms. Pauline Brady, Employee and Relations Manager

Mr. Yoichi Hoashi, Procurement and Supplies Manager

Mr. Alan Holland, Finance Accounting and Systems Manager

Mr. Edward Smith, Financial Operations Manager

#### SERVICE OVERVIEW

The Finance section of the Department is responsible for financial and budgetary management, treasury management, financial reporting and financial control at the Rotunda Hospital.

The Procurement section is responsible for sourcing and supplying non-pay consumables, equipment and services for the hospital, and providing general procurement support to other hospital departments. It is also responsible for leading, supporting and managing tenders and tender competitions.

In 2021, the Finance and Procurement Department continued to support the growth and development of best financial practices at the Rotunda Hospital. During the year, the Department underwent a restructuring exercise which organised into the following pillars and their respective managers:

Team	Manager
Financial accounting and systems	Mr. Alan Holland
Employee pay and relations	Ms. Pauline Brady
Financial operations	Mr. Edward Smith
Procurement and supplies	Mr. Yoichi Hoashi

The Department continuously strives to improve service delivery to our patients, staff, external suppliers, and our funders. In 2021, successes were achieved in each of these categories.

The Department overcame the enormous challenges triggered by the HSE cyberattack in May 2021 by being innovative and making expedient changes to processes to ensure that all statutory and fiduciary obligations were met. This was achieved while also continuing to deal with the challenges from the COVID-19 pandemic.

## SUCCESSES AND ACHIEVEMENTS 2021 FINANCIAL/MANAGEMENT ACCOUNTING

The hospital achieved a financial surplus in 2021 of €0.16m, thus eliminating the hospital's cumulative carry-forward deficit. 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 to source additional funding. The financial impact of COVID-19 was comprehensively collated, validated and reported in a timely transparent fashion to the RCSI Hospitals Group, on behalf of

the HSE, which ensured that the Rotunda was appropriately reimbursed or funded for all additional costs incurred due to COVID-19. Financial breakeven was achieved without impacting on quality and safety of patient services which is critical in a demand-led service. This was all the more notable in 2021, given a greater than 10% increase in patient throughput over the last 12 months.

#### **TABLE 1: FINAL BUDGETARY OUTTURN 2021**

Category	€'000
Deficit Carried Forward	83
Pay	75,044
Non-Pay	19,869
Income	(16,400)
Net Position for year	78,513
HSE Budget	(78,675)
Surplus/(Deficit) in Year	162
Cumulative Surplus/(Deficit) at Year End	245

The hospital continued to work with the RCSI Hospitals Group and the National Women and Infants Health Programme (NWIHP) to source additional funding to augment current services and for new service developments. In 2021, new service improvements that were approved for funding included enhanced midwifery services and an expansion of allied health services.

The hospital achieved efficiencies in producing the financial statements for the financial year 2021 in a much more expeditious timeframe. The Financial Accounting Team brought forward the sign-off and approval date of the final consolidated accounts from September to May. This greatly improves the hospital's responsiveness to clinical demands and their impact on funding service requirements.

#### EMPLOYEE PAY AND RELATIONS (PAYROLL/PENSIONS/TMS)

Ms. Pauline Brady was appointed as Employee Pay and Relations Manager, encompassing payroll, pensions and the Time Management System (TMS) project. The pension function continued to operate as normal during 2021, acting as a service support to staff and ensuring compliance with regulatory requirements for pensions. The TMS continued to be rolled out throughout the hospital, ensuring that the vast majority of staff are now enrolled on an electronic time and attendance system.

## FINANCE OPERATIONS (PATIENT ACCOUNTS/ACCOUNTS PAYABLE)

Mr. Ed Smith was appointed as Financial Operations Manager covering both Accounts Receivable and Accounts Payable. The Accounts Receivable function (Patient Accounts) is responsible for ensuring the maximum level of patient-related income and statutory charges are generated and collected by the hospital. 2021 presented many challenges, with the benefits of a significant increase in insured patient

activity being balanced by the challenges associated with the HSE cyberattack. The team successfully overcame all such difficulties. The Insurance Income Forum recommended the creation of a position of a Patient Flow Officer, which was implemented in 2021. This function is already providing benefits in terms of finding anomalies in insured patients before they can become bad debts.

The Accounts Payable function saw changes in staffing and processes in 2021. Credit controllers and buyers within the hospital have remarked on an improved service due to the hard work of all involved in building on the momentum following the implementation of the improved purchasing systems.

#### PROCUREMENT AND SUPPLIES

In 2021, under the management of Mr. Yoichi Hoashi, the team continued to operate as normal and continued to provide the hospital with medical and surgical consumables while supporting the procurement of non-recurrent items. The implementation of the Rotunda's corporate procurement strategy continues. The hospital recruited a highly experienced Tendering Manager, Ms. Suzanne Murphy, who brings a wealth of knowledge and drive to the tendering and contract management function.

#### **CHALLENGES 2021**

#### **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 modern standards for healthcare service provision. In 2021, the hospital received increased minor capital funding from the HSE with regard to capital works which contributed to a new roof for the mortuary building, replacement of boilers and improvement of its security systems. In a hospital building as old as the Rotunda's, there will always be significant requirements for the hospital to be funded for infrastructural risks.

#### MEDICAL EQUIPMENT REPLACEMENT PROGRAMME (MERP)

In 2021, the hospital received additional funding for MERP. While this is welcome, there still remains a significant requirement to replace aging equipment.

#### **EVIDENCE-BASED 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 reviewing high value contracts with local area management to see if support can be given to running tenders for these services. The hospital's Procurement Committee is beginning to consider alternatives to existing products to assess possible financial efficiencies and achieving better value-for-money. As part of the corporate procurement strategy, the recruitment of a Tendering Manager was a key objective to assist in the achievement of the value-for-money objectives.

#### **CASH FLOW MANAGEMENT**

Increased funding for the hospital and better internal procedures around cash flow has meant that cash flow is no longer as critical an issue as it has been in the past. However, this is something that the hospital must always be acutely aware of and escalate to funders in a timely fashion if and when required.

#### **FINANCIAL RISKS IN 2021**

A significant risk for the hospital in 2021 was a clear funding shortfall, as initial budgets provided by the HSE through the RCSI Hospitals Group were inadequate for our expected clinical volume. However, the Finance and Procurement Department continues to work well with the finance function at the RCSI Hospitals Group to address these concerns. While these same risks have been identified for many years, in 2021 a significant financial risk did not manifest due to improved funding provided by the HSE. However, a lack of sufficient funding for required capital works and for replacement of all necessary medical equipment remains a significant challenge.

#### PLANS FOR 2022

- Ensure appropriate funding to continue to provide safe, highquality services
- Ensure sufficient cash flow to meet all financial obligations
- Introduce a finance manual for the hospital
- Source funding for essential medical equipment replacement and minor capital works programme
- Manage capital budgets including cash flow for major capital works
- Develop business intelligence to enable greater understanding of income and expenditure drivers
- Train staff to augment their existing financial skills
- Progress Finance Department service delivery in staff-facing activities
- Complete the rollout of the Time Management System to all remaining staff as quickly as possible
- Further develop the hospital's Pensions Function to better serve the needs of staff

# **Information Technology Department**

#### **HEAD OF DEPARTMENT**

Mr. Cathal Keegan, IT Manager

#### **STAFF**

Mr. Derek Byrne

Mr. Eoin Garland

Mr. Gerard Payne

Ms. Fiona Quill

Mr. Martin Ryan

Mr. Anthony Shannon

#### **SERVICE OVERVIEW**

The Information Technology Department (IT) supports the development and maintenance of the IT function throughout the hospital. To facilitate this, the team provides Helpdesk support for over 800 users and manages an estate of over 1,500 connected devices. The IT Department is divided into a number of functional areas, namely Infrastructure Management, Project Management and Service Support. Industry best practices are continuously reviewed to provide optimal service reliability and monitor technological advancements to see how best they can be leveraged to improve service. Data security is essential in a healthcare setting and the team has worked closely with the HSE to strengthen the Rotunda's 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 ensuring the confidentiality, integrity, and availability of information systems.

#### **SUCCESSES & ACHIEVEMENTS 2021**

To facilitate the distribution and administration of COVID-19 vaccination throughout the country, the HSE engaged with IBM to create the CoVax vaccination system at very short notice. During the month of January, the IT team worked closely with the HSE Implementation team to identify necessary equipment and user requirements, in order for the vaccination programme to go as smoothly as possible. The CoVax system was required to facilitate the following:

- Register individual user details to provide a vaccination appointment
- Complete mandatory health screening questions
- Provide consent to receive vaccination
- Allow Pharmacists to accurately record the particular vaccine received
- Facilitate automatic scheduling of subsequent vaccine doses
- Provide accurate timely statistics on the number of people vaccinated

At the Rotunda, the COVID-19 vaccine actually arrived before much of the functionality of the CoVax system was available. The Rotunda IT team had to quickly implement an internal registration system which allowed the capture of all pertinent staff details prior to receiving the vaccine. This information was then used to manage the Rotunda's initial vaccine clinics on January 6/7, 2021. During the following weeks

a suite of new IT equipment was implemented to provide immediate access to the national CoVax system for vaccinators, pharmacists and administrative staff. The highly efficient roll-out of staff COVID-19 vaccination at the Rotunda could not have occurred without the preparation and involvement of the Rotunda IT team.

April saw the opening of our new Ambulatory Gynaecology Clinic in what was the former Rotunda IVF building. This project began in early January with the requirement to transform this vacant space into a clinical area capable of offering the full range of ambulatory gynaecologic services. To facilitate this transition, the Rotunda IT team procured, configured and installed over 120 pieces of new equipment in addition to relocating existing services from the main hospital. There were significant challenges in up-linking the Ambulatory Gynaecology building to the main hospital network because of the severe supply constraints on networking equipment due to the COVID-19 pandemic.

#### **CHALLENGES 2021**

Despite having to focus on the ongoing challenges for the IT Department presented by the COVID-19 pandemic, a new, even more extensive problem arose in the early hours of Friday May 14, 2021, when the IT support team received a call from the night-time Assistant Director of Midwifery/Nursing on duty to indicate that certain IT services were not functioning as expected. A rapid remote diagnostic exercise was completed, which revealed very unusual increased network activity from hospital areas that would normally be dormant at night. Further investigation confirmed that this activity was malicious in nature in what appeared to be an organised ransomware attack.

Initially, the impression was that this activity was isolated to the Rotunda IT network, with no indication yet that the largest coordinated cyberattack in the history of the Irish State was underway. By 04:00am a number of IT staff were already mobilised on-site at the Rotunda, continuing the process of trying to stop the spread of the ransomware using every available mechanism. Centrally, every server and computer on the campus was shut down, and all on-site staff were informed to shut down their computers, while incoming staff were advised to not turn on their computers.

IT colleagues in the other maternity hospitals were contacted, which quickly confirmed that the ransomware attack was not confined to the Rotunda but in fact was already impacting a large number of healthcare organisations either directly or indirectly, by preventing access to national services such as iPMS, MN-CMS and NIMIS. Once this status update was available, working with the Rotunda EMT the hospital's emergency response plan was enacted by 05.00am, before the vast majority of healthcare personnel in Ireland had even woken. One of the first steps taken by the EMT was to publicise the cyberattack through the media regarding the unavailability of IT-based services in the Rotunda with the hope of preventing patients with appointments from arriving at the hospital, and also minimising the chance of other hospitals being affected.

Over the following 24 hours staff in all areas of the Rotunda reverted back to the manual recording of patient details and care using paperbased systems. 'Workarounds' were put in place to facilitate access to critical systems such as the iLab system in the laboratory that were not impacted by the ransomware attack. As soon as the HSE realised the widespread nature of this attack, a series of HSE Critical Incident teleconferences were implemented which the Rotunda IT team joined to assess the damage caused and to put a structured response and recovery process into operation.

As a considerable number of local computer devices were impacted by the ransomware attack, the Rotunda's response and recovery process was two-pronged, with a focus on recovering local infrastructure first, before access could be restored to centrally-managed HSE services. Over the following two weeks, the Rotunda IT team restored all local servers to a fully operational state and opened access to additional basic services such as file shares and internal email access. The national infrastructure that provided access to services such as iPMS, MN-CMS, and NIMIS required a more complicated recovery process which needed extensive third party support.

During the period of the HSE cyberattack, the Rotunda IT team engaged with security consultants from Mandiant to help guide the recovery and hardening stage to ensure that all malicious software and means of re-infection were removed. In order to regain access to national services, the Rotunda was required to pass through a number of different 'Green Gateways' by validating the implementation of all required security enhancements. By June 17, Rotunda access to the NIMIS system was restored and shortly after that limited access to iPMs and MN-CMS became available. Full clearance for the last gateway was issued by the HSE IT team on July 27 - a full 11 weeks after the cyberattack began. This final clearance allowed the re-opening of full access to the Internet within the Rotunda, and any services that directly relied upon it.

Whilst the initial recovery phase was completed in 11 weeks, the lasting impact of the HSE cyberattack persisted for a number of months. Due to increased security controls the trust relationships between Voluntary Hospital networks and HSE networks was removed, resulting in the loss of access to certain national services. In order to re-gain access to these services a large number of applications and processes needed to be re-configured to account for these new security controls.

In retrospect, it is clear that the HSE cyberattack was an extremely uncertain and stressful event, not only for the Rotunda IT team, but also for every Rotunda staff member. However, through the unwavering support and solidarity offered by all staff, the Rotunda proved itself adept at crisis management. Regular offers of help and resource were offered to the Rotunda IT team from other departments throughout the hospital, together with an unending supply of treats, snacks and well wishes. Most important to the Rotunda IT team was the trust and belief afforded by Rotunda staff to IT team members to manage the recovery process and ensure that all services were promptly restored.

I would also like to offer my professional and personal thanks to each and every member of the IT Department team. Without question they made themselves available to the recovery process, working extended hours and weekends until all primary services were fully restored. It was their intrinsic local knowledge and skill that allowed the Rotunda to return to operation in a timeframe far shorter than many other healthcare organisations with greater resources.

#### PLANS FOR 2022

Many of the new IT projects for 2021 were interrupted, re-scheduled or cancelled due to the fallout and recovery from the HSE cyberattack. In 2022, these projects will all be re-started, commencing with the replacement of the legacy text-messaging system.

Funding will be sought to upgrade the core Storage Area Network (SAN) to meet with the growing demand for new servers and services. The Rotunda's existing IT infrastructure dates back to 2011, including providing the backbone to Disaster Recovery solutions through SANto-SAN replication and failover capability. It is hoped to upgrade this system to utilise newer solid-state technology and to facilitate multiyear storage growth.

# **Support Services Department**

#### **HEAD OF DEPARTMENT:**

Mr. Ray Philpott, Support Services Manager

#### **SERVICE OVERVIEW**

The management of the campus estates is ongoing and extensive, culminating in a number of upgrades, renovations, installations and refurbishments in 2021. Despite the numerous challenges presented in 2021, this did not diminish the productivity of the Support Services Department, and none of the many developments could have been possible without the excellent efforts of all involved.

2021 was another extremely busy year for the Projects and Facilities Department with a number of capital projects completed as follows:

- Pharmacy upgrade
- Painting of various areas throughout the hospital
- Installation of autoclaves
- Laboratory upgrade
- Upgrade of Private Clinic patient service areas, including security services
- Upgrade of electrical boards throughout the hospital
- UPS back-up for telephones, CCTV and access control
- New boiler to service air-handling unit (AHU) in Operating Theatres
- New flooring and kitchen upgrade in Finance Department
- · Refurbishment of Lillie suite bathrooms
- Implementation of emergency lighting throughout the hospital
- Logistics planning related to upcoming Critical Care Wing and new Parnell Square building
- Installation of three new hot water boilers
- New storage facilities in Operating Theatres
- Renovations to Paediatric OPD offices
- Refurbishment of bathrooms on Prenatal Ward

#### **SUCCESSES & ACHIEVEMENTS 2021**

The main success for 2021 was the development of the new three storey Theatre Wing and the refurbishment of the Delivery Suite. This culminated in the most challenging, logistically difficult major capital development the Rotunda campus had seen in many years. This development took three years to complete, representing only a modest delay given the COVID-19 pandemic. The Rotunda Hospital's multidisciplinary approach to delivering state of the art modern healthcare facilities will benefit our patients for many years to come. This new wing includes a significant expansion of the Emergency and Assessment Unit on the ground floor, a third operating theatre on the first floor, and a fourth operating theatre on the second floor

together with a complete renovation of the entire Delivery Suite on the second floor.

#### **CHALLENGES 2021**

The main challenge in 2021 for the Support Services Department related to the impact of the COVID-19 pandemic on hospital infrastructure. Many areas of the hospital required immediate renovation to make them compliant with mandatory COVID-19 infection prevention and control standards. Supply chain issues for both general hospital supplies and for servicing the many building and renovation projects caused additional problems for the Department in 2021. Reduced manpower, the HSE cyberattack, and the impact of Brexit also made the function of the Department quite challenging. Despite these challenges, the Projects and Facilities Department along with all Rotunda colleagues carried on through these challenges to achieve great success.

#### PLANS FOR 2022

The major plan for 2022 is to continue to work to optimise the campus infrastructure by helping progress the Critical Care Wing (CCW) project on the west side of Parnell Square, and the new building project on the east side of Parnell Square, to significantly increase the physical capacity for our patients over the next 20 years.

The following departments are under the remit of the Projects and Facilities Department:

**CAPITAL PROJECTS OFFICE** 

**CATERING DEPARTMENT** 

**CLINICAL ENGINEERING DEPARTMENT** 

CENTRAL STERILE SERVICE DEPARTMENT

**HEALTH AND SAFETY** 

HOUSEHOLD DEPARTMENT

HOUSEHOLD LINEN DEPARTMENT

**NON-CLINICAL CLAIMS MANAGEMENT** 

PORTERING DEPARTMENT

**TECHNICAL SERVICES DEPARTMENT** 

**TELECOMMUNICATIONS SYSTEMS** 

**WASTE MANAGEMENT SERVICES** 

#### **TECHNICAL SERVICES DEPARTMENT**

#### **HEAD OF DEPARTMENT**

Mr. Brendan Memery

#### **SERVICE OVERVIEW**

The Technical Services Department provides a range of technical, logistical and support services throughout the hospital campus, including operational maintenance, internal projects, working with external contractors to achieve hospital objectives, and managing essential utility systems across the hospital. The Technical Services team consists of a range of disciplines including carpenters, electricians and plumbers.

In 2021, the Technical Services Department completed almost 5,000 requisitions focusing on daily operational maintenance. In addition to these requests, the department completed many internal projects, including:

- Redevelopment of the Finance/HR administration building
- Refurbishment of the Private Clinic office suites
- Refurbishment of Grainne Suite offices and waiting rooms
- Redevelopment of the Central Stores and repair of its roof
- Refurbishment of the Porter Services Room
- Construction of Physiotherapy offices

The Technical Services Department also worked in partnership with external contractors providing logistical and technical support on various projects, including:

- The new three-storey operating theatre wing
- Re-development of patient bathrooms throughout the main hospital
- Installation of autoclaves and dryer system in the Central Sterile Services Department (CSSD)
- Installation of a new hot water boiler system

#### **CHALLENGES 2021**

The COVID-19 pandemic severely interrupted technical services projects by restricting hospital access and negatively affecting supply procedures. This challenge, combined with the HSE cyberattack and the effect of Brexit, had a significant impact on the availability of some specific materials and equipment required to complete renovation and development projects. Despite these challenges, the Technical Services Department achieved all scheduled project objectives, while also managing maintenance requests in a very busy, live hospital environment during the pandemic.

#### PLANS FOR 2022

Along with the continued operational maintenance of the Rotunda site, the Technical Services Department is scheduled to carry out a number of significant new projects in the forthcoming year, including:

- Redevelopment of the Green Room in the basement for staff
- Redevelopment of the Pharmacy office and dispensary areas
- Refurbishment of parts of the hospital Laboratories

#### CATERING DEPARTMENT

#### **HEAD OF DEPARTMENT**

Ms. Deborah Cullen

#### **SERVICE OVERVIEW**

The Rotunda Catering Department is committed to providing fresh, wholesome, nutritious food to all its service users. In 2021, the Catering Department produced over 130,000 meals for both patients and staff. 2021 continued to be a challenging year for the department due to the COVID-19 pandemic. All services were reviewed to ensure the provision of meals was carried out safely for the protection of both patients and staff. Food Safety and Health and Safety training are key operational priorities, with the Catering Department being committed to providing the highest standards of food hygiene, in accordance with IS:340:2007 standards.

Keith Gunning joined the catering management team as Executive Chef in 2021.

#### **SUCCESSES & ACHIEVEMENTS 2020**

- Maintained a distinction in the Food Safety Assurance Award accreditation system, operated by the Food Safety Professionals Association, for our Food Safety Management system
- Hosted a number of staff appreciation events including free meals for staff, and other staff good-will catering events, such as 'Thank crunchy its Friday', 'Time out Tuesday', 'Find our missing elves'
- Continued to receive positive feedback from patients through the catering comments email (<a href="mailto:cateringcomments@rotunda.ie">cateringcomments@rotunda.ie</a>):

"Heading in for a c-section I was apprehensive about typical "Hospital food" I would get for the 4-5 days I was in. The menu and selection is fantastic, nothing tastes processed and the flavours and seasoning are fabulous"

"I just had a stay in the hospital recently with my new baby and the food and staff service was outstanding. I had a baby in 2020 also and I genuinely looked forward to coming back to have my baby because of the food!"

"The range of options for each meal was excellent and I looked forward to receiving the menu each day. The quality of the food was to a very high standard and made my stay in the Rotunda all the better. It also added to my recovery as I was more inclined to eat my meals as they were so appetising."

#### **CHALLENGES 2021**

The COVID-19 global pandemic provided many challenges for the Catering Department including:

- A large reduction in the seating capacity in the staff restaurant due to social distancing measures introduced by the HSE in 2020 and continued throughout 2021
- Continuous revision of the service provided to both patients and staff to ensure compliance with infection prevention and control guidelines
- Management of an overflow seating and vending area in the main hall of the hospital
- Additional ongoing staff training on all procedures relating to the provision of services to patients with COVID-19
- Reduced staff numbers, due to difficulty recruiting and retaining staff, as well as coping with inevitable staff absences due to COVID-19 infection

#### **PLANS FOR 2022**

The Catering Department will continue to provide a high-quality catering service, with a view to continuously developing and providing more environmentally sustainable food. The provision of healthy, wholesome, nutritious food for both patients and staff is our focus, with a priority of providing menus for specialized diets and continuing with staff appreciation events. The Department will endeavor to keep up the service demands of the hospital and meet the challenges that the service expects now and into the future.

#### CLINICAL ENGINEERING DEPARTMENT

#### **HEAD OF DEPARTMENT**

Mr. Henry Gelera

#### **SERVICE OVERVIEW**

The Clinical Engineering Department is responsible for managing the medical equipment in the hospital.

#### **DEPARTMENTAL ACTIVITY**

The following new medical equipment replacement was sourced in 2021:

- 8 defibrillators
- 2 vascular ultrasound machines
- 2 advanced obstetric/gynecologic ultrasound machines
- 2 mobile digital radiology units
- 2 sterilizers
- 3 washer disinfectors
- Various laboratory equipment.

#### **SUCCESSES & ACHIEVEMENTS 2021**

The National Equipment Replacement 3 Year Program (NERP) for 2022-2024 was updated and submitted for funding allocation by HSE National Equipping. The HSE National Equipment Management System remains fully operational.

#### **CHALLENGES 2021**

As with prior years, the principal challenge in 2021 was maintaining a large amount of equipment with limited resources.

#### PLANS FOR 2022

- To continue to provide an efficient and reliable service within its current resources.
- To request for additional staff to cope with the increasing service demands
- To continuously seek more funding from HSE to upgrade or replace critical medical equipment

#### CENTRAL STERILE SERVICES DEPARTMENT

#### **HEAD OF DEPARTMENT**

Mr. John Oyedeji

#### **SERVICE OVERVIEW**

The Central Sterile Service Department (CSSD) is the core department within the hospital in which reusable invasive medical devices (RIMD), both sterile and non-sterile are decontaminated.

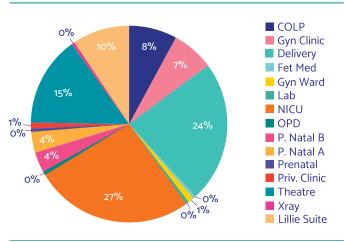
The staff employed in CSSD are responsible for controlling and monitoring medical devices, infection control and the administration of safety practices that benefit healthcare workers and public at large. The team provides the cleaning and disinfection, inspection and sterilisation of all reusable invasive medical devices. They team assists hospital purchases and healthcare practices by holding responsibility for ensuring that patient equipment is available and sterile for use at all times.

#### **DEPARTMENTAL ACTIVITY**

During 2021, 52,319 reusable invasive medical devices were reprocessed, including 27,511 trays and 24,608 single RIMDs in the department.

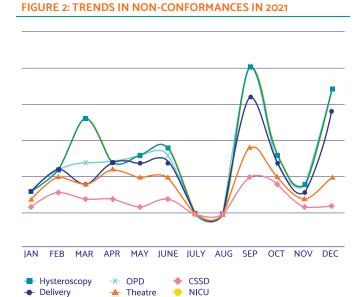
The figure below summarises CSSD activity from each clinical area:

#### FIGURE 1: CSSD ACTIVITY SOURCE LOCATIONS



All decontamination equipment was validated and periodically tested by a qualified person (Sterval outside contractor) and all validation reports were audited both quarterly and annually by hospital-appointed systems.

A total of 95 non-conformances were recorded, which is consistent with quidance from the HSE code of Practice. Follow-up action was taken and all issues raised were resolved accordingly.



Significant improvements in CSSD occurred in 2021, including employment of four new staff, procurement of three new washer disinfectors and two autoclaves. Additionally, a regular departmental quality improvement meeting was implemented.

#### **CHALLENGES 2021**

The main challenges in 2021 were the impact of COVID-19 infection resulting in significant staff absences, and the HSE cyberattack. During the cyberattack, the CSSD team reverted to manual tracking of all items reprocessed which increased the required reprocessing turnaround time.

Marking all surgical instruments remained a challenging task, with frequent breakdown of equipment making it more difficult in marking the entire surgical instrument complement.

#### PLANS FOR 2022

Plans for 2022 include continuing to provide a quality standard of practice in the decontamination and sterilization of re-usable invasive medical device. Additionally, the team will continue to interact with all personnel from various specialty areas, with an ongoing commitment to providing a service that is consistent with the highest possible standards.

#### **HEALTH AND SAFETY DEPARTMENT**

#### **HEAD OF DEPARTMENT**

Mr. Kevin Kelly

#### **SERVICE OVERVIEW**

The purpose and function of the Health and Safety Department is to provide quality advice and implement strategies to improve occupational Health and Safety for employees, ensuring that physical and environmental risks are managed appropriately to ensure the protection of employees, patients and visitors from harm. Furthermore, the Rotunda Hospital is committed to enabling improvements in the working environment for employees, and to ensure that their welfare is protected at all times. The Rotunda Hospital safety management system is constantly evolving to encompass all aspects of risk management and mitigation. The Health and Safety Department is committed to being proactive in the management of risks and the prevention of harm.

#### **DEPARTMENTAL ACTIVITY**

There were 128 non-clinical incidents recorded in 2021. The vast majority of these incidents were minor in nature and did not require any form of significant intervention. When subject to risk profiling, these non-clinical incidents are considered low grade incidents that require minimal actions to mitigate. All incidents reported are subject to investigation by the Health and Safety Manager.

Harm reduction interventions are initiated regardless of impact grade, in order to reduce the likelihood of incidents occurring. One incident was reported to the Health and Safety Authority in 2021.

#### **SECURITY**

Weekly meetings are held with the group operations manager from the external provider of this service, SAR. There were a number of personnel changes during 2021 which have been challenging for the hospital and the focus has been on creating consistency and capturing both the explicit and tacit knowledge of the security personnel. This will remain the focus going forward.

#### **CCTV/ACCESS CONTROL**

A major upgrade of the hospital CCTV system was undertaken in 2021. Training was provided to end-users on the newly installed system. Access system was also upgraded, and a further review of personnel access will be undertaken in due course.

#### **HEALTH AND SAFETY COMMITTEE**

The Health and Safety Committee consists of Department Managers and staff from a range of disciplines. The purpose and function of the committee is for employees to identify health, safety and welfare issues and bring them to the attention of the Executive Management Team.

#### **CHEMICAL MANAGEMENT**

Dangerous Goods Safety Advisor audits and training was provided by our external consultant throughout 2021. The findings of these audits have been implemented and are managed through the hospital's risk management framework. There were no significant chemical safety incidents during 2021.

#### **FIRE SAFETY MANAGEMENT**

A Fire Safety Committee has been established to manage fire safety risks within the Rotunda Hospital and to ensure that appropriate training and evacuation is practiced. Members of this committee stem from internal stakeholders and external fire safety experts. Two fire drills were conducted during 2021 in various locations of the Rotunda site.

#### **SUCCESSES & ACHIEVEMENTS 2021**

- Development of a contractor policy and contractor safety requirements handbook
- 12 days fire safety training provided to employees, in addition to on-line refresher training
- Introduction of Hazard Identification and Risk Assessment system which is aligned to the HSE, with a number of departments within the Rotunda Hospital currently using this system
- Development of a confined space policy
- Introduction of technology for safety inspections to create greater efficiencies
- Development of a COVID-19 response plan and the establishment of a Lead Worker
- Representative (LWR) group

#### **CHALLENGES 2021**

The ongoing COVID-19 pandemic remained the greatest challenge in 2021. Despite the increasing demands on the Rotunda, this was managed effectively and comprehensively. The COVID-19 Lead Worker Forum met regularly to manage the implementation of the Department of Health Guidance and internal measures as set out by the Executive Management Team.

#### **PLANS FOR 2022**

- Develop bespoke online Fire Safety Training module and develop Fire Extinguisher Training for employees
- Consolidate health and safety policies and procedures into a bespoke safety statement that compliments the HSE Corporate Safety Statement
- Provide 10 sessions of Evacuation Chair and emergency equipment training in-house
- Undertake global risk assessments of the entire Rotunda site and operations
- Rationalise the management of contractors to ensure high levels of safety compliance

- Evaluate and consolidate the access control permissions to ensure security of site
- Undertake an evaluation and testing programme for the emergency paging system with a view to developing a new succinct system

#### HOUSEHOLD DEPARTMENT

#### **HEAD OF DEPARTMENT**

Ms. Catherine L'Estrange

#### **SERVICE OVERVIEW**

The Household Department provides key services, which contribute to the overall hygiene standards of the Rotunda Hospital. These services range from the cleaning of general areas such as corridors and wards to specific hygiene processes in specialised departments. The aim of the Household Services Department is to achieve the highest possible hygiene standards required of a healthcare environment.

#### **DEPARTMENTAL ACTIVITY**

The past year has seen a dramatic increase in the demand for household services. The continuation of the COVID-19 pandemic and the expansion of department areas have contributed to this increased demand. The implementation of COVID-19 red zones over the past year resulted in the Household Department commencing more specialized procedures in safely cleaning infected areas. In addition, the expansion of new builds and the establishment of late and extra clinics has contributed to increased levels of activity in the department.

#### SUCCESSES AND ACHIEVEMENTS 2021

The greatest achievement over the past year has been consistently delivering an essential front-line service despite the many challenges of the COVID-19 pandemic and subsequent staffing issues. The team delivered the additional services required in these newly built areas with the highest possible standards achieved. The philosophy of the Household Department has, and always will be, one of pride in the service provided, and the standards that have been achieved over the past decade, while focusing on improvements going forward.

The Household Department upgraded its auditing programme in 2021 to include a new robust and progressive system. The MICAD auditing programme is a supervisory tool used to conduct daily audits. These audits are web-based, making the process faster and more efficient. This new system ensures standards are checked and recorded in all areas, resulting in a more accurate representation of the hospital's hygiene standards. The average score achieved with this programme finalised at 94%. Any actions highlighted by the report are communicated to the relevant household staff member outlining the tasks required. Once these tasks are completed a supervisor, ensuring compliance with standards, signs-off these actions.

The department also purchased new modern equipment, which is more user friendly, again contributing to better hygiene results.

#### **CHALLENGES 2021**

As with all other departments, COVID-19 has challenged household services to the limit. The additional procedures required to achieve infection control guidelines, in particular in COVID-19 Red Zones, alongside staffing issues created significant challenges in the department.

#### PLANS FOR 2022

In 2022, the department will endeavour to not only meet hygiene expectations, but to surpass them, focusing on achieving a consistent hygiene standard of 100%. From a staffing perspective, the Household Department intends to improve staffing numbers. Another key aim for the department is to update training standards in order to provide staff and management with evolving skills and abilities to continue to deliver the highest standards.

#### HOUSEHOLD LINEN DEPARTMENT

#### **HEAD OF DEPARTMENT**

Ms. Catherine L'Estrange

#### **SERVICE OVERVIEW**

The Household Linen Department plays a key role in ensuring all linen items used in the hospital are stored, handled and laundered to the highest standards in line with national hygiene requirements. The priority of the department is to ensure risks of infection are minimized by implementing best practice recommendations in relation to linen services. This service is managed by the Household Department with the linen being supplied by an external supplier, Celtic Linen.

#### **DEPARTMENTAL ACTIVITY**

The Household Linen Department remained extremely busy over the past year. The department conducts a comprehensive schedule of daily and weekly linen audits such as:

- Linen delivery transport
- Green linen delivery bins
- Quality and cleanliness of linen deliveries and linen rejects
- Linen trolleys (used internally for the transportation of linen around the hospital)
- Linen storage presses and trolleys in clinical areas

These linen audits are now included in the overall Household Department audit. The auditing tools and checklist systems were updated. All supervisors were trained in the management of the department, which ensures the managerial continuity of the linen services.

#### **SUCCESSES & ACHIEVEMENTS 2021**

A major achievement over the past year was consistently providing a high standard of linen services despite external challenges such as the COVID-19 pandemic and supply difficulties. The professionalism of the linen team ensured the highest linen hygiene standards for patients and staff

#### **CHALLENGES 2021**

The most significant challenges in 2021 focused on issues arising from the global pandemic. These included detrimental impacts on both staffing and linen supply. However, despite these challenges the Household Linen Department consistently ensured a high-quality service was maintained which assisted the hospital in achieving its quality standards.

#### PLANS FOR 2022

To continue to service the hospitals linen needs by providing the highest standards of service. The team will endeavour to ensure ongoing efficiencies providing value for money while attempting to identify opportunities to improve service for the hospital and patients.

#### PORTERING DEPARTMENT

#### **HEAD OF DEPARTMENT**

Mr. Paul Shields

#### **SERVICE OVERVIEW**

The Portering Services Department provides a multitude of logistical and utility support services in the hospital. These services can be categorized into patient-centered services and facilities-based services, both of which are provided on a 24-hour basis.

Patient-centered services involve direct engagement with our patients and staff in terms of patient transportation, communication and general assistance, focusing on contributing to a positive patient experience. Porters service the entire hospital, with certain porters servicing specific departments on a continuous basis. These porters are specially trained to perform specific processes in their respective departments such as NICU or Operating Theatre.

The facility-based services undertaken by portering services include daily operational tasks such as waste disposal, maintaining curtain hygiene, transportation of furniture and equipment and grounds keeping.

#### **DEPARTMENTAL ACTIVITY**

The department experienced increased demands on services over the past year. There were several reasons for this increase including expansion of departments, COVID-19 protocols and new services in the hospital.

The hospital has recently expanded many departments including theatre services and CSSD services. The increase in activity in these areas resulted in a direct increase to portering services.

COVID-19 protocols provided challenges for all frontline staff including porters. The use of COVID-19 Red Zones and conformance to protective procedures resulted in additional protective tasks being undertaken by porters.

Activity also increased with the establishment of the new ambulatory gynaecology building. Facilitating operational services such as CSSD and patient transportation to the clinic has increased demand on portering service.

In addition to these elements there also been an increase in daily porters' requisitions with over 300 requests for manual transportation of equipment such as office removal and clinic set-ups.

#### **SUCCESSES & ACHIEVEMENTS 2021**

The most significant achievement of the past year was consistently providing a frontline service in the difficult circumstances of COVID-19. The portering team adapted to various pandemic related issues to deliver services for the hospital, staff, mothers, and babies.

Rotunda Hospital waste return finalized at 80% which is a strong result. The portering team continues to identify further ways of improving waste return and reducing carbon footprint.

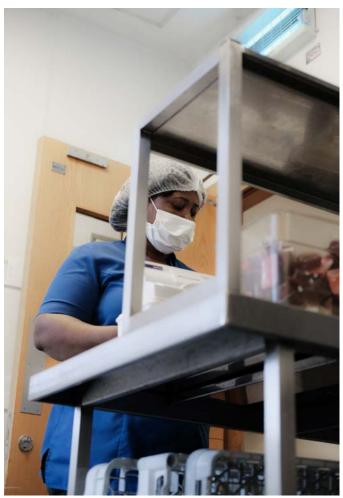
#### **CHALLENGES 2021**

The COVID-19 pandemic provided logistical and operational challenges on a consistent basis in 2021. Of these challenges, staffing issues proved the most significant in delivering services.

#### PLANS FOR 2022

Further developing the portering service team with renewed on-site training in all aspects in the services delivered.







### **Patient Administrative Services**

#### **HEAD OF DEPARTMENT**

Ms. Niamh Moore, Patient Services Manager

#### **TEAM LEADERS\***

Ms. Jacinta Core, Deputy Patient Services Manager

Ms. Susan Daly, Deputy Patient Services Manager

Ms. Caroline Bosse, Laboratory Medicine

Ms. Yvonne Burke, Colposcopy

Ms. Moira Carberry, SATU

Ms. Catherine Finn, Anaesthesiology & Maternal Medicine

Ms. Denise Gleeson, Adult Outpatients

Ms. Lorraine Hanley, Radiography

Ms. Kathy Hayes, Paediatric Outpatients

Ms. Julie Mc Evoy, Admissions/Reception

Ms. Yasmin McEvoy, Central Appointments & Gynaecology

Ms. Rita O'Connor, SATU

Ms. Louise O'Hara, Adult Outpatients

Ms. Susan Penny, Healthcare Records & Ward Clerks

\*The team leaders oversee administrative assistant staff across the spectrum of clinical services in the Rotunda Hospital.

#### **SERVICE OVERVIEW**

The Patient Services Department provides frontline receptionist, appointment scheduling, waiting list administration and administrative support and services to ensure the smooth operation of scheduled and non-scheduled patient appointments and clinical services. The service is also responsible for the admission of all patients and management of their medical records and information. This includes 24-hour support at the main hospital reception and switchboard, as well as all scheduled clinical appointments and medical typing. Patient Services also provide administrative support to all allied health professionals in the hospital.

#### SUCCESSES & ACHIEVEMENTS 2021

The most significant achievement in 2021 was that Patient Services continued to provide frontline administrative services to ensure that all services operated as normal during the COVID-19 pandemic. This was achieved despite many challenges including staff absences due to COVID-19 and other medical reasons. The nature of Patient Services also required that substantially all services had to be provided on-site, such that remote working could not be facilitated. Additionally, there was a significant increase in Patient Services workload due to clinical services having to be curtailed and cancelled due to the pandemic which required significant rescheduling and reconfiguration of appointments. This was managed administratively by Patient Services to ensure that there was no increase in waiting lists or waiting times.

A major achievement for Patient Services was as a participant in a multidisciplinary team that achieved a reduction in gynaecology waiting times and waiting lists in 2021, despite the many challenges posed by COVID-19

Patient Services administered the scheduling of patients for COVID-19 swabbing prior to elective admissions which was supported by team

members contacting patients and scheduling these appointments to ensure an efficient and seamless process for patients.

The roll-out of the digital phone system continued with implementation at the main switchboard which enabled the hospital to have a message greeting for the public to inform them of visiting times without having to speak with a receptionist. This greeting was updated regularly in line with hospital visiting policies and public health guidance. The Patient Services Department also implemented a telephone tree option to assist the public in reaching the relevant area efficiently and effectively. An additional location has been provided for staff to answer the switchboard away from the main reception area when staffing levels permit.

In 2021, work commenced on a new healthcare record retention and destruction policy with support from colleagues in the Quality and Patient Safety Service. This will reduce the costs for storage of healthcare records into the future.

The transition of gynaecology outpatient clinics to the new Ambulatory Gynaecology Unit was completed in March, with new clinical services being supported as they develop. This has resulted in a reduction in waiting times for new public gynaecology visits, but due to COVID-19 social distancing protocols, outpatient clinics could not be scheduled at full capacity initially. Waiting times continue to improve, although further work is required to optimise waiting times for return patients.

In collaboration with colleagues in the Finance and Procurement Department, the SAP Concur system was implemented for all invoicing.

Sexual Assault Treatment Unit (SATU) records were all archived under the new hospital Retention and Destruction policy and are now stored safely off-site.

#### **CHALLENGES 2021**

Although the ongoing COVID-19 pandemic remained a major challenge in 2021, the biggest challenge for the Patient Services Department this year was the HSE cyberattack in May. Overnight, the hospital had to move from a paperless/paper-light environment to full paper records across all services. The Patient Services Department was integral to the safe provision of care during this period. Staff worked 24/7 across all patient areas in the hospital, creating temporary paper-based healthcare records for patients and implementing new processes overnight.

Due to the project work that had been undertaken in 2020 with a digital dictation service provider, the hospital was able to access some patients' Medical Record Numbers and demographic details despite the main IT system being taken down. The support of the Rotunda IT Department and the MN-CMS electronic healthcare records Back Office support team was essential in achieving this.

When hospital IT systems were turned back on, a further challenge was the transition from paper-based to electronic records for a short period of time, which resulted in a major back-loading exercise to ensure that no important medical records were missed.

In November 2021, an inpatient gynaecology waiting list was implemented across all hospital sites, including the provision of an electronic patient scheduling system for the Operating Theatres. This remains a work in progress but is proving to be of immense benefit across the hospital, in particular for the Operating Theatre scheduling team.

Staffing levels proved to be a major challenge throughout the year but particularly over the Christmas period with so many frontline staff absent due to the COVID-19 pandemic. All services were maintained despite the unprecedented challenge to ensure no impact on service provision for patients.

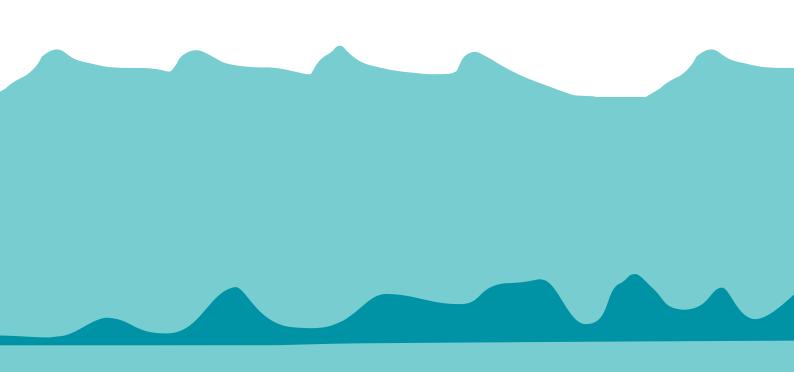
#### **PLANS FOR 2022**

The Patient Services Department is looking forward to working with the project team for the transfer of outpatient/ambulatory services and their support staff to the new building on Parnell Square.

The Department will work with the Human Resources Department to review the organisational structure of the service, to ensure succession planning and career pathways to improve staff retention and morale.

Further NTPF validation exercises are also anticipated in 2022 to further validate all outpatient and inpatient waiting lists.

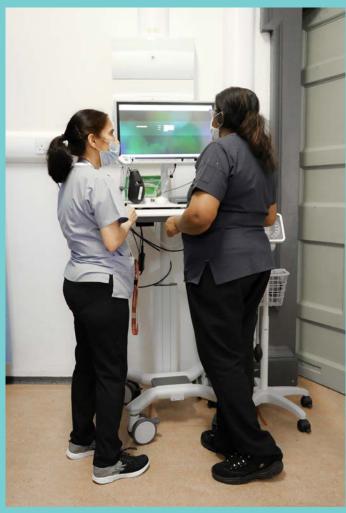
# **Governance**











## **Board of Governors**

The Board of Governors is an independent group established by the Royal Charter of December 1756, and has overall responsibility for the governance of the Rotunda Hospital. The Board meets 10 times per year and it ensures that each Governor has equal responsibility in their respective roles while contributing as a unit to a single voice for the Hospital.

It is the Board's duty to set the tone for the Hospital, both ethically and culturally, and to provide strategic direction for the Executive Management Team. The Board reviews, approves and monitors annual business plans, as well as reviewing financial performance against targets. It also monitors legal risk, ethical risk and environmental compliance. It is within the Board's remit to appoint the Master. The Board approves the appointment of other senior management and consultants and also monitors the performance of the Executive Management Team to ensure that Board policy is implemented. The Board of Governors ensures that financial risks are audited and that an annual report is produced for the Rotunda Hospital.

The Board manages its functions through a number of committees:

- General Purposes Committee
- Risk Committee
- Property Advisory Committee
- Performance and Remuneration Committee
- Governance Audit Committee

#### **ROTUNDA HOSPITAL BOARD OF GOVERNORS 2021**

Dr. Maria Wilson Browne Chairman

Dr. David Abrahamson

Mr. David Browne

Dr. Cliona Buckley

Mr. Cedric Christie

Dr. Sam Coulter Smith

Mr. John Diviney

Dr. Fred Falkiner

Ms. Niamh Gallagher

Dr. James Gardiner

**Prof. Michael Geary** 

Mr. Barry Holmes

Dr. Mary Keenan

**Prof. Tom Matthews** 

Mr. Richard Nesbitt

Ms. Kristina Odlum

Ms. Margaret Philbin

Ms. Hilary Prentice

Mr. Denis Reardon

Mr. Ian Roberts

Mr. Stuart Switzer

Dr. Melissa Webb

Ms. Lucinda Woods

#### **EX-OFFICIO OFFICERS**

His Excellency, The President of Ireland

Most Reverend Dr. Michael Jackson

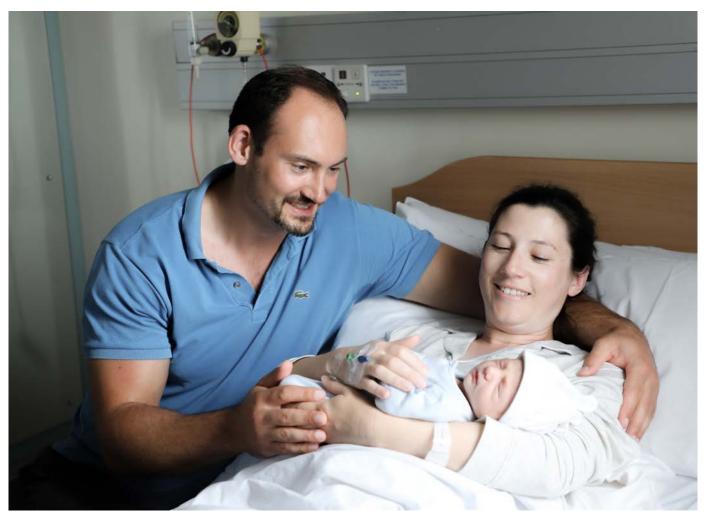
The Dean of St. Patrick's The Very Rev. William W. Morton

The Lord Mayor of Dublin

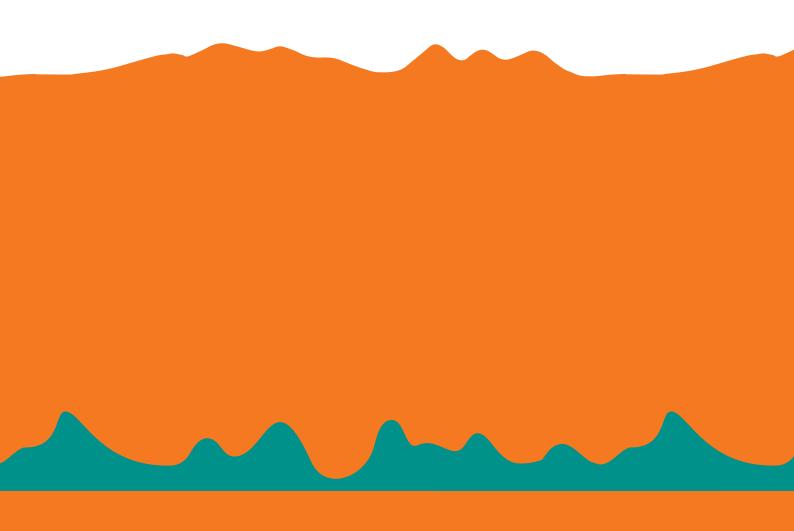
Cllr. Darcy Lonergan, Dublin City Council Nomination







# Appendices









# **Appendix 1**

#### **ROTUNDA HOSPITAL CLINICAL SUMMARY DATA 2021**

1. TOTAL MOTHERS DELIVERED	TOTALS	
Mothers delivered babies weighing >500 grams	8,968	
Mothers delivered babies weighing <500 grams (including miscarriages)	1,624	
Hydatidiform moles		18
Ectopic pregnancies		105
Total Pregnancies		10,715
2. MATERNAL DEATHS		TOTALS
Maternal Deaths		0
3. BIRTHS		TOTALS
Singletons		8,788
Twins		353 (178 sets)
Triplets		6 (2 sets)
Quadruplets		o
Total babies delivered weighing 500g or more		9,147*
some multiple pregnancies resulted in the birth of one infant who weighed < 500g and did not su	ırvive. Totals adjusted acco	rdingly
4. OBSTETRIC OUTCOME	%	TOTALS
Spontaneous vaginal delivery*	46%	4,156
Forceps	5%	395
Vacuum	12%	1,073
Caesarean delivery	37%	3,344
Induction of labour	37%	3,322
Breech deliveries included in spontaneous vaginal delivery		
5. PERINATAL DEATHS		TOTALS
Antepartum deaths		37
Intrapartum deaths		0
Stillbirths		37
Early neonatal deaths		14
Late neonatal deaths		9
Congenital anomalies	20	
6. PERINATAL MORTALITY RATE (PER 1,000 BIRTHS)	TOTALS	
Overall perinatal mortality rate	5.6	
Perinatal mortality rate corrected for lethal congenital anomalies	3.4	
Perinatal mortality rate including late neonatal deaths	6.5	
Perinatal mortality rate excluding unbooked cases	5.2	
Corrected perinatal mortality rate excluding unbooked cases	3.0	

Perinatal mortality rate in normally formed babies >2,500g

7. AGE OF WOMEN	NULLIPAROUS	MULTIPAROUS	TOTAL MOTHERS DELIVERED >500G	%
<20 yrs	115	29	144	2%
20-24 yrs	445	244	689	8%
25-29 yrs	844	747	1,591	18%
30-34 yrs	1,541	1,572	3,113	35%
35-39 yrs	850	1,889	2,739	31%
40+ yrs	209	483	692	8%
Total	4,004	4,964	8,968	100%

8. PARITY	TOTALS	% FROM TOTAL MOTHERS DELIVERED >500G
Para O	4,004	45%
Para 1	3,050	34%
Para 2-4	1,823	20%
Para 5 or greater	91	1%
Total	8,968	100%

9. COUNTRY OF BIRTH/NATIONALITY (FROM MOTHERS DELIVERED >500G)	TOTALS	%
Irish	5,889	66%
EU	1,462	16%
Non EU	1,541	17%
Unknown	76	1%
Total	8,968	100%

10. BIRTH WEIGHT	TOTALS	%
< 500 g	o	0%
500 - 999 g	58	0.6%
1,000 - 1,499	64	0.7%
1,500 - 1,999	119	1.0%
2,000 - 2,499	358	4.0%
2,500 - 2,999	1,201	13.0%
3,000 - 3,499	2,979	33.0%
3,500 - 3,999	3,090	34.0%
4,000 - 4,499	1,116	12.0%
4,500 - 4,999	150	12.0%
>5,000	12	0.1%
Total	9,147	100.0%

#### 11. GESTATIONAL AGE

	Nulliparous	Multiparous	Totals	%
<26 weeks	10	25	35	0.4%
26 - 29 weeks + 6 days	24	16	40	0.4%
30 - 33 weeks + 6 days	59	69	128	1%
34 - 36 weeks + 6 days	176	221	397	4%
37 - 41 weeks + 6 days	3,728	4,631	8,359	93%
42 + weeks	7	2	9	0.1%
Total	4,004	4,964	8,968	100%

#### 12. PERINEAL TRAUMA AFTER VAGINAL DELIVERIES

	Nulliparous	Multiparous	Totals	%
Episiotomy and extended episiotomy	1,444	395	1,839	33%
First degree laceration	206	624	830	15%
Second degree laceration	512	980	1,492	26%
Third degree laceration	47	31	78	1%
Fourth degree laceration	5	1	6	0%
Other lacerations or grazes	98	316	414	7%
Intact	140	849	989	18%
Totals	2,452	3,196	5,648	100%

Caesarean deliveries not included in the above. Total Vaginal deliveries: 5,648. Some 3rd & 4th degree tears are included in Extended Episiotomy.

#### 13. THIRD OR FOURTH DEGREE TEARS

	Nulliparous	Multiparous	Totals
Occurring spontaneously	24	29	53
Associated with episiotomy	23	2	25
Associated with forceps	14	3	17
Associated with vacuum	12	0	12
Associated with vacuum and forceps	4	0	4
Associated with occipito-posterior position	7	2	9
Total 3rd and 4th degree tears	52	32	84

#### 14. PERINATAL MORTALITY IN ANTEPARTUM NORMALLY FORMED INFANTS

	Nulliparous	Multiparous	Totals
Placental causes	4	8	12
Cord accident	3	3	6
Infection	1	3	4
Abruption	0	1	1
Unexplained	1	1	2
Total	9	16	25

#### 15. PERINATAL MORTALITY IN CONGENITALLY MALFORMED INFANTS

	Nulliparous	Multiparous	Totals
Genetic	2	7	9
CNS Lesions	1	1	2
Cardiac	1	4	5
Renal	0	2	2
Diaphragmatic Hernia	1	0	1
Other	0	1	1
Totals	5	15	20

#### 16. EARLY NEONATAL DEATHS IN NORMALLY FORMED INFANTS

	Nulliparous	Multiparous	Totals
Prematurity	5	2	7
Totals	5	2	7

#### 17. HYPOXIA ISCHAEMIC ENCEPHALOPATHY\*

	Grade 2	Grade 3
Totals	18	2

<sup>\*</sup>Inborn babies only

#### 18. SEVERE MATERNAL MORBIDITY

	Totals
Massive obstetric haemorrhage	44
Sepsis	21
Pulmonary oedema/acute respiratory dysfunction	12
Emergency hysterectomy	9
Pulmonary embolus	5
Acute renal or liver dysfunction	1
Cardiac arrest	1
Eclampsia	1
Coma	1
Uterine rupture	0
Transfer to ICU/CCU	10

#### 19. BODY MASS INDEX (KG/M²)

	2020	2021
Underweight: <18.5	123 (1%)	146 (2%)
Healthy: 18.5 - 24.9	4,349 (45%)	4,098 (44%)
Overweight: 25 - 29.9	2,935 (30%)	2,864 (31%)
Obese class 1: 30 - 34.9	1,302 (13%)	1,271 (14%)
Obese class 2: 35 - 39.9	460 (5%)	546 (6%)
Obese class 3: >40	204 (2%)	224 (2%)
Unrecorded	372 (4%)	81 (1%)
Total Booking for Antenatal Care	9,745	9,230

## COMPARATIVE TABLE FOR 10 YEARS

Years	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Babies born	9,041	8,841	8,980	8,538	8,589	8,409	8,514	8,410	8,316	9,147
Perinatal deaths	66+2*	63+6*	68+2*	71	54+5*	51+1*	45+1*	59+6*	50	51
Perinatal mortality rate	7.5	7.8	7.7	8.3	6.9	6.2	5.4	7.7	6.0	5.6
Corrected perinatal mortality rate	4.9	4.5	4.5	4.8	4.1	3.6	3.0	4.1	2.9	3
Total mothers delivered	10,397	10,314	10,814	10,078	10,024	9,915	9,760	10,200	9,915	10,715
Maternal deaths	2	3	2	1	0	0	0	0	0	О
Caesarean delivery %	29	31	31	32	35	34	34	35	37	37
Forceps/Vacuum %	18	17	17	17	16	16	16	16	16	17
Epidural %	48	47	47	47	45	48	45	48	49	45
Induction %	28	29	30	29	29	31	31	35	36	37

<sup>\*</sup> Unbooked

## **PERINATAL DEATHS**

## **GESTATIONAL AGE AT DELIVERY (WEEKS)**

STILLBIRTHS					
20 0/7 - 23 6/7	8	22%			
24 0/7 - 27 6/7	3	8%			
28 0/7 - 31 6/7	4	11%			
32 0/7 - 36 6/7	16	43%			
37 0/7 - 39 6/7	5	14%			
>/= 40 0/7	1	3%			
Total	37	100%			
EARLY NEONATAL DEATHS					
20 0/7 - 23 6/7	4	29%			
24 0/7 - 27 6/7	2	14%			
28 0/7 - 31 6/7	2	14%			
32 0/7 - 36 6/7	5	36%			
37 0/7 - 39 6/7	1	7%			
>/= 40 0/7	0	0%			
Total	14	100%			

## WEIGHT AT DELIVERY (GRAMS)

STILLBIRTHS		
500 - 999g	12	33%
1000 - 1,499g	3	8%
1500 - 1,999g	8	22%
2000 - 2,499g	6	16%
2500 - 4,999g	8	22%
>/= 5,000g	0	0%
Total	37	100%

## **EARLY NEONATAL DEATHS**

500 - 999g	8	57%
1000 - 1,499g	0	0%
1500 - 1,999g	1	7%
2000 - 2,499g	2	14%
2500 - 4,999g	3	21%
>/= 5,000g	0	0%
Total	14	100%

## **OUTPATIENT ACTIVITY DATA 2021**

## **OUTPATIENT ACTIVITY DATA - 2021**

Description	New Attendences	Return Attendences	Total	Telemedicine
Antenatal and postnatal	18,351	36,592	54,943	16,158
Gynaecology	3,036	3,306	6,342	3,018
Colposcopy and smear clinic	2,446	2,758	5,204	0
Paediatrics	4,692	3,974	8,666	224
Endocrinology	260	1,627	1,887	31
Gastroenterology	19	15	34	5
Haematology	297	444	741	267
Anaesthesiology	814	19	833	1,393
Nephrology	139	468	607	0
Psychiatry	502	698	1,200	3,389
Dove medical	150	135	285	15
Allied health clinics	3,359	5,784	9,143	2,060
Diagnostic clinics *	4,889	15,508	20,397	0
Total	38,954	71,328	110,282	26,560

<sup>\*</sup>Diagnostic clinics exclude radiology

THE ROTUNDA HOSPITAL, DUBLIN

NON CAPITAL INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 2021

PAY         Coord         € 000           Salaries         68,286         65,764           Pensions         6,758         7.275           T5,044         73,039           NON-PAY         T5,044         73,039           NON-PAY         T0,000         1,000           Direct patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         178,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)           SURPLUS BROUGHT FORWARD         245         (84)			
PAY           Salaries         68,286         65,764           Pensions         6,758         7,275           T5,044         73,039           NON-PAY         T5,044         73,039           NON-PAY         S8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (76,583)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)		2021	2020
Salaries         68,286         65,764           Pensions         6,758         7.275           T5,044         73,039           NON-PAY         T5,044         73,039           NON-PAY         Secondary of the patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)		€'000	€'000
Salaries         68,286         65,764           Pensions         6,758         7.275           T5,044         73,039           NON-PAY         T5,044         73,039           NON-PAY         Secondary of the patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
Salaries         68,286         65,764           Pensions         6,758         7.275           T5,044         73,039           NON-PAY         T5,044         73,039           NON-PAY         Secondary of the patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
Pensions         6,758 / 75,044         7,275 / 75,044           NON-PAY         Direct patient care         8,582 / 7,847           Support services         6,971 / 7,507           Financial and administrative         4,316 / 3,233           TOTAL EXPENDITURE FOR THE YEAR         94,913 / 91,626           Income         (16,400) / (15,353)           NET EXPENDITURE         78,513 / 76,273           HSE Funding for year         (78,675) / (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162 / 310           DEFICIT CARRIED FORWARD         (83) / (226)		60.306	65764
NON-PAY         75,044         73,039           Direct patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
NON-PAY         Formula of the patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)	T CTSIOTS		
Direct patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)		75,044	73,037
Direct patient care         8,582         7,847           Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
Support services         6,971         7,507           Financial and administrative         4,316         3,233           19,869         18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
Financial and administrative         4,316 19,869         3,233 18,587           TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)			
TOTAL EXPENDITURE FOR THE YEAR       19,869       18,587         Income       (16,400)       (15,353)         NET EXPENDITURE       78,513       76,273         HSE Funding for year       (78,675)       (76,583)         SURPLUS / (DEFICIT) FOR THE YEAR       162       310         DEFICIT CARRIED FORWARD       (83)       (226)			
TOTAL EXPENDITURE FOR THE YEAR         94,913         91,626           Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)	Financial and administrative		
Income         (16,400)         (15,353)           NET EXPENDITURE         78,513         76,273           HSE Funding for year         (78,675)         (76,583)           SURPLUS / (DEFICIT) FOR THE YEAR         162         310           DEFICIT CARRIED FORWARD         (83)         (226)		19,869	18,587
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## **COMPLETED AUDITS 2021**

#### **TITLE OF AUDIT**

#### **ADMINISTRATION**

Perineal and abdominal wound infection

Positive patient identification (PPID)

#### **ANAESTHESIOLOGY**

Postpartum haemorrhage rates pre and post implementation of the oxytocin medication safety bundle

Re-audit of decision to delivery interval (DDI) for category 1 and 2 caesarean deliveries

Remifentanil patient controlled analgesia (PCA) for labour analgesia

Pruritus induced by intrathecal morphine at caesarean delivery

Top-up of epidural blockade for emergency caesarean delivery: Rotunda Hospital current practice

#### **CLINICAL NUTRITION**

A re-audit of patients diagnosed with gestational diabetes receiving education and clinical postnatal outcomes

#### LABORATORY MEDICINE

Prospective observational audit for obtaining venous blood samples

#### **NEONATOLOGY - MEDICAL**

Surfactant usage in the NICU

Neonatal peripherally inserted central catheters (PICC)

Transporting babies with antenatally diagnosed cardiac disease

Newborn hemoglobinopathy screening: Are we adhering to optimal practice in infants born to mothers with hemoglobinopathy trait/disease?

Follow-up of neonates amongst mothers with thyroid disease

Compliance with neonatal pre-discharge pulse oximetry screening for congenital heart disease

Monitoring of infant feeding on postnatal wards and use of formula in near term infants

Audit of the use of fibrinogen in the NICU 2018-2020

Incidence and follow-up of antenatally detected congenital anomalies of the kidney and urinary tract

## **NEONATOLOGY - NURSING**

Use of 40% dextrose gel for the management of neonatal hypoglycaemia

Body temperature on admission to NICU and temperature in the first 72 hours in infants weighing less than 1,250g

To identify the number and type of errors associated with manual completion of patient information and demographics on the newborn screening card (NBSS)

## NURSING/MIDWIFERY

Theatre nurses/midwives scrub technique for sterile procedures

Re-audit of recall ultrasound scan appointments

Neonatal skin-to-skin practice in the delivery suite

Review of triage process in the specialist perinatal mental health service

## **OBSTETRICS**

Audit of management of syphilis seropositive pregnant women

Aspirin use in preeclampsia prevention

Audit of fourth degree tears at the Rotunda Hospital

Birth preferences and delivery outcomes after previous obstetric anal sphincter injury

FBC monitoring at 28-32 weeks' gestation in routine antenatal outpatient clinics

## TITLE OF AUDIT (CONTINUED)

## **OBSTETRICS (CONTINUED)**

An audit of the cell-free fetal DNA test for Rhesus D (FREDA) status to determine the need for Anti-D prophylaxis

Auditing documentation and discrepancy in colposcopy impression of high grade squamous intra-epithelial lesions (CIN-3)

Re-audit of the management of postpartum haemorrhage less than 1,000mls in the delivery suite

Investigating risk factors for obstetric anal sphincter injury in 2020

#### SATU

The percentage of forensic cases who were advised to use an early evidence kit when appropriate prior to attending SATU for a forensic examination

Percentage of patients who presented to SATU within 120 hours and appropriately received emergency contraception

## **ROTUNDA HOSPITAL STAFF PUBLICATIONS 2021**

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**Brehony C, Eogan M, Lambert J, Drew R.** Evaluation of molecular testing for mycoplasma genitalium for symptomatic women. *Irish Journal of Medical Science*, 10.1007/s11845-021-02782-1, 2021.

**Broderick D, Brennan GI, Drew RJ, O'Connell B.** Epidemiological typing of methicillin resistant Staphylococcus aureus recovered from patients attending a maternity hospital in Ireland 2014-2019. *Infection Prevention in Practice, 3: 100124, 2021.* 

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Ms. Johanne Connolly (Human Resources Manager)

Ms. Kathy Conway (Clinical Reporting)

Ms. Siobhan Enright (Clinical Risk Manager)

Mr. Cathal Keegan (IT Manager)

Ms. Niamh Moore (Patient Services Manager)

Ms. Anne O'Byrne (Head Librarian)

Mr. Kieran Slevin (Human Resources Manager)

#### SUPPORT DEPARTMENT HEADS

Mr. Mark Kelly (Health and Safety Manager)

Mr. Henry Gelera (Clinical Engineering 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.

## BOARD OF GOVERNORS

GENERAL PURPOSES COMMITTEE

PROPERTY COMMITTEE

GOVERNANCE/AUDIT COMMITTEE RISK COMMITTEE

#### **EXECUTIVE MANAGEMENT TEAM**

#### **DIRECTOR OF MIDWIFERY/NURSING**

## **MASTER**

#### SECRETARY/GENERAL MANAGER

#### **CLINICAL MIDWIFERY & NURSING**

- Maternity
- Gynaecologic
- Neonatal

#### **MIDWIFERY & NURSING EDUCATION**

- Undergraduate Training
- Postgraduate Training

### **MATERNITY CARE ASSISTANTS**

- Education & Training
- Clinical Placement

#### PRACTICE DEVELOPMENT

- Ongoing Education & Training
- Clinical Practice Development

## BEREAVEMENT SUPPORT

- Inpatient Support
- Outpatient Follow Up

### QUALITY, SAFETY & RISK

- Infection Prevention & Control
- Health Promotion
- Clinical Risk

## ALLIED HEALTH & SOCIAL CARE

- Medical Social Work
- Clinical Nutrition
- Physiotherapy

#### MN-CMS

- Project Management
- Operational

#### **OBSTETRIC & GYNAECOLOGIC CARE**

- Outpatient Services
- Emergency Services
- Operating Theatres
- Inpatient Services
- GP Liaison

#### **LABORATORY**

- Haematology & Transfusion
- Biochemistry
- Microbiology
- Histopathology
- Virology/Serology

#### **ANAESTHESIOLOGY**

- Pre-Anaesthetic Assessment
- Anaesthetics/Recovery
- High Dependency Unit

## NEONATAL SERVICES

- Inpatient Neonatal Care
- Outpatient Care
- Neonatal Transport

## DIAGNOSTIC IMAGING

- Radiology
- Ultrasound
- Fetal Medicine

### SEXUAL ASSAULT TREATMENT

• Forensic Examination & Follow-Up

#### COLPOSCOPY

National Cervical Screening Service

## ALLIED HEALTH & SOCIAL CARE PROFESSIONALS

- Perinatal Mental Health
- Chaplaincy
- Radiology

## ACADEMICS

- Undergraduate & Postgraduate Training
- Research Projects, Initiatives & Ethics
- Innovation Hub
- Research & Innovation

#### **QUALITY & SAFETY**

- Clinical Audit
- Clinical Risk

#### **FINANCE**

- Financial Control & Management
- External Audit
- Procurement
- Insurance
- Asset Register

## **SUPPORT SERVICES**

- Household
- Portering
- Technical
- CSSD
- Clinical Engineering
- Catering

## **HUMAN RESOURCES**

- Employee Selection & Recruitment
- Training & Development
- Occupational Health

## INFORMATION TECHNOLOGY

- System Support & Administration
- Systems Development

## PATIENT ADMINISTRATIVE SERVICES

- Administration & Support
- Healthcare Records
- Library & Information Service
- Information Provision, Promotion & Dissemination

#### **CLINICAL ACTIVITY REPORTING**

- Clinical Management Information
- Internal & External Reports

## ALLIED HEALTH & SOCIAL CARE PROFESSIONALS

- Pharmacy
- Radiography

## QUALITY, SAFETY & RISK

- Health & Safety
- Quality ImprovementPatient Experience
- Information Governance