The Rotunda Hospital, Dublin

Annual Report 2017

THE ROTUNDA HOSPITAL DUBLIN

Caring for Generations
Since 1745

The Rotunda Hospital Dublin

Annual Report 2017

Contents


Huntleigh

Introduction

years of delivering the highest quality of care to generations of mothers and babies

9,915

Mothers Cared for

8,226

Mothers Delivered

8,409

Babies Born

212

Beds

833

Employees

416

Medical and Nursing Students

107,422

Outpatient Visits

Introduction by the Master

I am privileged to present this annual clinical and management report of the Rotunda Hospital for 2017 in this my second year as Master. It is an honour for me to lead a team of over 830 committed professionals in fulfilling our vision to be "the internationally recognised maternity hospital of choice – outstanding care delivered by exceptional people".

I am delighted to report that in 2017 we provided the highest possible standard of care for 9,915 pregnant women, with 8,226 mothers delivering 8,409 babies. Our corrected perinatal mortality rate was 3.6 per 1,000 (excluding babies with congenital malformations) and our adjusted perinatal mortality rate was 1.3 per 1,000 (babies weighing 2.5kg or more without malformations). We again experienced no episode of maternal mortality. These results are highly impressive in both a national and international context, underscoring the reality that the standard-of-care for our maternity services is superb. To consistently deliver such a high clinical standard, despite the pressures of a demand-led clinical service, within a restricted physical hospital infrastructure, and with significant funding constraints is testament to the commitment of each and every member of the Rotunda team.

Governance

The Rotunda Hospital is a voluntary hospital with an independent Board of Governors, underpinned by its own legal Charter. While it receives the majority of its funding from the Health Services Executive through the RCSI Hospitals Group, it remains responsible for its own governance and strategic direction.

A major achievement in 2017 was the development and launch of a new five year strategic plan, charting the future direction of the hospital from 2017 through 2021. This plan focuses on three key strategic principles:

- To advance areas of clinical expertise by further developing our range of specialties, such as gynaecologic and preconceptional services.
- To provide excellent customer and staff experience by developing new approaches to care, such as an information hub, knowledge platform, and technology and innovation centres.
- To solidify our role as the leader in women's health within the RCSI Hospitals Group by optimising the maternity and gynaecology needs of patients in our Group and national catchment areas.

An implementation plan, which includes regular progress reports to the Board of Governors, is following agreed timelines with all strategic objectives being reached.

One of the hallmarks of voluntary hospitals is their tradition of innovation and research in driving forward new clinical services, a feature that is often not matched by HSE-managed hospitals. This 2017 Annual Report demonstrates many examples of such innovation, some of which have been award-winning for their impact on patient care. For example, the Rotunda Perinatal Mental Health Service was commended for Public Health Initiative of the Year at the 2017 Irish Healthcare Awards for extending the Rotunda's postnatal depression screening tool throughout the RCSI Hospitals Group. The Rotunda's performance in terms of innovation in clinical care programmes demonstrates the critical importance of the voluntary hospital sector in Ireland.

In November 2017, Professor Patricia Walsh retired from the Board of Governors after many years of loyal service to the Rotunda, both as a Governor and most recently as Chairman. Additionally, Mr. Alan Ashe retired from the Board, having previously served as Treasurer and as Chairman. Mrs. Nuala Johnson also retired from the Board in 2017, with all three Board members having left a tremendously positive and permanent impression on the Hospital that will be remembered for many years to come. The Hospital owes a significant debt of gratitude to Professor Walsh, Mr. Ashe and Mrs. Johnson for such dedication and support. Professor Walsh was replaced by Dr. Maria Wilson Browne as the new Chairman of the Board, and I look forward to a similarly constructive relationship in the coming years under her capable leadership.

Management

Day-to-day management of the Rotunda Hospital is provided by an Executive Management Team consisting of the Master, the Secretary/General Manager, Ms. Pauline Treanor, and the Director of Midwifery and Nursing, Ms. Margaret Philbin. I am deeply indebted to them both as it would not have been possible to achieve the clinical or managerial results described in this report without their tireless efforts, attention to detail and total commitment to the vision and mission of the Rotunda.

The Executive Management Team is supported by a small but strong team of senior Departmental managers who ensure that efficiency and professionalism remains the hallmark of the Rotunda. Mr. Jim Hussey, Director of Finance, has again helped ensure that the hospital has performed in an effectively financial breakeven position for 2017. Our HSE allocation for services in 2017 was €56.9 million, following which we had a small deficit of €230,000, representing 0.4% of our allocation. Given the challenges of providing a demand-led clinical service, with constant upward pressures in terms of patient volume and complexity, this represents an extremely strong financial performance.

Many of our day-to-day services are provided from a much-loved 1757 building of immense architectural heritage. Continuing to

provide 21st century healthcare from such facilities requires an especially talented group of facilities management professionals, under the leadership of Mr. Ray Philpott, Support Services Manager. Mr. Philpott and his team constantly strive to secure the integrity of our historic buildings, while ensuring the effectiveness of our physical infrastructure and optimising our current Parnell Square campus. Additionally, Mr. Kieran Slevin, Human Resources Manager, very ably leads a team of professionals who ensure all 833 staff of the Rotunda can perform to the best of their abilities.

Hospital Infrastructure

The challenges of providing optimal care to patients on our Parnell Square campus in the centre of the City of Dublin are growing increasingly difficult. During 2017, the hospital had to manage multiple major infectious disease outbreaks, which particularly affected our Neonatal Intensive Care Unit. The main reason for the continued recurrence of such infectious outbreaks is over-crowding. In addition to overcrowding, another challenge of the 273-year physical status of the Rotunda is the lack of contemporary electrical, plumbing and services supply infrastructure. The hospital currently has insufficient electricity supply to meet its growing clinical demands and most of the electrical wiring is not compliant with contemporary safety standards. This was brought into stark relief earlier in 2017 when an electrical fire erupted within the Neonatal Intensive Care Unit, forcing the closure of the unit for one month and putting significant additional pressures on both the Rotunda's and the entire national neonatal care capacity. Additionally, our cramped physical infrastructure significantly undermines our ability to provide appropriate patient dignity, due to insufficient space for postpartum mothers to recover following delivery, insufficient bathroom facilities, lack of space for mothers' partners or family members to participate following birth. This is not in keeping with the clearly expressed goals of the Department of Health's 2016 National Maternity Strategy, which calls for an appropriate and safe patient-centred care environment that respects women's dignity.

The Rotunda has for many years articulated to successive Ministers for Health, the Department of Health, and the Health Services Executive the dangers of not addressing our current physical infrastructure challenges. For each year that delay occurs in advancing a solution to this challenge, unacceptable clinical risk continues to mount. Given that we care for approximately 10,000 mothers each year, it is only a matter of time before a mother or baby will be seriously harmed or die as a consequence of our limited physical infrastructure.

The ultimate long-term solution to the limitations of our city centre infrastructure is co-location as a newly constructed maternity hospital on the campus of another general hospital in Dublin. Government policy confirming this future co-location on the grounds of the Connolly Hospital campus in Blanchardstown was announced in 2015, with the goal being to provide safer care for mothers who may need access to specialised medical services including intensive care. The Rotunda Hospital immediately embraced this policy direction and has spent two years and €1 million of its own financial reserves in driving forward this project. In April 2017, we published an extensive Design Brief that specifies all required details of a new state-of-the-art 50,000m^2 women and infant's hospital for the Connolly campus. Since then however, we have had little progress from outside the Rotunda in moving this urgent project forward, such that the realistic timeline to complete this co-location is now at least a further 10 years away.

In considering this likely timeline, it is crucially important to understand the physical limitations of the current Connolly Hospital infrastructure. Government policy is to co-locate the National Maternity Hospital to St. Vincent's University Hospital, and to co-locate the Coombe Women and Infants University Hospital to St. James' Hospital, both of which are Level four hospitals, with all the required specialist services already in place to safely receive the added complexity of their critically ill pregnant mothers. In contrast, Connolly Hospital is a Level

three hospital, and currently has insufficient advanced clinical programmes in anaesthesia, critical care, complex gynaecologic surgery, vascular surgery, interventional radiology and laboratory medicine to provide safe services for the Rotunda's patients. The Rotunda currently exists as a virtual co-located hospital with the Mater Misericordiae University Hospital, 600m northeast of our Parnell Square campus, and most of our anaesthesia and medical specialist consultants are jointly appointed between both hospitals. This provides a superb level of clinical support whenever we are faced with caring for a critically ill mother. Potentially transporting critically ill mothers from a new Rotunda building on the Connolly campus back to the Mater Hospital for life-saving care does not represent progress in this regard and is not in keeping with the goals of the National Maternity Strategy.

Given the likely minimum ten-year timeline to achieve the goal of effective co-location on the Connolly campus, the Rotunda has proposed an interim physical infrastructure optimisation plan for our city centre Parnell Square campus. It is important to note that all hospital developments require continued attention to their existing campus while new buildings are constructed elsewhere. Ignoring the current Parnell Square campus while awaiting progress on a potential Connolly development is not safe and is not acceptable to the Rotunda or its patients. During 2017, and in the absence of further external progress on the Connolly co-location project, we have continued to optimise the Parnell Square campus with renovations to several parts of the existing buildings and proposals advanced for interim new construction, the funding for which has so far been provided solely by the Rotunda Hospital itself. Considering the economic and emotional cost associated with adverse outcomes in maternity services, it is our opinion that immediate funding for further infrastructure optimisation on the current Parnell Square campus makes clear financial sense.

Core Staff

I am privileged to work at the Rotunda in partnership with a world-class team of consultant obstetrician-gynaecologists, neonatologists, anaesthetists, pathologists, and medical subspecialists, together with a superb cohort of doctors in training. The excellent clinical outcomes in this year's Annual Report are a testament to their commitment, professionalism, and skill. I would like to particularly acknowledge the efforts of our Clinical Director, Dr. John Loughrey, and our Assistant Masters for their support.

We have been particularly successful in recruiting new midwives, new operating theatre nurses and new neonatal nurses to the Rotunda family in 2017. These new recruits have significantly strengthened the existing expertise provided by over 400 nurses, midwives and allied health professionals who are the backbone of the Rotunda. The constant flow of positive feedback received from patients describing how our midwifery and nursing staff regularly go above and beyond the call of duty is truly awe-inspiring. We remain indebted to their care, compassion and commitment.

The quality of care provided at the Rotunda was underscored in 2017 by positive external inspections by the Nursing and Midwifery Board of Ireland (NMBI), which provided re-accreditation for midwifery training in January 2017, by the Health Information Quality Authority (HIQA), which confirmed excellence in medication safety during an inspection in March 2017, and by the Irish National Accreditation Board (INAB), which provided re-accreditation of our hospital laboratory in May 2017. An additional HIQA unannounced inspection focusing on prevention and control of healthcare associated infections in December 2017 also confirmed effective leadership, governance and management in this vital area.

In 2017, the Rotunda said farewell to Dr. Peter McKenna, who retired after 36 years of dedicated service, including seven years as Master from 1995 to 2001. Dr. McKenna made many significant contributions to the hospital, both in terms of optimising the physical infrastructure and the development of new and innovative clinical programmes. Under his direction, the national cardiac disease in pregnancy service was launched jointly with the Mater Misericordiae University Hospital, and remains a vital patient-centred resource for this particularly high risk group. Dr. McKenna will be sadly missed at the Rotunda and we wish him well in his new role as Clinical Director at the new National Women and Infants Health Programme at the HSE.

Electronic Healthcare Record

On Saturday November 18, 2017, one of the most momentous events in the 273-year history of the Rotunda Hospital occurred. The hospital effectively removed paper-based processes from its entire maternity and neonatal services, becoming a paperless, electronic healthcare hospital overnight. The Cerner MN-CMS (Maternity and Newborn Clinical Management System) was successfully installed, following a three year programme of staff training, infrastructure optimisation, and product development. Ensuring that over 800 staff were adequately trained, ensuring that a 1757 building was sufficiently wired and Wi-Fi enabled, and ensuring that thousands of new hardware items were successfully pre-installed, was a mammoth task, which was completed efficiently and effectively.

Following this change-over, the Rotunda became the first standalone hospital in Ireland to become paperless, and the third hospital (after Cork University Maternity Hospital and Kerry General Hospital) to install the MN-CMS product. Not only does the system avoid the use of paper and pen for making patient care notes, it also provides a completely electronic medication management system and laboratory testing system. It therefore represents a major advance in patient safety and efficiency of provision of healthcare. I wish to acknowledge in particular the work of Mr Cathal Keegan, Information Technology Manager, and his team for their efforts in making this installation work so effectively. Other staff at the Rotunda who were crucial for its successful implementation included Ms Rhona Drummond, Ms Niamh Hegarty and Ms Paula Scully from the Department of Midwifery and Nursing, Mr Brian Cleary, Chief Pharmacist, and Mr John O'Loughlin, Laboratory Manager. We also benefited significantly from the support of our colleagues at the National Maternity Hospital, Cork University Maternity Hospital and Kerry General Hospital during the "Go-Live" period, for which we are most grateful.

Challenges however still remain with the new electronic healthcare record system, including the under-provision of sufficient support personnel to train new staff and trouble-shoot problems. Insufficient resources have been provided for ongoing

training of existing staff to ensure the MN-CMS system is used optimally. Significant additional resources need to be provided to ensure that the system can provide timely access to accurate healthcare reports, as such report-generation functionality was not adequately developed prior to the implementation of the system. Additionally, gynaecology services have not been part of the original implementation plan, and significant work is required in designing an appropriate gynaecology module for the MN-CMS system so that all remaining aspects of hospital activity are ultimately paperless. We are hopeful that during 2018 these limitations and challenges will be successfully resolved.

RCSI Hospitals Group

During 2017, the Rotunda Hospital continued to work effectively within the RCSI Hospitals Group to ensure optimal maternity, neonatal and gynaecologic care for patients in the Group catchment area. The support of the Group Chief Executive Officer, Mr Ian Carter, and the Group Clinical Director, Professor Patrick Broe, is acknowledged in assisting the Rotunda to implement new clinical programmes. This includes the continued development of the Senior Incident Management Forum (SIMF) which provides an opportunity for sharing of clinical performance metrics across the Group, as well as opportunities for shared learning from adverse outcomes.

The lack of maternal-fetal medicine services at Our Lady of Lourdes Hospital Drogheda and at Cavan General Hospital has long been recognised as a limitation of maternity care at these locations. The Rotunda has worked in partnership with the RCSI Hospitals Group to help solve this challenge by implementing a new maternal-fetal medicine care programme across the Group catchment area. This includes the recruitment of four new consultant obstetricians with subspecialisation in maternal-fetal medicine to joint posts between the three Group maternity units. In 2017, Drs Richard Horgan and Etaoin Kent were appointed to two of these new consultant posts, with the plan being to appoint two further consultants in the near future to complete the service. Additional supports, including sonographers and state-of-the-art ultrasound equipment have also been provided.

Academic Role and Research

The presence of a thriving academic teaching service and research programme is an integral part of the Rotunda Hospital, and differentiates us from being a simple clinical service-provider. Attracting the next generation of obstetrician-gynaecologists and neonatologists is a crucial responsibility of the Rotunda in order to secure the future of maternity services for our patients. In partnership with the Royal College of Surgeons in Ireland (RCSI), we continue to teach over 200 undergraduate medical students each year in programmes of neonatology and obstetrics and gynaecology, as well as providing the latest postgraduate educational opportunities for doctors in training. We also provide postgraduate training opportunities for our staff, including Masters-level courses in Leadership and in Healthcare Management through the RCSI, thereby optimising the professional development of our staff.

The Rotunda remains the headquarters site with RCSI for the HRB-funded Perinatal Ireland and the Mother and Baby Clinical Trials Networks. A major research project on managing difficult labour, the GENESIS Study which was supervised nationally from the Rotunda Hospital, was awarded best research presentation in clinical obstetrics at the most prestigious international obstetrics research meeting, the Society for Maternal Fetal Medicine meeting in Atlanta in February 2017. Another major research project on cardiac output monitoring of infants with neonatal encephalopathy won the clinical research award for fellows at the Society for Pediatric Research meeting in San Francisco in May 2017. These awards, and the multiple other academic publications from the Rotunda and its staff, underscore the importance that is placed on research at the Rotunda to ensure world-class clinical innovation remains at the heart of what we do. I would like to acknowledge the work of our Director of Research, Dr. Joanna Griffin, and the RCSI Department of Obstetrics and Gynaecology Research Manager, Dr. Liz Tully, in further developing a thriving research environment at the Rotunda.

I am also grateful to the Rotunda Foundation for its crucial role in fund-raising for these research activities, as well as for vital equipment and new clinical innovations at the Rotunda during 2017.

As always, this Annual Report would not have been possible without the dedication and hard work of Ms Mary O'Grady, Administrative Manager in the Master's Office, supported by Ms Margaret Griffin. Their efficiency, attention to detail, and professionalism make the job of Master possible and without whom this report would not have been possible.

The Rotunda Hospital remains loyal to the original vision of Bartholomew Mosse in its commitment to improving the standard of care for mothers and babies, and in this regard will remain a passionate voice in demanding adequate resources for our patients. As a demand-led service, we must continue to effectively care for all of our obstetric, neonatal and gynaecologic patients, as we become the busiest maternity hospital in Ireland housed in the oldest maternity hospital buildings in Europe. We will continue to innovate for our patients' care while advocating for adequate resources for immediate improvement of the physical infrastructure of our existing Parnell Square campus. We intend to remain true to our vision of being the Maternity Hospital of Choice and we look forward to a further year of innovation and excellence in patient care in 2018.

Professor Fergal Malone
Master of the Rotunda Hospital

Introduction by the Chairperson

I am honoured to have become the Chair of the Board of Governors of the Rotunda Hospital in 2017 and I am privileged to take over in this role from my predecessor, Professor Patricia Noonan Walsh. We owe a debt of gratitude to Patricia for her many years of service on the Board of the Rotunda and I look forward to leading the Rotunda Board during a period of extremely busy clinical demand despite severe restrictions to our physical infrastructure.

Board of Governors and Governance

The Rotunda Hospital is governed by a Royal Charter which was granted on the 2nd December, 1756 which incorporates 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 purpose, vision, culture, values and behaviours it wishes to promote in providing its services.

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

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

The Board has overall responsibility for corporate and clinical governance and for strategic developments. It met on 10 occasions during 2017. The Board has appointed a number of committees – General Purposes, Governance and Audit, Risk and Property, which meet regularly and advise the Board. These committees undertake the initial consideration of various matters thus enabling preliminary recommendations being available to the Board when the matter involved is discussed. The Board has proactively ensured that there is a diversity of skill sets and experience on these committees. Additionally, in support of the Rotunda Charter, the Board has also invested time in corporate governance training. A key tenet of this training in 2017 was guidance on the Code of Practice for Governance of State Bodies 2016. The Board also provided induction training for new Governors in 2017 and had a Board Education away day in February 2017 with a range of topics being discussed relevant to their responsibilities.

An external HSE Review of Governance at Board and Executive level commenced in May 2017 with comprehensive engagement being provided from the Board and Executive.

The Board oversees Governors' compliance with requirements under the Ethics in Public Office Act 1995 and the Standards in Public Office Act 2001. A bi-annual self-assessment is undertaken in this regard.

I wish to extend grateful appreciation to all of the Governors of the Rotunda for their dedication and commitment to the Board including its subcommittees. Governors give their time voluntarily and without remuneration for the betterment of the Hospital and for the patients it serves.

Challenges

One of the main challenges facing the Rotunda is its ageing infrastructure, together with capacity problems and managing infection prevention and control. The Board remains fully supportive of the planned relocation to the Connolly Hospital campus. However, it is clear that this will take a minimum of 7 to 10 years to achieve. Capital optimisation plans for the existing campus have been prepared for the short and medium terms. These plans have been comprehensively costed and reported to funders and local stakeholders.

The roll-out of the MN-CMS electronic health record in November 2017 marked one of the most challenging events in the history of the Rotunda. The electronic record forms part of a proposed HSE national system and highlights our commitment to the National Maternity Strategy. The system allows clinical and other information to be shared with relevant providers of care, as and when required. On behalf of the Board I would like to acknowledge and thank the extensive support received from hospital staff, the Rotunda implementation team, consultants, our colleagues in the National Maternity Hospital, Cork University Maternity Hospital, Kerry General Hospital and the Cerner Team throughout the implementation of the electronic chart system.

Strategic Plan 2017 – 2021

The Board is responsible for the new Rotunda five year Strategic Plan and its implementation. The Board will provide direction and leadership in guiding three overarching principles, namely advancing areas of clinical expertise in women's health, providing the best patient and staff experience, and remaining a leader in women's and infant's health within the RCSI Hospitals Group network.

Communications

In promoting good communication, Governors attend at "Elevenses" on Charter Day where they meet with staff from all areas of the Hospital. A Quality Showcase covering multi-disciplinary quality improvement projects and research is presented. Awards are given to the top submissions based on their impact on patient care and overall benefits to the Rotunda.

A series of 'Quality Walk Rounds' are undertaken throughout the year by 'visiting governors'. The purpose is to engage with staff and to identify and highlight quality deficits and risks.

As a voluntary hospital, the Rotunda has a long tradition of campaigning and advocating on healthcare issues. The Hospital participates in the Independent Review on the Future Role of Voluntary Hospitals/Organisations commissioned by the Minister for Health.

Finance / HSE Service Level Arrangement and Ancillary Funding

The Hospital continues to be underfunded by the HSE for its service requirements and once again a modest shortfall is forecast at year end, in addition to cumulative shortfalls in funding carried forward from prior years. Cashflow in particular continues to be a major financial risk for the Hospital. The Hospital is of the view that it needs to be adequately funded by the HSE for the actual services provided as maternity services are provided in a demand-led manner.

In addition, the Board funds various healthcare initiatives not funded by the HSE, including:

- Pro bono IVF treatment for public patients
- Development of the Design Brief for relocation to Connolly
- Rotunda Ambulatory Hysteroscopy Clinic at Connolly Hospital
- Advanced obstetric and neonatal research initiatives
- Development of a new five year Strategic Plan
- Provision of key support posts for advancing Rotunda initiatives, including a GP Liaison Manager, Research Department administration, and Service Planning Manager

Collaboration with the RCSI Hospitals Group /HSE

The Rotunda continues to make a significant contribution to the RCSI Hospitals Group and provides leadership in the provision of maternity, gynaecologic and neonatology services for Dublin and the North East region.

Opportunities for the hospital to co-ordinate and enhance maternity, gynaecology and neonatal services with healthcare partners and the community it serves will continue to be provided. The Rotunda Strategic Plan 2017-2021 and Mission Statement also reflect significant collaboration with the RCSI Hospitals Group.

Royal College of Surgeons in Ireland (RCSI)

The Hospital has a close relationship with its academic partner, the Royal College of Surgeons in Ireland particularly in the area of research. Over the past number of years the Rotunda Board has sponsored a number of leadership and management programmes at primary degree and masters level. Individual staff members who participated and completed these programmes have been able to apply the learning for the benefit of the Hospital and its patients. We are also grateful to our academic partner for funding the refurbishment of the Rotunda Dalrymple Lecture Theatre.

Governor Retirements and Recruitment

Professor Patricia Walsh

I would like to pay tribute to our former Chairman for her decades of service to the Rotunda including various positions held on subcommittees and Working Groups. She was very generous with her time and advice and guided the Board expertly and efficiently through her time as Chair. I wish her all the best for the future.

Mr. Alan Ashe

Alan served as Chairman of the Board from 2002-2011 and Governor for several decades. He also chaired the North Dublin Voluntary Forum and the Voluntary Healthcare Forum which represents 20 voluntary hospitals. His financial expertise and business advice guided hospital management over many years. His quiet manner and wisdom were a welcome constant at Board meetings.

Mrs. Nuala Johnson

As a Governor for many years and great supporter of the Friends of the Rotunda/ Rotunda Foundation, her support and commitment to various subcommittees of the Board and Working Groups will be missed.

New Governor

Mr. Michael Wickham was appointed to the Board in March and is the Chair of the Governance Audit Committee. Michael had previously served as an external advisor to our Governance Audit Committee.

The Rotunda's most important asset is its' staff. The Rotunda would not be the success it is today without the continued support and commitment from its dedicated staff. It is they who make the Rotunda 'The Maternity Hospital of Choice'. As Chairman I am greatly assisted by the Master and the Executive Management Team and thank them for their commitment, notwithstanding the major challenges posed by suboptimal buildings and limited resources. They continue to ensure that the Rotunda provides a quality and safe service for its patients and staff.

Finally, as Chair of the Board I would like to give a special mention to Claire Murphy, secretary to the Board, who's quiet efficiency, attention to detail and vast experience make her an invaluable asset to me personally and to the Board as a whole.

Dr. Maria Wilson Browne
Chairman

About The Rotunda Hospital

In 1745 Bartholomew Mosse, surgeon and man-midwife, founded the original Dublin Lying-In Hospital as a maternity training hospital, the first of its kind. The Rotunda Hospital is unique as an institution in that it has continued to provide an unbroken record of service to women and infants since its foundation. The Rotunda Hospital has been in operation at the Parnell Square campus for 260 years, with the main inpatient building remaining in continuous use since the doors first opened on 8th December 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 212-bed teaching Hospital which provides specialist services in order to support women and their families at a local, regional and national level.

The Board of Governors and the Executive Management Team will continue to work with the Government, the Minister for Health and the RCSI Hospitals Group to define and establish clear and strong governance structures, within the changing context of the Irish healthcare system.

The specialist services provided by the Rotunda include:

- Maternity Services
- Maternal Fetal Medicine
- Gynaecology Care
- Neonatal Care

These are fully supported by a range of sub-specialist services such as Anaesthetics, Haematology, Radiology, Psychiatry, and Allied Health Services within the Hospital, and joint services such as Cardiology, Endocrinology, Gastroentrology, and Infectious Diseases with acute adult hospitals.

BOARD OF GOVERNORS

General Purposes Committee | Property Committee | Governance/Audit Committee | Risk Committee

Executive Management Team

Master

Director of Midwifery and Nursing — **Secretary/General Manager**

Clinical Midwifery & Nursing
- Maternity
- Gynaecology
- Neonatal

Midwifery & Nursing Education
- Undergraduate Training
- Postgraduate Training

Practice Development
- Ongoing Education & Training
- Clinical Practice Development

Bereavement Support
- Inpatient Support
- Outpatient Follow Up

Obstetric & Gynaecologic Care
- Outpatient Services
- Emergency Services
- Operating Theatres
- Inpatient Services

Laboratory Medicine
- Haematology & Transfusion
- Biochemistry
- Microbiology
- Histopatholgy
- Virology/Serology

Anaesthesia
- Pre-Anaesthetic Assessment
- Anaesthetics/Recovery
- Critical Care

Neonatal Services
- Inpatient Neonatal Care
- Outpatient Care
- Neonatal Transport

Diagnostic Imaging
- Radiology
- Ultrasound
- Fetal Assessment

Sexual Assault Treatment
- Forensic Examination & Follow-Up

Colposcopy
- National Cervical Screening Service

Academics
- Undergraduate & Postgraduate Training
- Research Projects, Initiatives & Ethics
- Innovation Hub

Finance
- Financial Control & Management
- External Audit
- Procurement
- Insurance
- Asset Register

Support Services
- Household
- Portering
- Technical
- Sterile Services
- Clinical Engineering
- Catering

Human Resources
- Employee Selection & Recruitment
- Training & Development
- Occupational Health

Information Technology
- System Support & Administration
- Systems Development

Patient Services
- Administration & Support
- Healthcare Records

Library & Information Service
- Information Provision, Promotion & Dissemination

Clinical Activity Reporting
- Clinical Management Information
- Internal & External Reports

Quality, Safety & Risk
- Clinical Risk
- Infection Prevention & Control
- Health & Safety
- Quality Improvement
- Clinical Audit
- Health Promotion
- Information Governance
- Patient Experience

Allied Health & Social Care Professionals
- Medical Social Work
- Clinical Nutrition & Dietetics Service
- Physiotherapy
- Pharmacy
- Perinatal Mental Health
- Chaplaincy

Clinical Directors Office

Clinical Director
Dr. John Loughrey, Consultant Anaesthetist

Staff
Ms. Olga Pearson, Administration

Overview
The office of Clinical Director at the Rotunda was set up in 2009 to support the Master with respect to the Consultant and Non-Consultant Hospital Doctor (NCHD) staff organisation and delivery of care.

Activity
The Clinical Director's Office role is supported by Ms Olga Pearson who was appointed in 2016. Active liaison with the lead NCHD and the NCHD Committee has been key to drive clinical innovations by medical staff at ground level.

Dr. Ronan Sugrue and Dr Sean Armstrong were the lead NCHD's in 2017.

Continuous Professional Development
Attendance at continuing medical education events is a professional registration requirement and the office continues to facilitate this by certification of doctor's attendance at internal events.

Human Resource (HR) Liaison
Medical manpower is a valuable resource provided by the Hospital. The Clinical Director's office provides a direct link with HR for the purpose of assistance and clarification with all elements and provisions of the Consultants Contract. Service planning, manpower requirements and recruitment are also facilitated by the office and regular employment control meetings are held.

Training Site Accreditation
The Rotunda is a recognised training site for medical training in a number of disciplines. The Medical Council sets out the requirements for recognition. Regular internal assessment of the ability of the Hospital to provide a quality training environment is conducted annually by the CD office. This is performed in conjunction with the specialty training leads and via annual feedback from NCHD's on an anonymous basis.

Clinical Guideline Access
Clinical guidelines are accessible on the Hospital document management system Qpulse. An app-based version of existing guidelines for bedside availability in a rapidly usable format was developed and launched for all specialties in 2017, having been established for Anaesthesia and Microbiology prior to 2016.

Maternity Neonatal Clinical Management System (MN-CMS)
The introduction of the MN-CMS electronic healthcare record in November 2017, required a major focus of activity for the NCHD Committee which culminated in successful implementation following 'Go Live'.

Successes & Achievements 2017
The improvement in communication and handover was facilitated by introduction of new Consultant rotas and Clinical Handover and Communication policies and the facilitation of handover by the electronic healthcare record.

The setting up of a Medical Executive chaired by the Clinical Director with Heads of Clinical Departments as well as senior management in attendance was implemented by the Hospital Medical Board. This has provided an additional forum for communication between Hospital management and medical staff leaders.

A number of events including interview training, statistical method training and grand rounds were organised via the NCHD committee.

Plans for 2018
The introduction of the MN-CMS electronic healthcare record will continue to be a challenge for the Hospital as new medical staff commence biannually. A planned in-house training module to prepare new staff is being developed.

Consultant recruitment has been difficult with a number of key posts remaining vacant. Differential salaries for new entrant Consultants has contributed significantly to this scenario.

The contribution of Ms Olga Pearson, the lead NCHD's, assistant masters and all members of the NCHD committees, is acknowledged and gratefully appreciated, whose dedication and innovation produced another successful year at the Rotunda.

Clinical Services

CLINICAL SERVICES

Maternity

Department of Midwifery and Nursing

Head of Department
Ms. Margaret Philbin, Director of Midwifery/Nursing

Senior Staff*
Ms. Catherine Halloran, Assistant Director of Midwifery/ Nursing
Ms. Fiona Hanrahan, Assistant Director of Midwifery/ Nursing
Ms. Marie Keane, Assistant Director of Midwifery/Nursing
Ms. Patricia Williamson, Assistant Director of Midwifery/ Nursing
Ms. Mary O'Reilly, Practice Development Co-ordinator
Ms. Anne O'Byrne, Practice Development Co-ordinator
Ms. Marion Brennan, Assistant Director of Midwifery/ Nursing-Infection Control
Ms. Janice MacFarlane, Night Superintendent
Ms Aideen Keenan, Night Superintendent
Ms. Mary Whelan, Clinical Audit Facilitator

*Supported by 427 committed Midwives, Nurses and Student Midwives.

Service Overview
Midwives and nurses work with skill and dedication to provide high quality care for women, babies and families. These services are deployed across all areas of the hospital as well as in the community. Midwifery staff provided care to a total of 8,226 women who delivered 8,409 babies weighing 500g or greater in 2017. Our patients continue to present with more complex care requirements which are consistently provided for in a competent professional manner. A total of 24,983 attendances to the Emergency and Assessment Unit were recorded, the majority with pregnancy-related problems.

Community Midwifery Services
During 2017 the Community Midwifery Team continued to offer midwifery managed care, choice and continuity to low risk pregnant women in Dublin North city and county. The service continued to expand with the successful establishment of the team's tenth antenatal clinic located in Rush.

Parent Education continued to be an important focus for the Community Midwifery Team. The team facilitated eight classes per month covering antenatal education, breastfeeding and hypnobirthing, both informing and empowering women during their pregnancy.

In 2017, a total of 139 women were booked at home for Community Midwifery care, with a further 1,641 women referred from the Adult Outpatients Department. All of the antenatal care for these women was carried out in the community based clinics with 422 home visits provided to women in the third trimester of pregnancy. All of the women attending the community service were also offered Early Transfer Home following delivery.

A total of 166 women attended the Next Birth After Caesarean Clinic (NBAC) at eighteen weeks' gestation for detailed discussion of birth options. These women continued to receive community-based midwifery care up to 39 weeks' gestation, at which time, if spontaneous labour had not occurred, they were then referred back to the Consultant Obstetrician to plan the care pathway for the remainder of their pregnancy and delivery.

202 women left the Community Midwifery service at varying stages of their pregnancies due to changes in their clinical risk profile. These women were deemed unsuitable to continue under the care of the Community Midwifery Team for a variety of medical reasons.

Outcomes for women attending the Community Midwifery Services over a five year period are reflected in Table 1 below. Of note, from a total of 1,816 deliveries, 57% (N=1,033) of women had a spontaneous vaginal delivery. The emergency caesarean delivery rate within this cohort was 15% (N=267) and the elective caesarean delivery rate was 6% (N=112), with both rates similar to those of 2016.

Table 1: Outcome of Care – Community Midwifery Team

	2013	2014	2015	2016	2017
Total Deliveries	631	1,257	1,306	1,639	1,816
Spontaneous Vaginal	406 (63%)	818 (65%)	901 (69%)	963 (59%)	1,033 (57%)
Vacuum	92 (15%)	181 (14%)	129 (10%)	177 (11%)	257 (14%)
Forceps	30 (5%)	46 (4%)	42 (3%)	104 (6%)	105 (6%)
Vacuum & Forceps	8 (2%)	23 (2%)	10 (1%)	37 (2%)	31 (2%)
Emergency Caesarean	76 (12%)	154 (12%)	166 (13%)	263 (16%)	267 (15%)
Elective Caesarean	19 (3%)	35 (3%)	58 (4%)	95 (6%)	112 (6%)

Women continued to be offered 'early transfer home' between 6-48 hours post-delivery. A total of 2,793 women availed of the service in 2017. The community midwifery team carried out a total of 8,388 postnatal visits with each woman receiving an average of three visits at home prior to their care being transferred to the Public Health Nurse and GP services.

Day Care Services
A total of 4,269 attendances were recorded to the expanded Day Assessment Unit (DAU) in 2017 representing a 3% increase on the 2016 figures as illustrated in Table 2.

Table 2: Total Attendances at Day Assessment Unit

2014	3,382
2015	4,043
2016	4,174
2017	4,269

The DAU continues to facilitate the ongoing assessment and management of women with a variety of conditions in a professional and convenient outpatient setting, thereby greatly reducing the requirement for inpatient hospitalisation.

The most common indications for attendance are summarised in Table 3 below:

Table 3: Attendance at Day Assessment Unit				
Attendance Reason	2014	2015	2016	2017
Cardiotocograph Monitoring	1,101	1,292	1,382	1,348
Hypertension	1,042	1,441	1,351	1,466
Obstetric Cholestasis	212	321	365	464
Diabetes testing	189	289	324	317
Patients needing Admission from DAU	242	316	278	253
Dexamethasone Administration	139	184	186	193
Fetal Growth Restriction Surveillance	199	158	172	171
Preterm Premature Rupture of Membranes (PPROM)	128	56	111	73
Insulin Education	70	111	105	101
IV Antibiotic Administration	19	25	27	10
Hyperemesis Management	49	64	21	17
Iron Infusion	19	21	17	20
Immunoglobulin (IVIG) Administration	21	1	3	4

Lactation Services

The Rotunda Hospital remains the only Dublin Maternity Hospital to have achieved the National Baby Friendly Accreditation Award. The hospital also continues to hold the Baby Friendly Health Initiative 'Breastfeeding Supportive Workplace' Silver Award.

Our Lactation Specialists continue to work with staff of all disciplines to protect, promote and support breastfeeding as the optimal way for a mother to feed her baby.

Acknowledging that breastmilk offers important health benefits for both mother and child, midwifery, nursing and lactation specialist staff strive to assist the significant number of women who wish to initiate breastfeeding. The breastfeeding initiation rate remained consistent at 73% in 2017. Table 4 highlights the breastfeeding initiation rate over the last five years.

Table 4: Breastfeeding Initiation Rate	
2013	70%
2014	67%
2015	72%
2016	73%
2017	73%

Bereavement Support and Chaplaincy Services

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. We offer a range of services provided through the Bereavement, Recurrent Pregnancy Loss, and Fetal Medicine services to afford bereaved parents the necessary support to meet their individual needs. The Bereavement Team continued to provide sensitive, compassionate and individualised care to these families in 2017.

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

Annual Service of Remembrance

The Annual Service of Remembrance was again held in the Pro-Cathedral in Dublin in November 2017 with the continued support of The Very Reverend, Canon Damian O'Reilly who facilitated this extremely important event where staff gather to remember and honour the precious short lives of babies who died during 2017, as well as those who died in previous years. The number of families attending this remarkable service continues to increase. The Books of Remembrance which are a key feature of the Remembrance Service are reserved in the hospital mortuary chapel. Baby's names are entered by request and can be viewed by families by contacting the hospital Chaplain.

Parent Education

Parent Education Midwives, working in close liaison with the Physiotherapy Department, continued to provide an extensive range of education sessions to both obstetric inpatients and outpatients during 2017. Demand for this service remains high and an additional refresher class was established to meet this need. Parent education sessions aim to convey positive messages to parents regarding their role in the development of healthy children and their lifestyles.

This is achieved by woman-focused sessions with the role of the father emphasised throughout. Education is provided to expectant women and their birth partners on issues relating to pregnancy, labour and the immediate postnatal period with feeding choices, baby care and the future demands of parenthood discussed. Information is also provided to inform parents where to source support and resources when they go home with their new baby. The sessions give expectant parents a chance to share experiences with others and assist them to gain the skills and confidence to make birth and parenthood a positive experience.

Education & Training

Throughout 2017, the Practice Development Team continued to provide a suite of services including support to the Undergraduate Midwifery Programme and continuing professional development for midwives and nurses in addition to supporting clinical practice innovation and developments. Supporting undergraduate midwifery and nursing students in the clinical areas remains a primary focus for the team enabling the students to meet the clinical requirements of the Nursing and Midwifery Board of Ireland (NMBI). The team were participants at national level in work associated with the revision of the undergraduate midwifery education programme, the changes from which are scheduled to be introduced in September 2018. They also made a significant contribution to the revision of the National Midwifery Metrics for quality care. Many innovation projects were facilitated by the Practice Development Team with the support of funding received from the designated Nursing and Midwifery Practice Development Unit including further enhancement of the Mental Health Midwife role and involvement in multidisciplinary fetal monitoring workshops.

Health Promoting Hospitals

'Healthy Ireland' is a Government Framework for action to improve health and wellbeing for future generations. This initiative has been developed in response to rising levels of chronic illness, lifestyle trends that threaten health and persistent health inequalities. The Rotunda is a committed member of Healthy Ireland with a focus on supporting a reduction in obesity and diabetes, improving mental health and increasing breastfeeding rates.

Smoking Cessation

The Rotunda Hospital remains a 'Tobacco Free Campus'. The Smoking Cessation Service jointly facilitated by the Smoking Cessation Officer and the Occupational Health Department continued to support patients and staff wishing to reduce and/or quit smoking. Patient referrals to the Smoking Cessation Service come primarily from the Midwives and Doctors in the outpatient's department with the highest number of referrals following the first booking visit. Self-referrals are invited from members of staff either through the Smoking Cessation Service or the Occupational Health Department. A total of 203 new clients attended the services in 2017, an increase of 21 on the 2016 figure. Twenty five (12%) of these women successfully stopped smoking during pregnancy and 22 remained smoking free at one month. 17 continued to not smoke at three months postpartum representing an 8% quit rate.

Occupational Health Department

The Department of Occupational Health endeavours to promote and maintain the highest degree of physical and mental health of all employees by preventing departures from good health, controlling risks and adapting work to people and people to their jobs as much as possible. The Department provides an independent and confidential service for all employees, hosting a clinic for staff once a week. Throughout 2017 the Occupational Health Team continued a rigorous campaign to promote and administer the influenza vaccine to all staff. There has been a significant rise in the uptake of this vaccination to 60%. This was achieved by running a total of 38 clinics across the hospital site, messaging staff on hospital intranet when logging in, and sending personal emails to all Student Midwives and Consultants. Staff were also accommodated to receive vaccination with the provision of 'out of hours' clinics, posters were displayed across the hospital campus and in the restaurant, and donated prizes were raffled for those who attended the influenza vaccination clinics.

Challenges in 2017

Retention of midwifery and nursing staff proved to be the most challenging aspect of 2017. In addition, attracting specialist nursing staff for the Operating Theatre and the Neonatal Unit was particularly problematic during the year. Overseas recruitment resulted in a number of specialist staff taking up positions with a significant positive impact on staff morale and increased patient satisfaction. Increased patient complexity and acuity continued to place significant demands on staff in all departments.

Plans for 2018

The main focus for the midwifery and nursing team in 2018 will be on staff retention, continued implementation of the National Maternity Strategy, increased community and hospital based midwife managed services and progressing work on the development of a second Advanced Midwife Practitioner (Emergency) post.

Emergency and Assessment Unit

Head of Service
Dr. Sahar Ahmed, Consultant Obstetrician Gynaecologist

Staff
Ms. Bernadette Gregg, Registered Advanced Midwife Practitioner
Ms. Debra England, Clinical Midwife Manager II

Service Overview
The Emergency and Assessment Unit is a unique setting in the Rotunda which provides Antenatal/Intrapartum/Gynaecological/Neonatal services 24 hours per day. There are clearly defined referral pathways and ongoing staff training which allow continued delivery of a dedicated service that manages patients in a safe, timely and supportive manner. Staffing is provided by the support of a rostered consultant obstetrician gynaecologist each day, a registered advanced midwife practitioner (RAMP), clinical midwife managers, staff midwives, as well as an obstetric senior house officer on a 24-hour basis, with the support of senior registrars.

Clinical Activity

Table 1: Total number of Presentations for 2017	
Obstetric	23,389
Gynaecological	1,272
Neonatal	322

Successes and Achievements 2017
Enhancing Patient Care
The introduction of the post of Registered Advanced Midwife Practitioner (RAMP) to the EAU provides a dynamic, expert and innovative obstetric emergency service. The nature of the EAU ensures the RAMP will remain a constant for patient contact and be a resource for obstetric assessment and emergency expertise to the midwifery and medical staff. A second candidate (AMP) is in training, which will extend professional and clinical expertise to women and their families and improve the quality of care for all women presenting to the unit.

Introduction of MN-CMS
In November 2017 the MN-CMS electronic healthcare record was introduced hospital-wide. This had the potential to cause disruption to staff and patients as well as to waiting times. However, due to careful planning and appropriate support, the introduction was largely a success and significant benefits have been noted. The ability to view waiting times and discharges in real time has been of huge benefit. Remote chart reviews and fetal monitoring has allowed for increased senior input which in turn benefits patients, outcomes and turn-over of care. For example, it is now possible for consultant obstetricians to directly review CTG tracings in real-time from a remote location, which enables improved and timely senior decision-making. Electronic prescriptions and the ability to review charts easily has enhanced care, especially from a community midwifery, pharmacy and GP perspective.

Challenges 2017
Space
The Emergency and Assessment Unit has one triage room, five individual adult assessment rooms and one neonatal assessment room. Given the high level of patient flow space is constantly an issue. This is most obvious at peak times in the evenings. Despite increased staffing levels in the afternoons and evenings with more doctors, there are often not enough rooms for patients to be reviewed as quickly as we would like. Proposals are being developed on how to further expand available space.

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

Plans for 2018
- Develop space optimisation plan to expand the number of clinical evaluation spaces and to provide discrete waiting areas for patients suffering from early pregnancy loss
- Expand number of Registered Advanced Midwife Practitioners to optimise EAU staffing with independent midwifery-provided clinical evaluations

Early Pregnancy Assessment Service

Head of Service
Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

Staff
Ms. Suzanna Byrne, Clinical Midwife Manager
Ms. Olivia Boylan, Administrative Support

Service Overview
2017 saw a transition in lead service provider from Dr. Karen Flood to Dr. Sharon Cooley. Dr. Flood's hard work in the area of early pregnancy loss is acknowledged and we wish her well in her new role as RCSI Consultant Senior Lecturer in the hospital.

The hard work of the Department Administrator, Olivia Boylan, and the midwives who staff the unit and provide high quality comprehensive compassionate care for women is also acknowledged.

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

	2013	2014	2015	2016	2017
Total number of patients seen	4,191	4,106	3,861	3,995	3,955
Repeat EPAU scans	2,587	3,067	2,197	1,859	1,247
Miscarriage	1,661	1,260	1,528	1,386	1,613
Surgical management of miscarriage	531 (32%)	547 (43%)	497 (33%)	573 (41%)	299 (19%)
Expectant or medical management of miscarriage	1,130 (68%)	715 (57%)	1,031 (67%)	813 (59%)	1,314 (81%)
Pregnancy of unknown location	192	187	169	204	196

Successes & Achievements 2017
Enhancing Patient Care
The reassurance scan list runs separately from the scanning service and is clinician-led every Friday afternoon. This offers the opportunity to scan patients with a history of previous miscarriages, ectopic pregnancy or gestational trophoblastic disease in a quiet environment and streamline their early review in the hospital system.

The introduction of the Electronic Health Care record in November 2017 has meant that blood results can be rapidly accessed and reviewed at the time of ultrasound and facilitates improved patient care.

The medical management of miscarriage protocol has been reviewed and streamlined with national care documents to standardise care. In 2016, 41% of patients experiencing miscarriage at the Rotunda underwent surgical management by means of Evacuation of Retained Products of Conception (ERPC). In 2017, this has been halved with only 19% of such patients undergoing surgical management. The rate of successful medical and expectant management of miscarriage has therefore increased from 59% to 81% in 2017. This likely reflects a change in the dosage regimen of misoprostol, as well as the availability and support of midwifery staff both in the early pregnancy assessment unit and in the the Emergency and Assessment unit to answer queries and address the concerns of patients experiencing miscarriage.

The incidence of pregnancy of unknown location has steadily increased since 2012, with 196 cases in 2017. However, only 37 (19%) of these cases were subsequently diagnosed as ectopic pregnancies.

Service Developments
- The Maternal & Newborn Clinical Management System (MN-CMS) electronic healthcare record was introduced in November 2017. We envisage it being of great benefit in reviewing activity and outcomes in the unit, facilitating rapid access to real time, high quality data.
- An Early Pregnancy Assessment Service database was initiated to record weekly outcomes which will allow more efficient and accurate audit of the service. This will also allow more thorough assessment of cases that are expectantly managed.

Challenges 2017
Service demand can lead to a delay in patient review as demand far exceeds capacity. However the vast majority of patients are still successfully reviewed within 48-72 hours of initial presentation to the hospital.

Plans for 2018

The service plans for 2018 include:

- Reviewing the infrastructure of the unit to facilitate a more holistic patient-centered environment.
- Preparation of a monthly outcome report.
- Agreement regarding a sonographer-led service with a multidisciplinary team inputting into patient care.
- Evolving the service to create the potential for a Fellowship training programme and research models to facilitate quality improvement projects in Early Pregnancy Loss.
- Better links and pathways to counselors and Bereavement Services.
- Educational meeting for local General Practitioners with information on common problems in Early Pregnancy and how to access the service.

"The staff in the Ultrasound Department were all very professional, they must interact with hundreds of people a week and yet I felt my experience was attentive and they cared about me as an individual"

Recurrent Pregnancy Loss Service

Head of Service
Dr. Karen Flood, Consultant Obstetrician Gynaecologist

Staff
Ms. Patricia Fletcher, Midwife

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

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

Clinical Activity

Table 1: Clinical Activity

	2013	2014	2015	2016	2017
Total number of visits	499	667	681	744	918
New visits	109	157	82	111	170
Return visits	390	510	599	633	748
Livebirth rate %	39	44	61	70	69
Gestational Trophoblastic Disease pregnancies followed	N/A	N/A	21	27	25

Successes & Achievements 2017
Enhancing Patient Care
This clinic continues to deliver an expanded service with the provision of dedicated early pregnancy support with frequent ultrasound monitoring and counselling. We also link closely with the mental health support team.

Challenges 2017
The clinic activity has increased steadily over the years with increased referrals from outside the Rotunda Hospital catchment area. This results in longer waiting times for initial consultations. We have achieved lower rates of inappropriate referrals, although the 'did not attend' (DNA) rates remain unsatisfactorily high.

Plans for 2018
We plan to critically evaluate and optimize the patient referral pathways and other measures to reduce DNA rates.

This year we will be actively recruiting patients to be part of a collaborative study with the Department of Immunology, Trinity College Dublin to definitively explore the role of Uterine Natural Killer cells in the setting of recurrent pregnancy loss.

Fetal Medicine Service

Head of Service
Dr. Carole Barry, Consultant Obstetrician Gynaecologist

Staff
Prof. Fergal Malone, Consultant Obstetrician Gynaecologist
Prof. Fionnuala Breathnach, Consultant Obstetrician Gynaecologist
Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist
Dr. Jennifer Donnelly, Consultant Obstetrician Gynaecologist
Dr. Karen Flood, Consultant Obstetrician Gynaecologist
Prof. Michael Geary, Consultant Obstetrician Gynaecologist
Dr. Richard Horgan, Consultant Obstetrician Gynaecologist
Dr. Etaoin Kent, Consultant Obstetrician Gynaecologist
Dr. Siobhan Corcoran, Maternal Fetal Medicine Fellow
Dr. Ann McHugh, Lecturer
Ms. Mary Deering, Midwife Manager
Ms. Suzanne Gillen, Midwife Sonographer
Ms. Allyson Lawless, Midwife Sonographer
Ms. Laura McBride, Midwife Sonographer/Fetal Medicine Midwife
Ms. Deirdre Nolan, Midwife Sonographer
Ms. Avril O'Connor, Midwife Sonographer/Fetal Medicine Midwife
Ms. Hilda O'Keeffe, Midwife Sonographer
Ms. Gemma Owens, Midwife Sonographer
Ms. Irene Twomey, Midwife Sonographer
Ms. Mabel Bogerabatyo, Radiographer
Ms. Fiona Cody, Radiographer
Ms. Jane Dalrymple, Fetal Medicine Midwife
Ms. Nollaig Kelliher, Fetal Medicine Midwife
Ms. Joan O'Beirnes, Fetal Medicine Midwife
Ms. Louise O'Dwyer, Medical Social Worker
Ms. Suzanne Larkin, Administration
Ms. Mary Maguire, Administration
Ms. Anita O'Reilly, Administration

Service Overview
The Fetal Medicine Service at the Rotunda Hospital includes the provision of all obstetric ultrasound services, as well as prenatal diagnosis and fetal treatment programmes. The Fetal Medicine Service provided a formal early pregnancy dating scan to all public patients at the time of their initial hospital booking visit. All patients also received a formal fetal anatomic ultrasound survey at 20-22 weeks' gestation. Serial obstetric ultrasound examinations were provided for patients receiving ongoing care at various high risk obstetric and medical clinical services. Additionally, the Fetal Medicine Service provided a significant emergency ultrasound service for a variety of obstetric complications at a national level.

Clinical Activity
Table 1 includes a 5-year comparison of the number of obstetric assessments performed.

Table 1: Clinical Activity

	2013	2014	2015	2016	2017
Initial booking ultrasounds	N/A	N/A	N/A	1,998	6,054*
Fetal Anatomic Survey (20-22 weeks)	8,958	8,838	8,499	8,581	8,296
Fetal Growth Assessment	7,735	8,711	8,472	9,734	11,067
Fetal Echocardiogram	179	215	322	304	379
Subtotal	**18,168**	**19,197**	**18,681**	**21,415**	**25,796**
Gynaecology ultrasounds	1,514	1,588	1,663	1,822	918**
Total Ultrasounds	**19,682**	**20,785**	**20,344**	**23,237**	**26,714**

*Late bookers had anatomy or growth scans at initial booking USS.
**Gynaecology ultrasound service outsourced due to staff shortages.

Prenatal Screening and Diagnosis Services
Prenatal screening and diagnosis of fetal abnormalities is an essential part of the Fetal Medicine Service, with the Rotunda Hospital being the busiest provider of these services nationally. In 2017, patients from all eighteen other maternity hospitals in Ireland attended for these services, as the Rotunda does not restrict these services solely to those within the Rotunda catchment area. In 2017, 1,497 new patients attended for 3,529 assessments for Prenatal Screening and Diagnosis services, including 1,160 Non-Invasive Prenatal Testings (Cell Free Fetal DNA) and 169 Combined First Trimester Screens.

Table 2 below shows a 5-year comparison of invasive diagnostic procedures performed:

Table 2: Invasive Procedures

	2013	2014	2015	2016	2017
Amniocentesis	163	144	114	97	99
Chorionic Villus Sampling	105	80	80	63	94
Total	**268**	**224**	**194**	**160**	**193**

Of the 193 diagnostic procedures performed, there were 84 abnormal results representing 44% of invasive tests. This high proportion of abnormal results reflects the shift towards more efficient non-invasive screening tests, and the fact that almost all invasive diagnostic procedures are performed in response to an initial positive screening test.

Table 3: Chromosomal Abnormality	CVS	Amnio	Total
Trisomy 21	28	11	39
Trisomy 18	7	9	16
Trisomy 13	5	5	10
45X	4	2	6
Triploidy	1	4	5
Other	3	5	8
Total	**48**	**36**	**84**

Four patients with positive NIPT results declined invasive testing but these results were confirmed postnatally. There were three false positive NIPT results which had a normal karyotype result on invasive testing. This included one false positive for Trisomy 18, one for Triploidy and one for DiGeorge syndrome. Twenty-one invasive procedures other than amniocentesis or CVS were performed. These included five intrauterine fetal transfusions and twelve fetoscopic laser ablations.

Dublin Fetal Surgery Group Services

During 2017, a total of 15 cases of severe Twin-to-Twin Syndrome (TTS) were managed by the Dublin Fetal Surgery Group by means of fetoscopic laser ablation of placental vessels. This has resulted in a single team approach to all such cases, with Dr. Stephen Carroll, Dr. Jennifer Donnelly, Professor Fergal Malone and Professor Fionnuala McAuliffe jointly performing all such procedures. By the end of 2017, the group had completed 166 cases of laser surgery for severe TTTS, with at least one survivor occurring in 86% of cases (140/163). These outcomes are consistent with the results at the major international centres providing this advanced fetal therapy.

Major Fetal Structural Abnormality

Excluding soft markers and chromosomal abnormalities, 197 cases of major structural abnormalities were detected. Table 4 below represents a 5-year comparison of these major structural abnormalities:

Table 4: Structural Malformations					
	2013	2014	2015	2016	2017
CNS	42	30	32	26	20
Head & Neck	12	22	27	25	21
Cardiovascular	44	36	43	36	56
Renal	43	49	48	48	50
Abdominal	8	7	17	12	13
Skeletal	22	15	24	12	26
Thoracic	11	8	16	4	5
Others	28	21	2	1	6
Total	**210**	**188**	**209**	**164**	**197**

Fetal Cardiac Services

In 2017, the Fetal Medicine Service provided 379 targeted fetal echocardiograms. The Fetal Cardiac service at the Rotunda is a national referral service overseen by Dr. Orla Franklin, Consultant Paediatric Cardiologist and Professor Fionnuala Breathnach, Consultant Obstetrician and subspecialist in Maternal Fetal Medicine. This clinic provided diagnostic cardiac imaging for women who have been previously scanned by a consultant in fetal medicine and in whom fetal congenital heart disease is suspected. In 2017, 102 fetal cardiac scans were performed in 58 pregnancies with confirmation of fetal congenital heart disease that required surgical or catheter intervention in the first six months of life. Women who attend this clinic are supported by the Rotunda Fetal Medicine Midwife team and the Paediatric Cardiac Liaison service at Our Lady's Children's Hospital Crumlin.

Table 5: Cardiac Malformations	2016	2017
Hypoplastic left heart syndrome	6	9
Hypoplastic right heart syndrome	5	7
Complete atrio-ventricular septal defect	2	5
Ventricular septal defect	12	15
Tetralogy of Fallot	3	7
Transposition	5	5
Coarctation / interruption of aorta	2	6
Truncus arteriosus	1	0
Right-sided aortic arch	1	0
Ebstein's anomaly	0	1
Systemic vein anomalies	4	1
Arrhythmia	3	2

Multiple Pregnancy Service

Forty four multiple pregnancies were referred for assistance with management of select high-risk circumstances. This included 33 sets of monochorionic diamniotic twins (twelve of which had Twin to Twin Transfusion Syndrome requiring fetoscopy laser ablation, and five of which had severe fetal growth discordance). There were three triplet pregnancies.

Successes & Achievements 2017

- Renovation of the Fetal Medicine Service physical infrastructure was completed accommodating more ultrasound rooms and a contemporary waiting area and midwives station.
- Dr. Etaoin Kent established the Pre-term Birth Surveillance Clinic.
- Expansion of the Fetal Medicine Service to provide dating and viability scanning by trained ultrasonographers within all antenatal Booking Clinics.
- Obsolete ultrasound machines were replaced, such that all ultrasound rooms are equipped with the latest models.
- Microarray testing was introduced for all CVS and Amniocentesis procedures performed for Structural Fetal Malformations.
- Ms. Avril O'Connor completed her ultrasound training in Early Pregnancy and Fetal Wellbeing module.

Challenges 2017

- The introduction of the electronic healthcare record (MN-CMS) was challenging as systems had to be designed to ensure guaranteed transmission of Viewpoint ultrasound reports in realtime into the MN-CMS system. This was successfully designed and implemented in time for the November 2017 MN-CMS “go-live” date.
- Limitations in access for patients for pregnancy termination for fetal abnormalities in United Kingdom centres was challenging due to the increasing numbers of patients requesting this service.
- Shortage of trained midwife sonographers and radiographers and difficulties in recruitment.
- Inability to provide sufficient ultrasound appointments for routine gynaecologic ultrasound assessment, due to a shortage of trained ultrasonographers. This required out-sourcing of some of these cases to a private external provider.

Plans for 2018

The Fetal Medicine Service has multiple priorities for 2018 which include:

- Provision of qualified midwife sonographer and radiographer services in the Early Pregnancy Unit on a daily basis.
- Re-introduction of gynaecological ultrasound scan service.
- Appointment of Consultant Radiologist to provide adequate governance of gynaecologic ultrasound services.
- Review of appointment system to incorporate new core services.
- All point of care ultrasound examinations to be captured on Viewpoint and stored electronically on the new electronic chart.

Maternal Medicine Service

Head of Service
Dr. Jennifer Donnelly, Consultant Obstetrician Gynaecologist

Staff
Dr. Etaoin Kent, Rotunda Hospital and Our Lady of Lourdes Hospital Drogheda (Maternal Fetal Medicine)
Prof. Fionnuala Ní Áinle, Rotunda Hospital and Mater Misericordiae University Hospital (Haematology)
Dr. Colm Magee, Rotunda Hospital and Beaumont Hospital (Nephrology)
Dr. Barry Kelleher, Mater Misericordiae University Hospital and Rotunda Hospital (Gastroenterology / Hepatology)
Prof. Conán McCaul, Rotunda Hospital and Mater Misericordiae University Hospital (Anaesthesia)
Dr. Patrick Thornton, Rotunda Hospital and Mater Misericordiae University Hospital (Anaesthesia)
Prof. Kevin Walsh, Mater Misericordiae University Hospital (Cardiology)
Dr. Damien Kenny, Mater Misericordiae University Hospital (Cardiology)
Dr. Tony Geoghegan, Mater Misericordiae University Hospital (Radiology)
Prof. Leo Lawler, Mater Misericordiae University Hospital (Radiology)
Ms. Cathy O'Neill, Staff Midwife
Ms. Carla Morales, Staff Midwife
Ms. Suzanna Byrne, Staff Midwife
Ms. Joyce Boland, Staff Midwife

Service Overview
The Maternal Medicine Service in the Rotunda comprises of a number of different specialities that provide overlapping care for women with medical conditions throughout pregnancy and in the postpartum period. The outcome reports for endocrine, infectious diseases and epilepsy are described in separate chapters within this Annual Report.

Clinical Activity
Combined Obstetric Maternal Medicine Clinic (COMMC)
The Combined Obstetric Maternal Medicine Clinic was established in January 2017, with patient numbers increasing significantly throughout the year, totalling 684 patient encounters.

Table 1 provides an overview of the medical diagnoses of patients attending the clinic.

Table 1: Medical Diagnosis Managed	
Severe Hypertension with prior severe IUGR or stillbirth	8
Malignancy	
Malignancy in current pregnancy	2
Previous malignancy	6
Metabolic disorder	3
PKU	1
Neurology	23
Cauda equina syndrome	1
Multiple sclerosis	9
Cerebrovascular accident	2
Cerebral palsy	1
Moebius syndrome	1
Hereditary neuropathy with liability to pressure palsy (HNPP)	1
Large syrinx	1
Cardiac	14
Fontan circulation	1
Rheumatology	
Lupus	13
Rheumatoid arthritis	3
Antiphospholipid antibody syndrome	3
Other	6
Musculoskeletal	2
Respiratory	6
Renal	10
Severe Polycystic kidney disease	1
Transplant	1
Gastrointestinal	
Inflammatory bowel disease (crohn's / ulcerative colitis)	14
Other	9
Haematological	
Clotting factor disorder	4
Platelet disorder	6
Other	15
Miscellaneous	11
Venous thromboembolism	
Previous dvt/pe	11
Dvt/pe in current pregnancy	6
Immunology	2

Maternal Medicine Multi-disciplinary Team (MMMT)
The MMMDT meeting is held every six to eight weeks and provides a platform for multidisciplinary team (MDT) input into the management of women with complex medical-obstetric backgrounds. The MDT is held in the Mater Misericordiae University Hospital, with a total of 103 patients being presented in 2017.

Obstetric Cardiac Service

A total of 467 patient encounters were provided at the Cardiac Obstetric Clinic.

The table below summarises the range of diagnoses among these patients.

Table 2: Cardiac Disease Cases	Number
Congenital heart disease	48
Arrhythmia	53
Aortic disease	17
Valvular heart disease	28
Cardiomyopathy	5
Coronary artery abnormality	1
Endocarditis	6
Family history of significant cardiac disorder	6
Non-cardiac cases	17
Reviewed and subsequently discharged	8
Total	**189**

Cardiac Obstetric Multi-disciplinary Team

The Cardiac Obstetric MDT meeting is held every six to eight weeks, providing a forum for multidisciplinary discussion and delivery planning for women with severe congenital heart disease and other complex cardiac conditions. A total of 132 patients were presented at the Cardiac Obstetric MDT held in the Mater Misericordiae University Hospital in 2017.

Successes & Achievements 2017

The biggest success for the Maternal Medicine service in 2017 was the setting up of the new Combined Obstetric Maternal Medicine Clinic on Thursday mornings in January. A dedicated clinic for certain specialties has long been needed to streamline the obstetric antenatal care of women with many medical disorders including Venous Thromboembolism and Renal Disease into one clinic. Scheduling of the clinic on Thursday facilitates visits to multiple specialists on the same day. This ensures less disruption for women and improves communication regarding care planning between specialists and women.

Challenges 2017

Practical challenges associated with gathering clinical information from across different hospitals into a single Combined Obstetric Maternal Medicine Clinic continue, but are alleviated by the commitment of all of the team members at both the Rotunda and Mater Hospitals. It is hoped that the implementation of the MN-CMS electronic healthcare record in November 2017 will streamline this process further.

Plans for 2018

Approval has been given for a dedicated RCPI-approved Maternal Medicine Fellowship position, which should be appointed in 2018.

The development of a “Medicines in Pregnancy Service” in conjunction with the Rotunda Hospital Pharmacy Department is also being planned. This will provide a national information resource for clinicians throughout Ireland who need advice on appropriate medication planning during pregnancy.

"Fantastic experience during my three day stay in January giving birth to the my first child. Staff were supportive, kind and professional and generally amazing"

Teenage Pregnancy Service

Head of Service
Dr. Geraldine Connolly, Consultant Obstetrician Gynaecologist

Staff
Ms. Deborah Browne, Clinical Midwife Specialist

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

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

Table 1: Clinical Activity	
Year	No. of Patients
2013	112
2014	119
2015	104
2016	129
2017	90

In 2017, 62% of attendees at the service were Irish. Roma patients accounted for 12% of the total attending the service and 9% were Irish travelers. An additional four patients in their early 20s attended the service on the basis of patients' requests and special needs.

Mode of Delivery of Teenage Patients
A total of 87 patients delivered at term, with three delivering before 20 weeks gestation.

Table 2: Pregnancy Outcomes		
Spontaneous vaginal delivery	57	66%
Caesarean delivery (emergency)	10	11%
Instrumental vaginal delivery	19	22%
Caesarean delivery (elective)	0	0%
Assisted breech delivery	1	1%
Total Delivered	**87**	**100%**

The overall caesarean delivery rate in the teenage population was 11%. The induction rate for teenage patients was 39% (34/87) and 12% of these had an emergency caesarean delivery.

Patient Outcomes
There were two term antepartum still births. Full postmortems carried out on both failed to reveal an underlying cause.

Successes & Achievements 2017
- Low caesarean section rate in this young population.
- Reasonable attendance at postnatal visits (50%)

Enhancing Patient Care
Improved uptake of contraception before discharge from hospital postnatally.

Research
The service is conducting an ongoing research study into teenager's attitudes to the use of Long Acting Reversible Contraception (LARC).

Challenges 2017
- Late booking first visits leading to uncertainty about gestational age.
- Multiple young girls with mental health issues and social challenges.
- Chlamydia positive rate of 12% in this young population.
- The number of multiparous patients (8) attending.

Plans for 2018
Information sessions aimed at a teenage audience "Debunking the Myths" of issues relating to teen sexual health.

Combined Obstetric Endocrine Service

Head of Service
Prof. Fionnuala Breathnach, Consultant Obstetrician Gynaecologist

Staff
Dr. Maria Byrne, Consultant Endocrinologist
Dr. Richard Horgan, Consultant Obstetrician Gynaecologist
Dr. Nicolad Ng, Specialist Registrar, Endocrinology
Ms. Jackie Edwards, Clinical Midwife Manager
Ms. Aileen Fleming, Clinical Midwife Manager
Ms. Claire Kearney, Clinical Midwife Manager
Ms. Laura Kelly, Senior Dietitian
Ms. Marian McBride, Senior Dietitian
Ms. Ali Cunningham, Dietitian

Service Overview
The Combined Obstetric Endocrine Service caters for women with endocrine complications in pregnancy; the dominant conditions being Diabetes Mellitus and thyroid dysfunction. The multidisciplinary team provides a combined one-stop service for obstetric and endocrine prenatal care of women with Type I and Type II diabetes, and a consultation service for all other endocrine conditions.

Clinical Activity
The Combined Obstetric Endocrine Service for care of women with Diabetes Mellitus continues to represent one of the highest-risk areas of clinical care in the hospital. The extent to which each subgroup with diabetes (Type I, Type II and gestational diabetes) contributes to the population whose prenatal care is conducted through this clinic is illustrated in Figure 1. The incidences of GDM continues to rise, most notably since 2014 when the IADPSG (International Association of Diabetes in Pregnancy Study Groups) thresholds for defining gestational diabetes were adopted by the hospital. Currently, although a universal screening programme for GDM is not in place, almost one in eight of the obstetric population at the Rotunda Hospital is diagnosed with GDM.

The population of women with Type I diabetes attend the hospital very early in gestation, the vast majority prior to confirmation of fetal viability with ultrasound. The service therefore observes a high first trimester fetal loss rate in this population, 14% among women with type I diabetes in 2017, which is consistent with background pregnancy attrition rates in very early gestation, and is consistent with the fetal loss rate reported in prior years.

We continue to observe low shoulder dystocia rates in this high-risk population with pre-pregnancy diabetes. We attribute this to a multifaceted approach to shoulder dystocia prevention, including close ultrasound surveillance for fetal growth (all women with Type I or Type II diabetes undergo formal departmental ultrasound assessment of fetal growth at least twice in the third trimester), avoidance of postdates pregnancy (all women with pregestational diabetes are delivered by their due date, or sooner in the event of fetal macrosomia) and a high Caesarean delivery rate exists in this population.

Table 1: Pregestational Diabetes: Maternal Characteristics

	TYPE 1	TYPE 2
N	37	24
Mean age in years (SD)	34.8 (1.6)	33 (5.3)
Mean duration of diabetes in years (SD)	8.3 (6.7)	5.7 (4.4)
Background Diabetes Complications: • Chronic hypertension • Retinopathy • Nephropathy • Neuropathy	 0/37 2/37 5% 3/37 8% 0/37	 0/24 3/24 (13%) 0/24 0/24
Mean gestation at booking (weeks) (SD)	10 (2.2)	10 (6.3)
Mean HbA1c at booking (mmols/L) (SD)	57 (13.0)	43 (18.2)
Mean HbA1c at delivery (mmols/L) (SD)	45 (8.6)	36 (10.0)
Mean fructosamine at booking (umols/L) (SD)	252 (1.6)	236 (66.1)
Mean fructosamine at delivery (umols/L) (SD)	248 (30.5)	213 (48.8)

Table 2: Pregestational Diabetes: Perinatal Outcome*

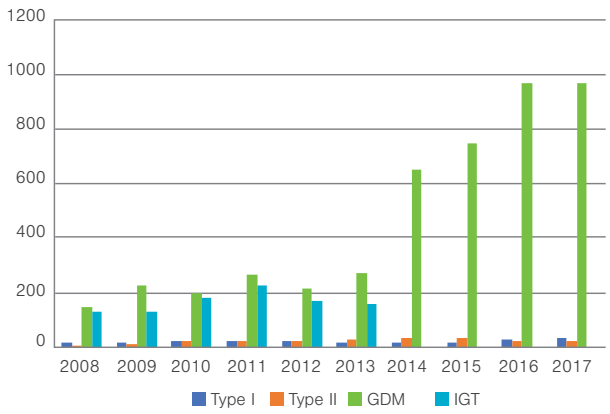
	TYPE 1	TYPE 2
N	37	24
Spontaneous fetal loss (<24 weeks)	5/37 (14%)	1 (4%)
Preterm delivery 24+0 – 36+6 weeks	2/37 (5%)	2 (8%)
Preeclampsia	3/37 (8%)	0/24
Liveborn	32/37 (86%)	23/24 (96%)
Stillbirth	0 (0%)	0 (0%)
Neonatal death	1/37 (3%)	0/24 (0%)
Caesarean delivery	19/37 (51%)	12/24 (50%)
Mean gestational age at delivery in weeks	36.2	37.0
Mean birthweight in grams	3,481	3,218
Macrosomia ≥99th centile	2/37 (5%)	0 (0%)
Shoulder dystocia	0 (0%)	0 (0%)
Major congenital anomaly	4 (11%)**	0 (0%)

*Ongoing viable pregnancies delivered at the Rotunda
**Two cases of cardiac ventricular septal defect, one case of transposition of the great arteries and one case of talipes

Table 3: Gestational Diabetes (GDM): Maternal Characteristics and Perinatal Outcome		
	Diet-controlled GDM	GDM requiring Insulin
N	756	218
Mean age in years	34.0 (5)	35.0 (5.1)
Mean gestational age at delivery in weeks	38.5 (1.8)	38.1 (1.6)
Mean birth weight in grams	3,420	3,374
Caesarean delivery	326/756 (43%)	109/218 (50%)
Stillbirth	0/756	0/218
Preeclampsia	8/756 (1%)	1/218 (0.5%)
Macrosomia ≥99th centile	20/756 (3%)	2/218 (1%)
Shoulder dystocia	9/756 (1%)	3/218 (1%)
Major congenital anomaly	0/756	2/218 (1%)

Successes and achievements in 2017

Figure 1: Incidence of Diabetes in Pregnancy at the Rotunda 2008 - 2017



Enhancing Patient Care

Dr. Richard Horgan, Consultant Obstetrician Gynaecologist and specialist in Maternal Fetal Medicine, joined the service in 2017. This has expanded the level of expertise available for our patients and supports a true multi-disciplinary approach to care of the diabetic patient.

Innovation

The RCSI Research team, led by Professor Fionnuala Breathnach, was successful in attracting Horizon 2020 funding to conduct innovative research into artificial intelligence solutions for gestational diabetes management and surveillance, using big data solutions. Our industrial partners for this project are Hwawei® and Nissatech®, and the overarching 'Big Medilytics' project (described below) involves twelve pilot project workstreams across Europe.

Education and Training

The annual Midwifery Study Day for Diabetes in Pregnancy, hosted by the Rotunda Hospital in October, was hugely successful and well attended. Speakers represented all disciplines involved in the provision of obstetric care to women with diabetes.

Dr. Siobhan Corcoran was awarded her MD thesis investigating the role of biomarker analysis for the prediction of gestational diabetes in the first trimester.

Challenges 2017

Consistent with international experience, we have observed a very significant increase in our Gestational Diabetes population, observed predominantly from 2014. This has been, in part, due to the transition in 2014 from the 100g 3-hour screening test to a 75g 2-hour oral glucose tolerance test with its accompanying lower thresholds for GDM diagnosis. The International Association of Diabetes in Pregnancy Study Group (IADPSG) does not use the term Impaired Glucose Tolerance (IGT) in pregnancy, and thus, any deviation from threshold norms constitutes a diagnosis of GDM. Therefore, the IGT term is no longer in use at the Rotunda.

This expanded GDM population, now constitutes almost 1 in 8 of our pregnant patient cohort, has placed immeasurable strain on the 'Breakfast Club' model of care, whereby surveillance for diet-controlled GDM is conducted in a midwifery-led service, with obstetric care for these women being provided through routine antenatal clinics. Attendance at the Combined Obstetric Endocrine clinic is only required for women with pregestational diabetes (Type I or Type II) or with gestational diabetes who require therapy beyond diet. The greatest challenge that the Obstetric Diabetes service faced in 2017 was meeting the needs of this population within current resources.

Plans for 2018

The BigMedilytics project will be rolled out in 2018. This Horizon 2020 Innovation Action Project focuses on producing designs for new or improved products and involves prototype testing, piloting and large scale validation activities. The BigMedilytics project is led by Philips® and includes 35 different participants and twelve pilot projects across three key themes: Population Health & Chronic Disease Management, Oncology and Industrialising Healthcare Services. The proposed project duration is 36 months.

Professor Breathnach will also lead a team of researchers in conducting a HRB-funded multicentre randomized controlled trial that focuses on aspirin use in pregnancies complicated by Type I and Type II diabetes. This project (the 'IRELAnD Study') is due to commence recruitment in late 2018.

Infectious Diseases Service

Head of Service
Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

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

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

Clinical Activity
Infections in pregnancy
In 2017, 123 women with positive screening serology booked for antenatal care at the Infectious Diseases Service. Of these:

- 49 (40%) women were positive for Hepatitis B surface antigen, representing a decrease of 14% compared to 2016 (Fig 1).
- 36 (29%) women were positive for Hepatitis C antibody, a decrease of 12% compared to 2016.
- 26 (21%) were positive for HIV infection, an increase of 4% compared to 2016.
- 16 (13%) women had positive Treponemal serology (syphilis), a decrease of 20% compared to 2016.

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

Fig 1: Infectious Diseases Service Bookings by Year

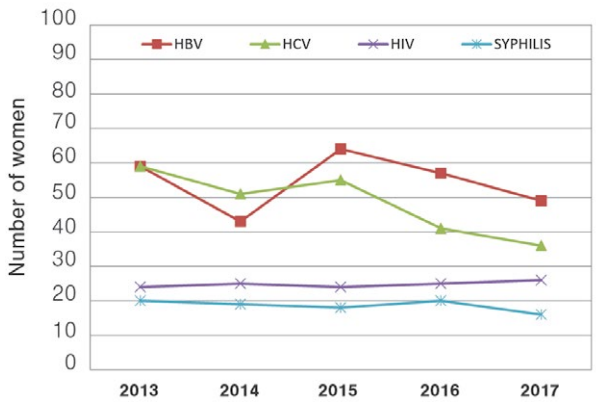


Table 1: Deliveries to HIV Positive Mothers 2017 (N = 23)	
Total mothers delivered <500g (incl. miscarriage)	2
Total mothers delivered >500g	21
Live infants	21
Miscarriage	2
Stillbirths	0
Infants <37 weeks' gestation	3
Infants ≥37 weeks' gestation	18
Caaesarean delivery	8
HIV positive infants	0
Median maternal age (years)	33
Newly diagnosed at antenatal screening	6

Table 2: Deliveries to HBV Positive Mothers 2017 (N = 49)	
Total mothers delivered <500g (incl. miscarriage)	0
Total mothers delivered >500g	49
Live infants	49
Miscarriage	0
Stillbirths	0
Infants <37 weeks' gestation	0
Infants ≥37 weeks' gestation	49
Caesarean delivery	15
HBV positive infants	0*
Median maternal age (years)	31
Newly diagnosed at antenatal screening	11
*Final serology not yet available for all infants	

Table 3: Deliveries to HCV Positive Mothers 2017 (N = 38)	
Total mothers delivered <500g (incl. miscarriage)	0
Total mothers delivered >500g	38
Live infants	39 (1 set twins)
Miscarriage	0
Stillbirths	0
Infants <37 weeks' gestation	7
Infants ≥37 weeks' gestation	32
Caesarean delivery	14
HCV positive infants	0*
Median maternal age (years)	33
Newly diagnosed at antenatal screening	4
*Final serology not yet available for all infants	

Table 4: Deliveries to Syphilis Positive Mothers 2017 (N = 21)	
Total mothers delivered <500g (incl. miscarriage)	0
Total mothers delivered >500g	21
Live infants	21
Miscarriage	0
Stillbirths	1
Infants <37 weeks' gestation	3
Infants ≥37 weeks' gestation	18
Caesarean delivery	11
Syphilis positive infants	0
Median maternal age	33
Newly diagnosed at antenatal screening	6

Drug Liaison Midwife (DLM) service

During 2017, 100 women were referred to the DLM service, including 56 women who had a history of opiate addiction and were engaged in a Methadone Maintenance Programme.

Table 5: Deliveries to Mothers under DLM* service 2017 (N = 62)	
Total mothers delivered <500g (incl. miscarriage)	0
Total Mothers Delivered >500g	62
Mothers on prescribed methadone programme	45
HCV positive mothers	21
HIV positive mothers	2
Live infants	61
Stillbirths	1
Infants <37 weeks' gestation	12
Infants ≥37 weeks' gestation	50
Caesarean delivery	15
NICU admissions for Neonatal Abstinence Syndrome	10
*DLM: Drug Liaison Midwife	

Infectious Diseases Medical Social Work

The Medical Social Worker for the Infectious Diseases Service provides emotional and practical support to women attending the clinic and liaises closely with the Drug Liaison Midwife, the Infectious Disease Midwife and the Consultants to provide a comprehensive service.

Where required, the medical social worker will refer patients to Tusla (Child and Family Agency) and other community services to ensure patients and their babies have appropriate supports in place. In 2017, 54 women were referred to Tusla with the following outcomes:

- Sixteen discharge safety planning meetings
- 23 child protection case conferences
- One baby discharged into care under an Interim Care Order
- Five babies discharged into care under a Voluntary Care Agreement.
- Seven mothers were discharged under the supervision of a non-drug using relative for a period of time until stability was assured

Paediatric Infectious Diseases Clinic

In 2017, 325 infants were provided with follow-up appointments for the Rotunda paediatric infectious diseases clinic. The clinic is delivered by Dr Wendy Ferguson, working under the supervision of the national service for Paediatric Infectious Diseases (Rainbow Team).

Successes & Achievements 2017

Education & Training

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

The ID Liaison Midwife provides monthly in-service education sessions for all clinical staff. She also lectures on Infectious Diseases in Pregnancy to the TCD 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 and Dundalk Institute of Technology, as well as to students on the Masters Programme in Addiction Studies in the Dublin Business Institute.

The British Association for Sexual Health and HIV (BASHH)-accredited Sexually Transmitted Infection Foundation (STIF) Courses (STIF Core & STIF Plus) continue to be held, with Dr. Jack Lambert acting as course director, and Dr. Maeve Eogan providing teaching on management of rape and sexual assault. The courses took place in May and October 2017, providing multidisciplinary training in the knowledge and skills required for the prevention and holistic management of STIs.

Dr. Maeve Eogan continues to represent the service on the HSE Sexual Health Strategy Clinical Advisory Group.

Dr. Wendy Ferguson provides regular lectures to Non-Consultant Hospital Doctors (NCHDs) in the Rotunda and also lectures at the microbiology study days and the Diploma in Primary Care Paediatrics.

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

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

In 2017 Dr Ferguson and Dr Eogan were awarded RCSI honorary clinical lecturer and senior lecturer titles, respectively.

Enhancing Patient Care

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

A number of members of the team have collaborated to enhance maternal and neonatal care in the context of perinatal infection – with a particular focus in 2017 on Group B Streptococcus (GBS). In keeping with national and international guidelines, the team continues to be strong advocates for GBS vaccination in pregnancy and had multiple publications and presentations in this regard.

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

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

Innovation

The Irish Congenital CMV Working Group proposes early identification of infants with congenital CMV in order to facilitate early initiation of treatment for those who meet treatment criteria. A pilot screening programme using a salivary swab for CMV PCR is proposed for infants who fail the newborn hearing screen. Dr Wendy Ferguson is the chair of this working group and devised most of the work packages involved for initiating this pilot study.

The Infectious Diseases Service welcomes recent laboratory innovations at the Rotunda which have enhanced patient care, including availability of PCR testing, with rapid turnaround times, for GBS, influenza and other potential pathogens. We look forward to more widespread use of these platforms.

Challenges 2017

While the number of women attending the Infectious Diseases Service with HCV, HBV and syphilis decreased in 2017, there was a slight increase in the numbers presenting with HIV. It is also interesting to note that the number of women being diagnosed with infectious diseases for the first time in pregnancy is decreasing, such that more women are now aware of their diagnoses prior to pregnancy, thereby providing opportunities to optimise pre-pregnancy health. However, there is still no routine screening for HCV at antenatal booking, something we would aspire to reverse in 2018.

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

We welcomed publication of the National Drugs Strategy, “Reducing Harm, Supporting Recovery” which sets out the Government’s response to addressing the harm caused by substance misuse in our society over the next eight years, and in February 2017 we welcomed Catherine Byrne TD (Minister of State at the Department of Health for Health Promotion and the National Drugs Strategy) to the Rotunda to meet the team and discuss relevant challenges and solutions.

Plans for 2018

Implementation of pilot screening programme for CMV.

Continued engagement with community partners to enhance services with women with alcohol addiction in pregnancy

Enhanced provision of long acting contraception, if required, in postnatal period. This will include offering long acting contraception at time of cesarean delivery.

Epilepsy Service

Head of Service
Dr. Mary Holohan, Consultant Obstetrician Gynaecologist

Staff
Ms. Sinead Murphy, Clinical Nurse Specialist (Epilepsy)

Service Overview
The clinic provides essential epilepsy care and prepares individualised care plans to reduce the possibility of seizures during pregnancy, labour and postpartum.

Clinical Activity

Table 1: Clinical Activity					
	2013	2014	2015	2016	2017
Total number of women seen	128	119	124	151	145
Total number of women delivered	106	80	85	101	105

Thirty-five women who delivered in the hospital had not required anti-convfulsant treatment for some years and 49 needed anti-epilepsy drug treatment for the duration of the pregnancy. Eleven women had discontinued treatment shortly before this index pregnancy but three of these had a recurrence of seizure or aura, and therefore were recommenced on treatment. Seizure activity in ten women was associated with use of benzodiazepines in the context of substance abuse.

Successes & Achievements 2017
The introduction of the MN-CMS electronic healthcare record during 2017 enabled the use of a template for recording each patient's background epilepsy history, the future ordering of buccal midazolam, and highlighting individual patient delivery plans.

Enhancing Patient Care
Clinical Nurse Specialist (Epilepsy), Sinéad Murphy, attends the Epilepsy Clinic on alternate weeks and has an individual consultation with each of the patients on anti-epilepsy medications. Women who have not recently had a review by Epilepsy Services are enabled to attend a Rapid Access Seizure Clinic (RASC).

Innovation
The support, advice and care plans offered in the clinic have been enhanced by the appropriate access to the electronic healthcare record of patients attending Beaumont Hospital.

Challenges 2017
There were three complications in the group of 35 women not on treatment. There were two preterm deliveries at 24 and 32 weeks' gestation and significant Intrauterine Growth Restriction (IUGR) in one patient.

Six patients using anti-epilepsy medications developed pregnancy complications:

- Preterm delivery at 28 weeks' gestation in one patient on lamotrigine and clobazam.
- Placental abruption at 30 – 34 weeks' gestation in three patients on single medication – lamotrigine (2) and levetiracetam (1).
- Preterm delivery in one patient at 35 weeks' gestation on gabapentin and oxcarbazepine.
- Significant fetal growth restriction in one patient on levetiracetam.

Despite the increased scrutiny internationally regarding the dangers of Sodium Valproate when taken by the pregnant woman, three patients were seen in early pregnancy still taking this medication. None were presently attending Irish neurology services. All were transitioned to levetiracetam although one woman did not achieve complete seizure control.

While increased incidence of hypertension in pregnancy and postpartum haemorrhage have been linked with epilepsy, this was not apparent in our cohort of patients.

Plans for 2018
There are currently 1,700 women nationally of childbearing age receiving prescriptions for Sodium Valproate. A national strategy is being developed to support these women in changing anti-epilepsy drug where this is possible due to the fetal risks associated with use of this medication in pregnancy. This clinic will assist in this strategy.

Sinead Murphy CNS – Epilepsy, will become a Candidate Advanced Nurse Practitioner further developing her scope of practice.

Mental Health Service

Head of Service
Prof. John Sheehan, Consultant Psychiatrist

Staff
Ms. Jeanne Masterson, Mental Health Midwife
Ms. Ursula Nagle, Mental Health Midwife
Ms. Susan Finn, Medical Social Worker

Service Overview
The Mental Health Service is a multidisciplinary service provided by a consultant psychiatrist, 1.5 whole-time equivalent mental health midwives and a part-time social worker who joined the service in June 2017. Two consultant-provided outpatient clinics are held weekly, as well as eight mental health midwife clinics. As well as an assessment and treatment service for perinatal mental health problems in women attending the Rotunda, pre-pregnancy counselling is offered on a national basis. From Monday to Friday, ward consultations are conducted. A strong emphasis is placed on prevention of mental health problems. Screening for perinatal depression is conducted. In addition to the clinical service, there are educational and research components to the service. Furthermore, a telephone advice and information service is provided to other mental health services, GPs and Public Health Nurses.

Clinical Activity
During 2017, 154 new patients attended Prof. Sheehan's outpatient clinics and 197 follow-up visits were conducted. 442 new patients attended the mental health midwives clinics and 439 review appointments were conducted. On the wards, the mental health midwives assessed 1,836 women and conducted 139 follow-up appointments. Based upon the clinical activity as well as innovation, the complement of mental health midwives dedicated to the Mental Health Service was increased to two whole-time equivalents in April.

Table 1: Clinical Activity

	2013	2014	2015	2016	2017
Consultant Psychiatrist Reviews New	151	513	135	141	154
Consultant Psychiatrist Reviews Follow-up	208	493	200	236	197
Midwifery Reviews New and Follow	513	493	586	594	881

Successes & Achievements 2017
Awards
The Rotunda Perinatal Mental Health service was commended at the Irish Healthcare Awards in the Mansion House in November 2017. The award was for the successful introduction of screening for postnatal depression in the maternity units of RCSI Hospitals Group partners, Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital.

Enhancing Patient Care
The recognition and management of common psychological problems and mental disorders in pregnancy enhances the experience of pregnancy for the mother, reduces the risk of obstetrical complications, enhances the birth experience, promotes healthy bonding between mother and baby and contributes to giving the baby the best possible start in life.

Education & Training
Ms. Ursula Nagle graduated from DCU in November with an MSc in Mental Health Care Practice. Ms. Jeanne Masterson completed the Applied Suicide Intervention Training (ASIST) course organized by the HSE. In September, she commenced an MSc in Mental Health Care Practice at DCU.

During the year, lectures were provided to doctors, medical students and midwifery students. Training and education was provided to midwifery interns and midwives.

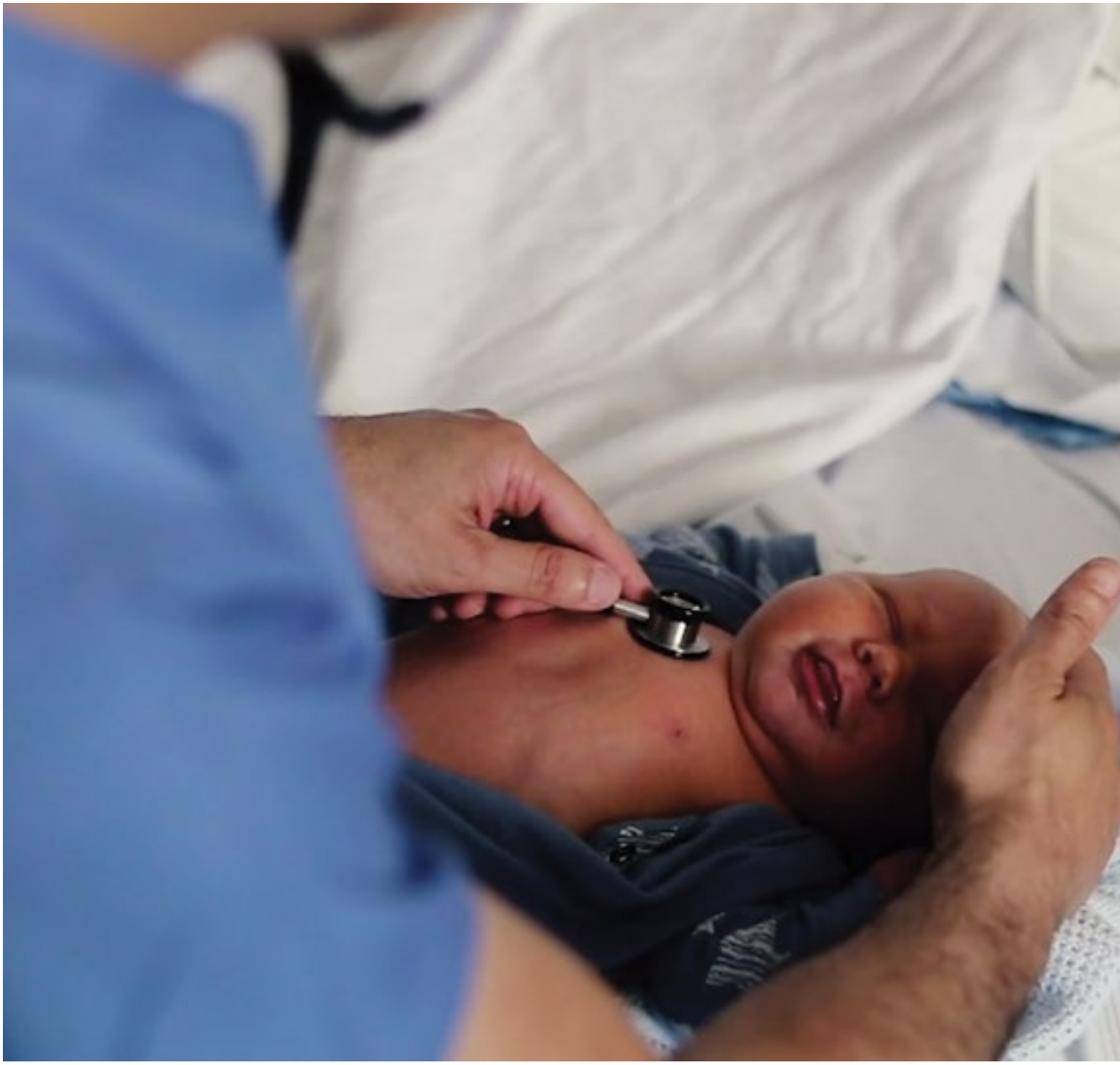
Research
Ms. Ursula Nagle presented a poster on "women's experience of having their mental health needs considered in the perinatal period" at the first UK Annual Maternal Mental Health Alliance conference in London. She also presented the topic at the annual National Mental Health Nursing conference in Dublin Castle.

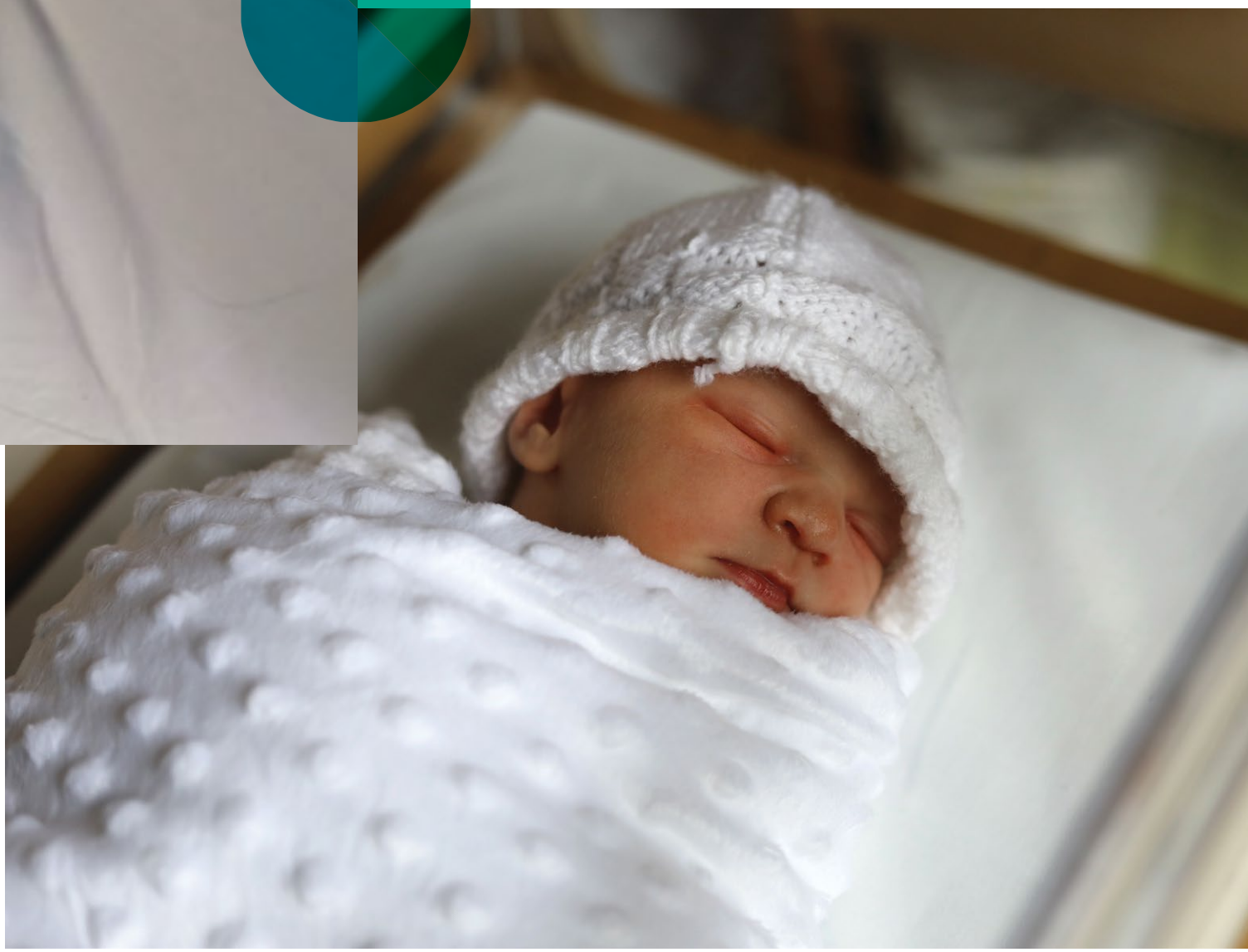
Dr. Lucy Moran, a Senior Registrar with a special interest in perinatal psychiatry, commenced a study examining the prevalence of suicidal ideation in pregnant women attending the Rotunda using the Edinburgh Postnatal Depression Scale.

Innovation
Beginning in April and continuing for six months, screening for postnatal depression was introduced in Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital. The development standardised the care of women attending the RCSI Hospitals Group maternity units.

Challenges 2017
Given the increased clinical and educational/training demands on the service coupled with the standardisation of screening across the maternity units in the RCSI Hospitals Group, additional mental health support midwifery staff was required.

Plans for 2018
The major development of 2018 will be the implementation of the HSE Mental Health Services "Specialist Perinatal Mental Health Services – Model of Care for Ireland". This will call for the recruitment of additional consultant psychiatrists and additional mental health support midwives.





Next Birth After Caesarean Service

Head of Service
Prof. Sam Coulter-Smith, Consultant Obstetrician Gynaecologist

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

Service Overview
The Next Birth After Caesarean (NBAC) service started in 2016 in an effort to support women who had previously had a caesarean delivery. The motivation behind the clinic was to encourage women, where appropriate, to consider a trial of Vaginal Birth After Caesarean (VBAC). The clinic is midwifery- provided and supported by a senior consultant obstetrician.

Women are referred to the clinic if they have had one previous lower uterine segment caesarean section (LSCS) and are otherwise considered normal-risk patients. Exclusion criteria for the clinic include:

- More than one previous caesarean.
- History of macrosomia.
- History of dystocia.
- Prior premature delivery.
- Co-existing medical complications.
- Maternal age over 40 years.
- BMI greater than 30kg/m^2.
- Otherwise poor obstetric history.

The midwives managing the clinic provide a support visit between 18 and 24 weeks, at which time the patient's prior medical records are reviewed and appropriate birth options are explained. Risks and benefits of VBAC compared with elective repeat caesarean are explained in detail.

The patient's current and prior medical records are then reviewed by the supervising consultant obstetrician to ensure that the patient's chosen mode of delivery is appropriate and that there are no contraindications for a trial of VBAC. All such patients can then continue to attend midwifery-provided care from 24 to 39 weeks' gestation at which point they are reviewed again with the consultant obstetrician to plan the management of the remainder of their pregnancy. Patients who have chosen to deliver by planned repeat caesarean are given a scheduled date for surgery, which is generally at or after 39 weeks' gestation. Patients who have chosen a trial of VBAC are also reviewed to confirm specific plans for care if the pregnancy extends beyond 40 weeks' gestation.

Clinical Activity
Over the course of the year 188 women were reviewed and managed at the NBAC Clinic.

Of the 188 patients, nine (5%) reverted to hospital-based care, five (3%) moved away, two (1%) miscarried, and 172 (91%) remained under the care of the NBAC Clinic and delivered.

Outcomes of the 172 women that delivered with the NBAC service are summarised in Table 1.

Table 1: Type of Delivery	
Successful VBAC	61(35%)
Spontaneous vaginal delivery	42 (24%)
Forceps delivery	3 (2%)
Vacuum-assisted delivery	16 (9%)
Emergency caesarean	41 (24%)
Elective repeat caesarean • Before EDD • After EDD	70 (41%) 62 (36%) 8 (5%)

Of the 102 patients who were ultimately deemed suitable for trial of VBAC, 61 actually delivered vaginally giving a successful VBAC rate of 60%.

Successes & Achievements 2017
A new patient information sheet for patients who have previously undergone caesarean delivery was developed for use throughout the Rotunda, and this has standardised the information provided to patients in this setting.

The establishment of this new clinical service, jointly provided by a committed team of midwives and obstetricians, has further enhanced the Rotunda's reputation as the Maternity Hospital of Choice, as it has empowered more women to confidently attempt VBAC in appropriately selected cases.

Challenges 2017
The main challenge for the NBAC service is to obtain sufficient time and resources to be able to provide individualised counselling for a large cohort of patients who are pregnant again after one prior caesarean delivery.

Plans for 2018
In 2018 we plan to review the exclusion criteria to see if we can increase the number of women who may be able to avail of this service.

Labour and Delivery

Head of Service
Prof. Michael Geary, Director of Labour and Delivery

Staff
Ms. Geraldine Gannon, Clinical Midwife Manager

Service Overview
2017 was another very busy year for the Hospital, with 8,226 women delivering 8,409 babies. More than 85% of these women passed through the Labour and Delivery Ward, with approximately 15% having an elective caesarean section. All of the usual challenges of a busy Labour and Delivery Ward prevailed during 2017. However, the biggest challenge in a generation was the introduction of the MN-CMS electronic patient healthcare record in November 2017. The staff coped admirably during such a major point of transition for the Hospital. The Hospital has continued to closely monitor all delivery outcomes for both mothers and babies, as well as rates of induction, instrumental vaginal delivery and caesarean section. It has been shown clearly that a rigorous approach to audit can have a beneficial influence on caesarean section rates in particular, and this should be encouraged and continued in the future.

The headline rates for 2017 were spontaneous vaginal delivery 50%, operative vaginal delivery 16%, caesarean delivery 34% and induction of labour 31%.

Induction of labour
The induction of labour rate has continued to remain stable at the Rotunda for the last five years (Table 1). The rate for 2017 was 31%, which was a slight increase from 29% in 2016. This rate is somewhat higher by comparison to rates from 10 to 15 years ago, which were approximately 20%. There are many reasons for this, which include a changing population with an increased number of women with complex medical disorders, a greater number of older women conceiving and a higher incidence of gestational diabetes. Additionally, we encountered more patients who requested induction of labour as soon as they reached 39 weeks' gestation, which is an intervention that now has a reasonable evidence-base.

The indications for induction of labour are presented in Table 2. The most common reason for induction is post-dates pregnancy, which runs at approximately one in four patients. This rate is significantly lower than that seen at the Rotunda ten years previous when the number of inductions for post-dates was approximately one in three. The second most common reason for induction is prolonged rupture of membranes and this rate has been generally stable. Hypertension is the third leading reason for induction, accounting for approximately 10% of all cases, which is a relatively stable rate.

A large increase was noted in the number of women being induced for reduced fetal movements over the last few years. Typically, over the last ten to twenty years this rate was approximately 1% to 2%, while in 2017 the rate was 8%. This may be as a result of improved educational efforts with patients, which encourages them to present earlier to the hospital with any perceived reduction in fetal movements near term. In this regard, the Rotunda was one of the main participant sites in the AFFIRM study, a multicentre stepped wedge cluster randomised trial, organised by the University of Glasgow, which evaluated whether the promotion of patient awareness of fetal movements might reduce stillbirths. The results of the trial are due to be published in 2018. Over the last twelve months there was a slight reduction in the rate of induction for reduced fetal movements from 10% to 8%.

The number of inductions for diabetes has increased by approximately 50% over the last 10 to 20 years. The significant increase in the incidence of maternal obesity, as well as changes to the diagnostic criteria for gestational diabetes, have led to a greater number of pregnant patients being diagnosed with gestational diabetes. Simultaneously, there has been emerging evidence that induction of labour for gestational diabetes at 39 weeks' gestation may confer benefits to both mother and baby, without necessarily increasing the caesarean delivery rate.

The methods of induction in use at the Rotunda have changed slightly in recent years. The recent introduction of the Propess Prostaglandin Administration system has allowed continuous exposure to a prostaglandin agent over a 24-hour time period. The Propess device can be removed immediately if there are any concerns with respect to fetal welfare, for example, uterine hypercontraction. Plans are in place to introduce midwifery-administered Propess during 2018, which should improve efficiency of inpatient bed utilisation. There are also plans to introduce outpatient Propess administration in low risk patients, who will be allowed to go home two to three hours after Propess administration, before returning to hospital on the following day for further induction management. If this service is received well by patients in 2018, and proves to be a safe alternative, this will be introduced to a wider number of patients in the future.

Table 1: Induction of labour

Outcomes	2013	2014	2015	2016	2017
Total Number of Inductions	2,523	2,631	2,430	2,464	2,509
Incidence expressed from total deliveries	29%	30%	29%	29%	31%
Number of Caesarean deliveries following inductions	537	614	547	568	570
Incidence of caesarean amongst inductions	21%	23%	23%	23%	23%

Table 2: Indication for Inductions 2017		
Reasons	Total	%
Post Dates Pregnancy	604	24%
Prolonged Rupture of Membranes	431	17%
Reduced Fetal Movements	195	8%
Hypertension	244	10%
Other	247	10%
Medical	153	6%
Diabetes	165	7%
Fetal Growth Restriction	129	5%
Oligohydramnios	62	3%
Large Fetal Size	70	3%
Social/Personal Reasons	49	2%
Poor Obstetric History	44	2%
Multiple Gestation	38	2%
Antepartum Haemorrhage	31	1%
Anomoly	22	1%
Intrauterine Demise	21	1%
Maternal Cardiac Disease	2	0%
Rhesus Sensitisation	2	0%
Total	2,509	100%

Caesarean Delivery

The overall caesarean delivery rate at the Rotunda for 2017 was 34%, which is a slight reduction from 35% in 2016 (Table 3). Caesarean delivery rates receive much external attention, but it should be noted that the most important obstetric metric remains safe outcomes for both mothers and babies. In 2017, the corrected perinatal mortality rate of 3.6 per 1,000 births objectively confirmed excellent obstetric and neonatal care, and is low by comparison to international standards.

The indications for caesarean delivery are outlined in Table 4. The two most common indications remain non-reassuring fetal testing and failure to progress in the first stage of labour. The list of indications does not always reflect the reasons behind the decision making for caesarean section. As highlighted previously, there has been a significant change in patient demographics with a significant increase in maternal age and maternal obesity, both of which are significantly associated with higher caesarean delivery rates. Over the last ten years, there has been a marked change in the patient's own participation in decision-making around delivery. Patient's personal thresholds for tolerating risk has changed, which has resulted in many more women requesting caesarean delivery, both electively and during labour when progress is not straightforward. Continued audit of these indications for cesarean delivery is planned for 2018.

The hospital introduced the Robson Ten group classification system in 2002. This was done in an effort to critically evaluate the indications for caesarean section, and enable comparison between maternity units. The indications for every cesarean delivery are reviewed on a weekly and monthly basis throughout the year. This allows the hospital to compare our rates against other hospitals, both nationally and internationally. This enables the hospital to make valid comparisons and potentially learn lessons from others.

The Robson Ten groups are described in Table 5. As reported in 2016, the two major trends over the last number of years has been an increase in Robson Group 1 and Robson Group 5 caesarean delivery rates. Group 1 refers to nulliparous patients with a singleton pregnancy in a cephalic presentation with spontaneous onset of labour at term. While this rate was 17% in 2016, following focussed attention by Clinical managers, the rate decreased to 15% in 2017. The re-introduction of weekly audit and review of Group 1 caesarean sections will continue into the future.

Robson Group 5 includes patients who have had a previous caesarean delivery, and now have a singleton pregnancy with a cephalic presentation at term. While this caesarean delivery rate has remained stable over the last year, when evaluated over the last 10 years, there has been a significant increase from approximately 65% to over 80%. The Next Birth After Caesarean (NBAC) Clinic was introduced in 2016, with the goal being to encourage, where appropriate, a trial of vaginal birth after caesarean (VBAC) in carefully selected patients who are otherwise normal-risk. In an effort to standardise the information provided to patients as part of the informed consent process, an information leaflet was developed in 2017 which clearly highlights the risks and benefits of having a trial of labour after caesarean (TOLAC) versus an elective repeat caesarean section. This information leaflet is given to all patients who have had one previous caesarean delivery at their booking visit. For those patients who do not attend the NBAC clinic, a policy has been introduced in 2017 where all such patients will be formally reviewed by a consultant obstetrician at their 28-week antenatal visit, which provides patients the opportunity to discuss the pros and cons of TOLAC versus repeat caesarean section. In all cases, an individualised plan of care is then put in place.

The other Robson Group cesarean delivery rates have remained broadly stable over the last year, other than a slight reduction in cesarean delivery rate amongst patients with multiple pregnancy (Group 8), which declined from 72% in 2016 to 64% in 2017. Patients with multiple pregnancies are managed very closely by their obstetric teams, with clear guidelines in place with respect to induction and delivery of both monochorionic and dichorionic pregnancies.

Table 3: Caesarean Delivery		
	2016	2017
Total number of cases	2,904	2,796
Incidence against total deliveries > 500g	35%	34%
Maternal Mortality	0	0
Primary Caesarean Section	59%	58%
Repeat Caesarean Section	41%	42%
Classical Caesarean Section	0	5
Tubal Ligation at Caesarean Section	152	105
Caesarean Hysterectomy	9	12

Table 4: Indication for Caesarean Delivery		
	Primary	Repeat
Previous caesarean	N/A	932
Non-reassuring Fetal Testing	430	55
Breech	222	32
Failure to progress 1st stage	213	17
Other	171	26
Failed Induction	94	3
Medical Disorders	61	11
Failure to progress 2nd stage	52	9
Multiple Birth	51	8
Preeclampsia	42	9
Previous third or fourth degree tear	39	2
Placenta Praevia	32	5
Poor Obstetric History	27	7
Malpresentaion in labour	25	1
Abruption	23	21
Failed Forceps/Vacuum	23	1
Pyrexia	21	1
Hypertension	19	7
Fetal Growth Restriction	16	9
Transverse Lie/Oblique	14	4
Prematurity	11	2
Emergency CS Scheduled for Elective CS	10	17
Maternal Request	5	0
Cord Prolapse/Presentation	4	0
Face/Brow Presentation	2	0
Poor Biophysical Profile	0	0
Rhesus Antibodies	0	0
Previous Classical Section	0	9
Other	0	1
Total	**1,607**	**1,189**

Table 5: Trends in Caesarean rates (2013-2017) Caesarean Delivery - Robson Ten Group Analysis					
	2013	2014	2015	2016	2017
All Deliveries	8,549	8,787	8,361	8,405	8,226
All Caesarean Deliveries	2,650	2,753	2,696	2,904	2,796
Overall Caesarean Rate	31%	31%	32%	35%	34%
Group 1 - Nulliparous Singleton Cephalic Term Spontaneous Labour	204/1,707	220/1,686	190/1,597	269/1,554	226/1,504
Caesarean Rate	12%	13%	12%	17%	15%
Group 2 - Nulliparous Singleton Cephalic Term Induced Labour	414/1,315	497/1,389	414/1,234	447/1,222	451/1,337
Caesarean Rate	32%	36%	34%	37%	34%
Group 2a - Nulliparous Singleton Cephalic Term Caesarean Before Labour	195	207	231	242	259
Group 3 - Multiparous Singleton Cephalic Term Spontaneous Labour	54/2,095	57/2,136	36/1,963	49/1,963	35/1,840
Caesarean Rate	3%	3%	2%	3%	2%
Group 4 - Multiparous Singleton Cephalic Term Induced Labour	64/1,041	65/1,065	88/1,046	80/1,098	73/1,017
Caesarean Rate	6%	6%	8%	7%	7%
Group 4a - Multiparous Singleton Cephalic Term Caesarean before Labour	158	156	169	144	124
Group 5 - Previous Caesarean Singleton Cephalic Term	920/1,180	873/1,139	965/1,220	1026/1,247	1026/1,261
Caesarean Rate	78%	77%	79%	82%	81%
Group 6 - All Nulliparous Breech	147/154	190/197	174/182	161/169	157/167
Caesarean Rate	96%	96%	96%	95%	94%
Group 7 - All Multiparous Breech	145/156	167/181	132/141	158/169	143/152
Caesarean Rate	93%	92%	94%	93%	94%
Group 8 - All Multiple Pregnancies	139/190	141/189	113/169	128/179	117/182
Caesarean Rate	73%	75%	67%	72%	64%
Group 9 - All Abnormal Lies	20/20	13/13	18/18	19/19	18/18
Caesarean Rate	100%	100%	100%	100%	100%
Group 10 - All Preterm Singleton Cephalic	190/438	167/429	167/392	181/399	167/365
Caesarean Rate	43%	39%	43%	45%	46%
Elective Caesarean Total	1,343	1,319	1,364	1,430	1,417
Emergency Caesarean Total	1,307	1,434	1,332	1,474	1,379
Total Multiparous Patients	**3,668**	**3,748**	**3,514**	**3,441**	**4,674**
Total Nulliparous Patients	**4,982**	**5,009**	**4,847**	**4,964**	**3,552**

Operative Vaginal Delivery

The operative vaginal delivery rate for 2017 was 16%. The vacuum delivery rate was 11%, the forceps rate was 4% and the use of sequential instruments (vacuum/forceps) was 1%. This overall operative vaginal delivery rate has remained very stable at the hospital over the last 20 years. The main focus on use of operative vaginal delivery is to ensure good supervision of obstetrics and gynaecology trainees in the selection and performance of vacuum and forceps-assisted deliveries. The introduction in 2017 of a dedicated consultant obstetrician on the labour ward (Monday to Friday 0800-1600 hours) is a very positive development for the hospital and should optimise this degree of senior supervision of obstetric trainees. It is also hoped to introduce a practical and pragmatic guideline on operative vaginal delivery in 2018. This will be done in an effort to provide direction to trainees with a view to leading to safer outcomes for mothers and babies.

Plans for 2018

A crucial plan for 2018 is to commence renovation of the entire Labour and Delivery ward, which will include refurbishment of all nine Delivery Rooms as well as construction of a Modular Build to provide a new dedicated operating theatre for the Labour and Delivery ward. There will also be a new meeting and teaching space on the Labour and Delivery ward which will further improve the quality of handover rounds, leading to greater multidisciplinary involvement, and further opportunities for teaching.

Fetal monitoring during labour has always proved to be challenging. The hospital continues to promote the importance of education around fetal heart tracing interpretation. Our ambition for 2018 is to have 100 percent compliance for all midwives and doctors with the K2 CTG education/training tool. In addition to this, the reintroduction of the weekly caesarean section CTG educational meeting may also optimise CTG interpretation

The hospital also plans to introduce new safety measures with respect to delivery of oxytocin infusion. The introduction of newly developed pre-made oxytocin infusion packs and new “Smart” intravenous infusion delivery pumps will make a difference to the safe delivery of oxytocin in labour. These pumps will be integrated with the MN-CMS electronic healthcare record and ensure oxytocin infusion rates are always at the appropriate level.

The excellent care provided by all of the team involved in Labour and Delivery for so many women and babies during 2017 is greatly appreciated.

Anaesthesia Service

Head of Service
Prof. Conan McCaul, Director of Anaesthesia

Staff
Dr. Mary Bowen, Consultant Anaesthetist
Dr. Anne Doherty, Consultant Anaesthetist
Dr. Niamh Hayes, Consultant Anaesthetist
Dr. John Loughrey, Clinical Director & Consultant Anaesthetist
Dr. Caitriona Murphy, Consultant Anaesthetist
Dr. Róisin Ní Mhuircheartaigh, Consultant Anaesthetist
Dr. Patrick Thornton, Consultant Anaesthetist
Dr. Ciara Jean Murphy, Consultant Anaesthetist

Service Overview
The Department of Anaesthesia provides clinical care to approximately 12,000 patients in operating theatre, labour ward, critical care service and in three separate outpatient clinics.

Clinical Activity
The Anaesthesia Department provides an integrated pain management service for labouring patients at the Rotunda, with the most popular form of analgesia being epidural or combined spinal-epidural. This service is provided on a 24-hour a day basis with two anaesthetists on site at all times. Additionally, the department provides anaesthesia support for a large number of Caesarean deliveries, the vast majority of which are completed under regional anaesthesia.

Obstetrics
Neuraxial Analgesia in Labour*

Table 1: Neuraxial Analgesia in Labour*	
Nulliparous	1,450
Multiparous	1,378
Total	2,828
*Includes combined spinal epidural analgesia which was used in 409 patients. Intravenous remifentanil was used by 34 patients.	

Morbidity: There were 42 (1.5%) reported accidental dural punctures during epidural insertion. Headache was reported in 43 women, including those who had spinal anaesthesia. Epidural blood patches were performed on 26 women for symptoms of post-dural puncture headache of whom four required repeat procedures. Of these 20 had had epidural analgesia and six had had spinal anesthesia.

Anaesthesia for Caesarean Delivery*

Table 2: Anaesthesia for Caesarean Delivery	Elective	Emergency
Spinal	1,600	431
General	43	104
Epidural	4	682
Total	1,647	1,217
*Some patients had more than one type of anaesthetic.		

Operating Theatre Obstetric Workload

Table 3: Operating Theatre Obstetric Workload	Total
Major	2,839
Minor	1,208
Total	4,047

Clinics
Three outpatient clinics are held by the Department comprising High Risk Obstetrics, Cardiac and Pre-operative Assessment for Gynecology. There were 1,025 total attendances.

Successes & Achievements 2017
Equipment
New advanced airway equipment was introduced in each theatre including advanced videolaryngoscopy and high flow nasal oxygen therapy to enhance safety during general anaesthesia.

Information Technology
The Department took a leading role in the design and deployment of the anaesthesia component of the national maternity and neonatal electronic patient record (MN-CMS). The Rotunda was the first maternity unit in the country to implement the electronic obstetric anaesthesia record which is fully integrated with the maternity PowerChart.

Education & Training
The Department continues to deliver an active teaching programme and is a teaching site for trainees at all levels from the College of Anaesthetists of Ireland and from Oman. Members of the Department are involved in advanced airway teaching and multidisciplinary simulation training in the College of Anaesthetists and RCSI. The Department provided examiners for postgraduate examinations and supervises higher degrees in the NUI Galway.

Research
There continues to be a considerable amount of research activity within the Department, reflected in national and international prize winning presentations and publications in peer-reviewed journals. Collaborative research is ongoing with University College Dublin, Royal College of Surgeons in Ireland, Dublin City University, National University of Ireland Galway and the School of Midwifery in Trinity College Dublin.

Challenges 2017
The provision of safe peri-partum care to women with co-morbidities with limited immediate access to relevant diagnostic services and critical care on site remains challenging. Care for such women has been greatly improved by co-ordinated multidisciplinary assessment and effective clinical linkages with the Mater Misericordiae University Hospital.

Plans for 2018
The focus of the Department of Anaesthesia for 2018 is the introduction of state of the art pain relief techniques for labouring women which enhance labour outcomes. The Department also aims to enhance safety and quality of care by increased access to pre-assessment services and introduction of state of the art epidural technology on the labour ward.

Table 4: Deliveries under Neuraxial Anaesthesia in Labour					
	2013	2014	2015	2016	2017
Nulliparous	2,327	2,331	2,198	2,107	1,450
Multiparous	1,697	1,696	1,700	1,613	1,378
Total	**4,024**	**4,027**	**3,898**	**3,720**	**2,838**

Table 5: Deliveries under Neuraxial Anaesthesia in Labour										
	2013		2014		2015		2016		2017	
	Elective	Emergency	Elective	Emergency	Elective	Emergency	Elective	Emergency	Elective	Emergency
Spinal	1,312	573	1,281	630	1,329	629	1,395	695	1,600	431
GA	10	160	13	139	13	106	15	123	43	104
Epidural	2	612	5	718	4	621	9	701	4	682
CSE	32	102	36	84	27	73	35	97	NA	NA
Total	**1,356**	**1,447**	**1,335**	**1,571**	**1,373**	**1,429**	**1,454**	**1,616**	**1,647**	**1,217**

NA. Not available

Critical Care Service

Head of Service

Dr. Mary Bowen, Consultant Anaesthetist

Service Overview

The Critical Care Service manages the Rotunda High Dependency Unit (HDU) in order to optimise the care of our most critically ill patients. The number of admissions to the HDU continues to increase yearly. 2017 saw the highest number of admissions recorded at the Rotunda to date. There were eighteen transfers to the Critical Care Unit of the Mater Misericordiae University Hospital (MMUH). The number of caesarean hysterectomy patients continues to increase on an annual basis, with a total of twelve recorded this year. Of note, a similar trend has been recorded in the United Kingdom in the latest MBRRACE (Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries) Report. Our proximity and clinical links to the Mater Misericordiae University Hospital remains a vital support to providing the highest possible level of care to our critically ill mothers. Close liaison between the two Critical Care Services facilitates transition of patients between our hospitals.

Clinical Activity

Table 1: Clinical Activity					
	2013	2014	2015	2016	2017
Obstetric	193	197	245	217	227
Gynaecological	18	13	19	10	10

Table 2 summarises the obstetric cases which required HDU admission:

Table 2: Obstetrics	Number	% Overall
Haemorrhage	88	35%
Preeclampsia / Eclampsia / HELLP	60	24%
Sepsis	30	12%
Cardiac	1,314	5%
Caesarean hysterectomy	12	5%
Miscellaneous	24	10%

Table 3: Cardiac Problems in Obstetric Patients
Peripartum cardiomyopathy
Pulmonary valve replacement
Tetralogy of Fallot
Aortic stenosis and regurgitation
Congenital aortic stenosis – (Ross procedure). Mitral valve repair with neurofibromatosis
Biscupid aortic valve
Tetralogy of Fallot
Pulmonary valve stenosis
Severe mitral regurgitation
Dilated cardiomyopathy with hypokinetic left ventricle
Coarctation of aorta with aortic valve stenosis
Coarctation of aorta, biscupid aortic valve, with ASD closure
Fontan circulation
Hypertrophic obstructive cardiomyopathy

Amongst the 24 miscellaneous cases admitted to the HDU at the Rotunda, was a case of bacterial meningitis following an episode of sinusitis, in which the patient required cesarean delivery, and a case of newly diagnosed acute leukaemia in a patient who suffered an intrauterine fetal demise at 24 weeks' gestation.

Table 4: Critical Care Transfer rates to and from the Rotunda Hospital HDU over 5 years	Total
2013	10
2014	30
2015	8
2016	18
2017	27

Table 5: Transfers	Total
Transfers to Mater Misericordiae University Hospital	18
Transfers from Mater Misericordiae University Hospital	1
Transfers to Beaumont Hospital	1
Transfers from Beaumont Hospital	1
Transfers from Connolly Hospital	2
Transfers from Mayo General Hospital	3
Transfers from Letterkenny General Hospital	1

Table 6: Invasive Lines	Total
Arterial Line Insertions	64
Central Venous Line Insertions	10

Challenges 2017

The main challenge in 2017, as in prior years, is the safe provision of critical care services to patients in a free-standing maternity hospital. While we have been fortunate to have the support of a world-class Level four Hospital Critical Care Service at the Mater Misericordiae University Hospital, the physical transfer of such sick patients, in a potentially unstable state, is not optimal. The goal in the coming years, prior to co-location of the Rotunda on the same campus as an adult general hospital, will be to continue to optimise the virtual co-location of the Rotunda with the Mater through collaboration with our intensivist colleagues at MMUH.

Additionally, the physical infrastructure of the existing Rotunda HDU is very limited, with insufficient space for care of multiple patients who may simultaneously require critical care services.

Plans for 2018

The HDU accommodates the increasing complexity of our maternal population with regard to cardiac disease, haemorrhage and sepsis. We continue to work in conjunction with the Mater Misericordiae University Hospital to provide the best care for our critically ill mothers. Future formal training of HDU nurses in the care of critically ill mothers would enhance our current service.

Ongoing engagement with the Department of Health and the Health Service Executive in optimising our critical care needs will continue in 2018.


Baby
Boy

Maternal Morbidity

Head of Service
Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

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

Service Overview
The Rotunda Hospital is committed to the safe delivery of obstetric care to all mothers who entrust their care to our doctors and midwives. While there can be no more important measure of maternal safety than maternal mortality, it is crucial that we provide careful attention to measures of maternal morbidity. For this reason, for a number of years now, the Rotunda has provided detailed data on a range of major obstetric events, such as severe haemorrhage, that can be associated with adverse maternal outcomes. Severe maternal morbidity continued to be prospectively monitored during 2017.

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

Clinical Activity
In total, there were 109 major maternal morbidity events affecting 91 patients in 2017. The incidence of our accepted measures of severe maternal morbidity in pregnancy for 2017 was 1.3%. This is slightly higher than the 2016 incidence of 1.0%, with this increase primarily being in the incidence of renal or liver dysfunction, septic shock and eclampsia. The number of major morbidity cases is still increasing, with an associated increased demand for high dependency unit (HDU) care and critical care. The support of the Mater Misericordiae University Hospital and Beaumont Hospital for the provision of intensive care for nineteen of our patients in 2017 is acknowledged and gratefully appreciated.

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

Table 1: Clinical Activity

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

The mean maternal age amongst these 91 cases was 32 years, with a range of 19 to 44 years. The majority had booked initially for antenatal care in the Rotunda Hospital (84 patients; 93%), however six of the major morbidity cases occurred in patients transferred to the Rotunda from other hospitals.

A total of 64% of major morbidity cases were delivered preterm with a mean gestation at delivery of 34.5 weeks, which has implications for neonatal care. 31 women were recorded as non-Irish, and nineteen women had one or more prior caesarean deliveries at booking.

Table 2: Haemorrhage and Operative Events

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

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

There were twelve caesarean hysterectomies undertaken in 2017 and one uterine rupture. The uterine rupture occurred in a patient with known uterine anomaly. The rupture occurred spontaneously in the third trimester and the uterus was conserved at surgery. Seven of these cases involved a planned caesarean hysterectomy due to antenatally-identified placenta percreta or accreta. The remaining five cases were undertaken due to uterine atony unresponsive to other hemostatic measures or in one case a significant retroperitoneal hematoma with maternal cardiac arrest following an emergency caesarean section.

Table 3: End Organ Disease

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

End Organ disease was defined according to the National Perinatal Epidemiology Centre criteria, or in cases where significant organ impairment existed to require Level one or greater High Dependency Care.

Thrombocalc continues to be used to risk assess all pregnant women at delivery for thrombotic factors and manage them accordingly. This Thrombocalc system quantifies all known prothrombotic factors and suggests optimal anticoagulation prophylaxis for each patient. It is notable that either zero or one case of pulmonary embolism has occurred annually since the introduction of this Thrombocalc system.

Table 4: Central Nervous System

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

There were four cases of eclampsia in 2017 with only one other reported case of eclampsia in the preceding five years. All four cases involved patients being transported to the Rotunda having experienced a seizure at home or in another hospital. Two of these women were transferred to the Rotunda from another maternity hospital due to complex care issues. One patient was delivered at term, two deliveries were preterm and in one case where there was pre-existing connective tissue and haematological disease there was an intrauterine fetal demise at a periviable gestational age.

Table 5: Intensive Care Management

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

In total, eighteen patients were transferred from the Rotunda to the Mater Misericordiae University Hospital for critical care management in 2017, and a further one patient was transferred to Beaumont Hospital for such care.

Successes & Achievements 2017

Enhancing Patient Care

All surgeries for antenatally-identified cases of abnormal placentation were planned and undertaken in the most appropriate setting following appropriate multidisciplinary case discussions, with consideration for optimising surgical requirements and availability of staff.

Education & Training

A monthly Maternal Medicine Multidisciplinary Meeting that takes place with various consultant subspecialty inputs in the Mater Misericordiae University Hospital. Additionally, a quarterly Maternal Medicine Review is provided at the Rotunda Hospital to discuss care of complex cases, and regular Grand Rounds meetings are held to review multidisciplinary developments in individual high risk maternal medical problems.

Research

Validation of Thrombocalc is now part of a PhD project for Fergal O Shaughnessy, a member of the Rotunda Pharmacy Department. This will include a patient survey to assess bleeding risk related to the postnatal use of low molecular weight heparin. The ambition is to implement Thrombocalc in other units within the RCSI Hospitals Group and beyond, once it has been successfully validated.

Challenges 2017

The number of cases complicated by massive obstetric haemorrhage has increased over time but the rate for 2017 was similar to that of 2016. This should be considered in the context of a general trend of increasing postpartum haemorrhage worldwide, the exact reasons for which remain unclear. Greater use of tranexamic acid has been implemented in the Rotunda and may have contributed to stabilisation of haemorrhage rates. An area of current research for the Rotunda focuses on risk assessment of antepartum, intrapartum and postpartum factors for haemorrhage.

A further increase in the number of patients attending with severe renal or liver dysfunction was noted. The definition of these cases changed with the introduction of the National Perinatal Epidemiology Centre reporting system and classification, which may reflect better case ascertainment. It is a heterogeneous group of aetiologies including severe pre-eclampsia, HELLP syndrome, acute renal failure, acute renal injury, or acute fatty liver of pregnancy.

The number of patients requiring Intensive Care Unit or Coronary Care Unit admission increased in 2017, reflecting the increased complexity of the cases attending the Rotunda. The critical care case mix reflects primarily patients requiring care following haemorrhage, overwhelming sepsis (including one case of malaria) and those with significant end-organ disease.

The MN-CMS electronic healthcare record was introduced in November 2017. This was a major undertaking for the hospital and the transition period proved to be very challenging in terms of accurate report generation for critical care and major morbidity data.

Plans for 2018

The expansion of the Maternal Medicine Clinic with the appointment of a further consultant maternal-fetal medicine specialist, (Dr. Etaoin Kent), to join the service in collaboration with Dr. Jennifer Donnelly in 2017, has facilitated enhanced communication and collaboration, and greater multidisciplinary input and planning of delivery in women with antenatally identified maternal illnesses. As this program develops further, it will undoubtedly lead to improved patient care.

The introduction in 2017 of dedicated consultant cover on the Labour and Delivery Ward (Monday to Friday 0800-1600 hours) aligned with enhanced handover rounds has been working very well, and should lead to improved training opportunities, and ultimately improved patient care.

The plans for the Modular Build for Operating Theatres and Labour Ward renovation should commence in 2018. This will provide a new operating theatre on the Labour Ward and a third operating theatre in the main theatre department. It will also allow for an enhanced Recovery Care program, which will be divided between the traditional Gynaecology postoperative recovery area and a new elective caesarean delivery recovery area. There will be new teaching space on the Labour and Delivery Ward which will further improve the quality of handover rounds, leading to greater multidisciplinary involvement, and further opportunities for teaching.

Complicated Post Natal Service

Head of Service
Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

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

The clinic also provides care for women who have had other postnatal concerns, including wound infection, perineal pain, dyspareunia and faecal incontinence.

Clinical Activity
348 new patients attended the clinic in 2017

Table 1: Indication for Attendance	No. of Patients Seen
Antenatal Assessment (previous OASI)	103
Postnatal Assessment after Third-Degree Tear	133
Postnatal Assessment after Fourth-Degree Tear	2
Postnatal Assessment of Perineal Infection / Pain / Dyspareunia	60
Postnatal Assessment of Faecal Incontinence	5
Female Genital Mutilation (FGM) Assessment	9
Other	36
Total	**348**

The modes of delivery of those who sustained anal sphincter injury are tabulated below:

Table 2: Mode of Delivery	3rd degree	4th degree
Spontaneous vaginal	76	3
Vacuum only	28	1
Vacuum and Forceps	13	0
Forceps only	14	2
Born Outside Hospital	1	0
Total	**132**	**6**

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

Table 3: Procedure/Referral	No. of Patients
Referral to colorectal service	17
Treatment of granulation tissue (outpatient)	13
Removal of persistent suture material (outpatient)	8
Perineal revision (day case)	6
Perineal injection (day case)	6
Reversal of Female Genital Mutilation	2
Total	**52**

Successes & Achievements 2017
Enhancing Patient Care
The primary focus of this clinic is to provide postpartum follow-up for women who have sustained obstetric anal sphincter injury. This enables assessment of recovery, review and discussion of labour outcomes and events, integration with physiotherapy follow-up and coordination of referral to other disciplines as required (e.g. colorectal surgery).

The clinic also supports and advises women who are pregnant again after a previous anal sphincter injury in order to discuss options and risks in terms of mode of delivery and intrapartum care.

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

The remit of the clinic in terms of care of women after OASI is also included in the NCHD hospital induction. Dr. Maeve Eogan updated colleagues on OASI at the Institute of Obstetricians and Gynaecologists Study Day in September 2017.

Drs. Maeve Eogan and Mona Abdelrahmen undertook an electronic survey of obstetricians working in Ireland regarding their technique, management, and education on episiotomy and OASI. This was presented at the Irish Congress of Obstetrics, Gynaecology and Perinatal Medicine in November 2017 and has been submitted for publication.

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

Challenges 2017
- Maximising clinic efficiency by reducing numbers of patients who fail to keep their appointments.
- Provision of follow-up care for patients who have sustained OASI in other units in the RCSI Hospitals Group. The Rotunda clinic currently does not have sufficient human resources or infrastructure to provide this care for all patients from the Hospital group.
- Providing appropriate postnatal care to women who have sustained other antenatal, intrapartum and postnatal issues who require hospital based follow up.

Plans for 2018
- Introduction of Episcissors with ongoing audit of OASI & episiotomy rates.
- Data collection from additional postnatal clinics which provide care for women who require follow-up for issues other than OASI/ episiotomy and other pelvic floor concerns.

Radiology Service

Head of Service
Dr. Ailbhe Tarrant, Consultant Paediatric Radiologist

Staff
Dr. Neil Hickey, Consultant Adult Radiologist
Dr. Stephanie Ryan, Consultant Paediatric Radiologist
Ms. Sheelagh Gibson, Radiology Services Manager
Ms. Louise Duffy, Senior Grade Radiographer
Ms. Meave Hayes, Clinical Specialist Radiographer
Ms. Shenaz Subjee, Senior Grade Radiographer

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

Clinical Activity
The Radiology Service performed 6,120 exams in 2017 representing a similar level of activity to 2016.

Table 1: Clinical Activity

	2013	2014	2015	2016	2017
Total Radiology examinations	7,335	7,341	6,534	6,427	6,120
Adult Examinations	385	440	474	462	515
Paediatric Examinations	6,823	6,900	6,060	5,823	5,045

Adult Radiology
In 2017, a total of 515 adult radiological examinations were performed of which 277 (54%) were hysterosalpingograms, performed as part of a subfertility work-up. Other examinations included other fluoroscopic procedures such as cystograms, non-obstetric ultrasound (general abdominal, renal, pelvic, head and neck, vascular and soft tissue) and plain radiographs. A total of 111 gynaecologic ultrasound examinations were performed. These patients were referred from the gynaecologic clinics and also from direct GP referrals. In addition, 458 gynaecological ultrasound examinations were outsourced to an external radiology provider (Charter Medical), with resultant images and reports being imported into Rotunda patients' radiology files. This initiative was implemented by Rotunda Hospital management to provide short-term resolution to a significant increase in waiting lists for gynaecologic imaging, and has been funded directly from the hospital's own financial reserves.

Paediatric Radiology
In 2017, a total of 5,045 paediatric studies were performed. Of these, 55% (2,784) were paediatric ultrasound examinations including hip ultrasounds, performed as part of the National Screening Programme for Developmental Dysplasia of the Hip (DDH). A total of 2,242 plain films and nineteen fluoroscopy studies (Upper and Lower GI contrast studies) were performed.

The CT and MRI needs of Rotunda paediatric patients are provided by The Children's University Hospital Temple Street while adult CT and MRI requirements are provided by the Mater Misericordiae University Hospital. In 2017, The Children's University Hospital Temple Street performed seven neonatal CTs, four antenatal fetal MRIs and 40 neonatal MRIs on patients referred from the Rotunda. Due to challenges meeting the demand for antenatal fetal and neonatal MRI scans, a new MRI service was utilised at the National Maternity Hospital. A total of 47 Rotunda patients had antenatal fetal and neonatal MRI studies at NMH. Ultrasound, CT and MRI scans of Rotunda babies are discussed, when appropriate, at multidisciplinary meetings in Children's University Hospital Temple Street attended by Rotunda neonatologists and radiologists.

Successes & Achievements 2017
Enhancing Patient Care
Since 2016, the Rotunda Hospital has been included in the National Integrated Medical Imaging System (NIMIS), which is a radiology image archiving and reporting system. Within this national system, Rotunda patients have benefited from the secure transfer of their images to all other participating hospitals, including Our Lady's Hospital for Children, Crumlin and The Mater Misericordiae University Hospital. The Rotunda Radiology Service committed this year to participating in the National Radiology Quality Improvement Programme.

Education & Training
2017 was the sixth year in which the hospital provided a cranial ultrasound training programme, which is a practical course for paediatric trainees designed to give participants an introduction to cranial ultrasound and provide practical hands-on experience for neonatal/paediatric trainees.

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

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

There were several publications from the service as well as presentations and lectures at national meetings.

Challenges 2017
The lack of an interface between NIMIS and the MN-CMS electronic healthcare record became apparent in November after MN-CMS implementation. This adds to the risk associated with efficient dissemination of imaging results and has been escalated to the National Implementation Committee for the MN-CMS system.

Plans for 2018

- To achieve complete integration of the MN-CMS and NIMIS systems, facilitating reliable and easy access by the end-user to all aspects of patient records.
- In the absence of an MRI scanner in The Rotunda hospital, there is a need to formalise the arrangement with The Children's University Hospital Temple Street and The National Maternity Hospital, to ensure ease of access to fetal and paediatric scans for Rotunda patients.
- Expanding the radiology service to enable adult gynaecology ultrasound to be performed in The Rotunda rather than continuing to outsource externally.

CLINICAL SERVICES

Gynaecology

Gynaecology Service

Head of Service
Dr. Rishi Roopnarinesingh, Director of Gynaecology

Service Overview
The Rotunda is the leading tertiary referral centre for benign gynaecology in North County Dublin. Over the last few years there has been a concerted effort to keep pace with the expanding population, changing demographics and the limitations on hospital bed capacity. This included the opening of the Rotunda Outpatient Hysteroscopy service on the Connolly Hospital campus in 2016 and this service expanded its capacity in 2017. More gynaecological procedures than ever are being performed through Minimal Access Surgery, which has allowed a greater turn-over of hospital beds.

Referrals from General Practitioners and other specialists are reviewed daily and triaged by senior gynaecologists, either towards a routine or an urgent appointment for a General or a Specialist Gynaecology Clinic. The Specialist Clinics at the Rotunda include Reproductive Medicine, Urogynaecology and Colposcopy.

We wish to acknowledge the dedicated members of staff across all disciplines, including administration, household, GP Liaison, nurses and doctors, whose individual contributions are essential for the efficient management of the Gynaecology Service.

Clinical Activity
2017 was once again a busy year across all sectors of the Gynaecology Service, including emergencies, outpatient visits and gynaecologic surgery. There was also a huge demand for gynaecological ultrasound scans, overwhelming the hospital's capacity to provide this service, which prompted the implementation of an out sourcing arrangement with an external private ultrasound facility.

We have modified the gynaecologic surgical reporting system this year to take account of the fact that many patients have multiple surgical procedures during a single operation. We have therefore tabulated all major surgical procedures under seven categories namely:

- Hysteroscopy.
- Laparoscopy.
- Laparotomy.
- Vaginal/Transvaginal Surgery.
- Other Vulvovaginal Procedures.
- Minor Surgical Procedures.
- Colposcopic Procedures in the Main Operating Theatre.

Under this system, the actual number of patients having surgery was 1,445 and, with significant complexity amongst the cases. As this is a change in the format of reporting, a direct comparison of all procedures with previous years will not be possible for each category.

Table 1: Hysteroscopic Procedures	
Dilation and curettage (D+C)	224
D+C with insertion of Intrauterine Contraception Device (IUCD)	170
Polypectomy	79
D+C with endometrial ablation (UBT, Rollerball, TCRE)	61
D+C with diathermy/biopsy of cervix / vagina	16
Large loop excision of transformation zone (LLETZ)	8
Fibroid resection	32
Resection of uterine septum	2
Total	**592**

Table 2: Laparoscopic Procedures	
Diagnostic	42
Dye +/- hysteroscopy /curettage +/- Argon Plasma +/- adhesiolysis +/- ovarian drilling	115
Dye / cystectomy +/- hysteroscopy +/-adhesiolysis	39
Ovarian cystectomy	47
Dye + salpingostomy +/- hysteroscopy	15
Dye + tubal clipping +/- hysteroscopy	6
Salpingo-oophorectomy +/- hysteroscopy + curettage	17
Oophorectomy	12
Salpingectomy	86
Excision of cornual ectopic	1
Argon Plasma	13
Hysteroscopy +/- endometrial ablation +/- insertion of IUCD	19
Sterilization	14
Oocyte retrieval	5
Myomectomy	3
Hysterectomy +/- salpingectomy or +/- salpingo-oophorectomy	39
Total	**473**

Table 3: Laparotomy	
Total abdominal hysterectomy +/- salpingo-oophorectomy	24
Subtotal abdominal hysterectomy +/- salpingo-oophorectomy	12
Myomectomy	20
Ovarian cystectomy	6
Oophorectomy	7
Salpingectomy	3
Conversion from laparoscopy	5
Reversal of sterilization	2
Cystectomy / oophorectomy, washings / omentectomy	3
Total	**82**

Table 4: Vaginal / Transvaginal surgery	
Vaginal hysterectomy and anterior and posterior colpoperineorrhaphy	58
Anterior and posterior colpoperineorrhaphy	31
Sacrospinous fixation +/- vaginal hysterectomy +/- anterior / posterior repair	15
Tension free vaginal tape (TVT)	18
Trans obturator tape (TOT) with vaginal hysterectomy and repair	1
Total	**123**

Table 5: Other Vulvovaginal Procedures	
Resection of vaginal septum	1
Fenton's procedure	5
Repair of Female Genital Mutilation (FGM)	2
Labial reduction /repair	3
Total	**11**

Table 6: Minor Surgical Procedures	
D+C with removal of IUCD	31
Insertion of IUCD in operating theatre	32
Bartholin's abscess / cyst or vulval / labial cyst	39
Vulvovaginal biopsy / removal of skin lesions	23
Hymenectomy	3
Diathermy of labial condyloma	1
Perineal / vaginal injection (local anaesthetic, corticosteroid and hyaluronidase)	10
Total	**139**

Table 7: Colposcopic Procedures in the Main operating Theatre	
Large loop excision of transformation zone (LLETZ)	12
LLETZ with hysteroscopy	8
LLETZ with vaginal biopsy	5
Total	**25**

Table 8: Five-year Comparative Data					
	2013	2014	2015	2016	2017
Vaginal hysterectomy and AP repair	48	41	62	57	58
AP repair / pelvic floor repair	48	41	42	28	31
Sacrospinous colpopexy	8	5	10	8	15
Laparoscopic sterilization	33	28	34	22	14
LLETZ	21	23	7	21	25
TAH +/- BSO	56	45	64	46	24
STAH	20	27	22	15	12
Laparoscopic hysterectomy +/- BSO					39

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

Analysis

The number of patients undergoing vaginal hysterectomy, with or without pelvic floor repair, has been quite stable over the last five years with very little difference in numbers having this type of procedure between 2016 and 2017.

There has been a progressive decrease in the number of laparoscopic sterilizations with only fourteen cases done in 2017. This probably reflects easier access to non-surgical, long-acting contraceptive options provided by general practitioners and also a reluctance by gynaecologists to perform this permanent procedure for younger women. This decline is advantageous to the hospital as it creates additional surgical capacity operating space for other urgent gynaecologic procedures.

The proportion of hysterectomies performed using minimal access surgical techniques now accounts for almost one third of hysterectomy procedures. This is the first year that we have seen this trend and it reflects the commitment by the hospital to encouraging minimal access surgery, which not only benefits patients by a shorter stay in hospital and return to work, but also means that hospital beds are utilised more efficiently. In keeping with this trend, there were only three salpingectomy procedures done via the laparotomy approach during 2017, which reflects the increasing proficiency of Rotunda staff with minimal access surgical skills.

Gynaecology Clinics

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

There were 3,264 new gynaecology referrals to the public hospital clinics and 6,358 return visits, for a total of 9,632 clinic visits in 2017.

While the hospital currently has the capacity to offer approximately 300 new gynaecology clinic appointments per month, we currently receive in excess of 400 new gynaecology outpatient referrals from General Practitioners each month. Therefore, the hospital will inevitably generate a significant gynaecology waiting list every year unless significant additional resources are invested into this demand-led service. Hospital management has made a number of proposals to the RCSI Hospitals Group for new HSE funding to cope with this demand.

General Gynaecology Clinics

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

Reproductive Medicine Clinics

Two public clinics are provided weekly dedicated to the investigation and management of subfertility. Thorough assessments of both female and male patients are performed. Both clinics are staffed by two consultants, Dr. Edgar Mocanu and Dr. Rishi Roopnarinesingh, which ensures that expert advice is easily available and that the most appropriate management options are provided for patients.

Promotion of Continence Clinic

This specialist clinic has proven itself enormously popular and beneficial for patients for many years. It is a multi-disciplinary clinic staffed by gynaecologists, Dr. Mary Holohan and Dr. Naomi Burke and physiotherapists, led by Ms. Cinny Cusack. This clinic structure has been highly successful in ensuring that accurate pelvic floor disorder diagnoses are made and that an individualised management programme is implemented. This includes patient education and insight, medication, biofeedback, physiotherapy and surgery in selected cases.

Recurrent Miscarriage Clinic

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

Outpatient Hysteroscopy Service

While this one-stop 'see and treat' clinic is located on the campus of Connolly Hospital in Blanchardstown, it is staffed, organised and funded entirely by the Rotunda Hospital. Four clinics per week are provided by Dr. Naomi Burke, Dr. Kushal Chummun, Dr. Eve Gaughan and Dr. Edgar Mocanu. Ms Michelle Cullen is the Clinical Nurse Specialist assigned to the service and ensures that the service is been efficiently managed. The service has been highly effective for the management of women with abnormal uterine bleeding in the outpatient setting. It has reduced waiting times for women and has alleviated some of the demand for operating theatre time in the Rotunda Hospital. On attendance, all patients have a transvaginal ultrasound examination followed by a hysteroscopy, followed by endometrial biopsy, polypectomy or submucosal myomectomy if indicated. Evidence of the efficiency of this service is the fact that from 546 new patients seen in 2017 only 63 needed a return visit.

Table 9: Outpatient Hysteroscopy Activity		
Myomectomy	26	5%
Complicated intrauterine contraceptive device removal/insertion	32	6%
Polypectomy	67	12%
Hysteroscopy/endometrial biopsy	421	77%
Total	**546**	
Endometrial Carcinoma	4	(3 postmenopausal, 1 premenopausal)
Hyperplasia	4	(3 postmenopausal, 1 premenopausal)

GP led Intrauterine Contraceptive Device and Vaginal Pessary Clinic

This clinic is provided by Dr. Geraldine Holland and Dr. Deidre Lundy, both General Practitioners with a special interest in Women's Health. They work closely with consultant gynaecologist, Dr. Eve Gaughan, to ensure easy access to the operating theatre or further specialist input. This clinic has helped to alleviate some of the demands on the general gynaecology clinics.

Successes and Achievements 2017

GP Liaison – Ms. Eleanor Power has promoted the services provided by the Rotunda and has been an effective link between general practice and the hospital.

The Administration Staff supervised by Ms. Niamh Moore continue to address and actively manage gynaecology clinic waiting lists and ensured that gradual improvements were made.

A Telephone clinic was introduced to Dr. Roopnarinesingh's Reproductive Medicine Clinic to assist with decreasing return clinic visits for suitable patients. It has proven to be a useful

modality for informing patients of the results of investigations and for providing advice for patients with subfertility.

Challenges 2017

Due to the pressures of the busy obstetric service leading to a heavy demand on operating theatres for caesarean deliveries and surgical management of miscarriage, there were frequent curtailments of capacity for elective gynaecologic surgeries. Ongoing efforts to improve the duration of theatre sessions for consultants and more efficient theatre scheduling have helped to accommodate the gynaecologic surgical waiting list. However, until additional gynaecologic theatre capacity is provided there will inevitably be delays in efficient access for patients for elective surgical procedures.

Plans for 2018

To ensure that a specialist urogynaecology nurse is appointed. This is an essential recruitment to facilitate the Promotion of Continence Clinic.

Structural expansion of the operating theatre space to provide a more appropriate recovery bay. Such extra space will provide for more efficient work-flows in a safe environment and also potentially lead to faster operating theatre room turn-around times. It will initially disrupt workflows but ultimately will lead to overall improvements that will in time decrease surgery waiting times for patients.

Plans to bring gynaecologic ultrasound scans back from an outsourced service to a Rotunda-provided service is a major priority for the hospital. Having to outsource some gynaecological scans has created some inefficiencies that could be avoided by ensuring that all ultrasonography is done in the Rotunda Hospital.

Further ideas on extended elective operating theatre times to accommodate new consultant staff and ensure that waiting lists targets are kept to acceptable standards. The aim is to ultimately have two elective gynaecologic operating theatres running from 8am to 8pm. However, this ambition will depend on expanding the current theatre infrastructure and obtaining a sufficient number of theatre nurses.

Colposcopy Service

Head of Service
Prof. Paul Byrne, Consultant Obstetrician Gynaecologist

Staff
Dr. Sahar Ahmed, Consultant Obstetrician Gynaecologist
Dr. Kushal Chummun, Consultant Obstetrician Gynaecologist
Dr. Eve Gaughan, Consultant Obstetrician Gynaecologist
Dr. Yahya Kamal, Consultant Obstetrician Gynaecologist
Dr. Hassan Rajab, Consultant Obstetrician Gynaecologist
Dr. Tom Walsh, Consultant Obstetrician Gynaecologist

Ms. Selena Igoe, Lead Nurse Coordinator
Ms. Jennifer O.Neill, Nurse Colposcopist
Ms. Virginie Bolger, Nurse
Ms. Nuala McInerney, Nurse
Ms. Carol O'Rourke, Nurse
Ms. Rose Thorne, Nurse

Ms. Nicola Boyd, Healthcare Assistant
Ms. Janice Glynn, Healthcare Assistant
Ms. Trish O'Donovan, Healthcare Assistant
Ms. Susan Daly, Administrative Team Leader
Ms. Éilis Dalton, Administrative Support
Ms. Lisa Gleeson, Administrative Support
Ms. Jade Ng, Administrative Support
Ms. Niamh O'Carroll, Administrative Support

Service Overview
The Colposcopy Service in the Rotunda Hospital is one of fifteen clinics in Ireland working under a Service Level Agreement with CervicalCheck – The National Cervical Screening Programme. The primary objective of cervical screening is to reduce the mortality from cervical cancer by detecting and treating premalignant disease. The Colposcopy Service plays a key role in the screening programme by ensuring optimal management of women who have abnormal cervical smears. The quality assured service that is provided is carefully monitored by CervicalCheck.

Clinical Activity

Table 1: Five-year Comparative Data					
	2013	2014	2015	2016	2017
New Attendees	1,569	1,503	1,902	1,805	1,681
Return Visits	3,325	3,424	3,442	3,857	3,382
Total	**4,894**	**4,927**	**5,344**	**5,662**	**5,063**

Table 2: Treatment	
Cervical Biopsy	1,388
Large Loop Excision of the Transformation Zone (LLETZ)	386
Cold Coagulation (CC)	405
Total Treatments (CC + LLETZ)	**791**
Total Procedures	**2,179**

The service continues to expand the use of Cold Coagulation, which allows treatment of CIN while minimising the risk of pregnancy complications. More than half of the patients who need treatment are now managed using cold coagulation.

Successes & Achievements 2017
Enhancing Patient Care
CervicalCheck: A Comparative Analysis 2008 – 2016. This report presented a comparison between the clinics in Ireland using indices relating to access, diagnosis and treatment indices. The Rotunda performed favourably in comparison to other units. The targets were exceeded in six out of seven domains documented in the report. The default rate for attendance (DNA) for follow-up appointments was the only target not met, partly because the target default rate had been amended from 15% to 10%, with only five out of the fifteen Colposcopy clinics achieving this particular target. We have introduced text message reminders in an effort to further reduce the DNA rate.

CervicalCheck Patient Satisfaction Survey 2017: A Patient Satisfaction Survey conducted by CervicalCheck targeted all women who attended the Colposcopy services between March and April 2017. 315 women completed the Rotunda survey. The results were very positive and will allow us to tailor our service planning and further developments with the service. In total, 76% of comments were positive, while 24% were negative. Many of the negative comments related to the physical environment, in particular the small patient waiting area.

Clinical Audit and Research
Audits completed in 2017 and certified by The Rotunda Hospital Clinical Audit Department included an audit of Cold Coagulation, and a study of the role of HPV testing as a test of cure following LLETZ. These were presented at several national meetings and at the British Society for Colposcopy and Cervical Pathology (BSCCP) annual meeting. Dr. Adrianne Wyse, our academic Intern, won several awards for her presentations, including the James Clinch Medal at the Irish Congress of Obstetrics, Gynaecology and Perinatal Medicine.

The Rotunda Hosted the 2017 Annual NICCIA Conference (Nurses in Colposcopy Clinics in Ireland Association).

Nurse-led Clinics
We continue to expand the role of our nurses in the clinic. Two of our Nurse Colposcopists are accredited in therapeutic colposcopy with the BSCCP. Two more are currently preparing for accreditation.

Challenges 2017
Upgrading of Clinical and IT Equipment
Colposcopes and IT equipment are reaching the end of their lifespan and will need to be replaced in the coming year.

The other main challenge has been physical space constraints, which make service expansion difficult.

Plans for 2018
Our aim is to continue to provide a quality-assured service that reaches all targets set by the National Cervical Screening Service. Our most important goal in 2018 is to have all colposcopes and IT equipment upgraded.

Sexual Assault Treatment Service

Head of Service

Dr. Maeve Eogan, Consultant Obstetrician Gynaecologist

Staff

Ms. Noelle Farrell, Midwife Manager
Ms. Aideen Walsh, Clinical Nurse Specialist
Ms. Catherine Hallahan, Clinical Midwife Specialist
Ms. Deirdra Richardson, Clinical Midwife Specialist
Dr. Killian Bates, Forensic Medical Examiner
Dr. Haroon Khan, Forensic Medical Examiner
Dr. James Moloney, Forensic Medical Examiner
Dr. Nicola Cochrane, Forensic Medical Examiner
Ms. Sarah O'Connor, Project Manager for Higher Diploma in Nursing (Sexual Assault Forensic Examination)

Service Overview

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

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

Clinical Activity

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

	2013	2014	2015	2016	2017
No.	310	286	317	289	327

In 2017, the SATU at the Rotunda Hospital provided care for 327 people (91% women) after rape or sexual assault, 12% more than in 2016. In total, the national SATU services saw 865 new patients, which was an increase of 153 cases nationally from 2016. In addition to acute SATU attendances, the SATU also provides follow-up care, including sexually transmitted infection (STI) screening, support and health promotion (e.g. Hepatitis B vaccination programme) for up to six months after first attendance.

Patients ranged from under fourteen years to over 70 years. Most (79%) presented within seven days of an incident of sexual assault; early presentation is optimal in terms of provision of appropriate care as well as collection of forensic evidence. Of the 297 Rotunda cases where the incident was reported to have taken place in the Republic of Ireland, 230 (77%) of these took place in Dublin city or county. Eleven other counties were also represented in the figures. While 80% of attendees reported that the incident took place between 8pm and 8am, the majority of patients (212 (65%)) actually attended for care within daytime hours (0800-2000). Nevertheless, approximately one third of our patients were seen between the hours of (0800-2000), which emphasises the continued need for a round-the-clock service.

Successes & Achievements 2017

Education & Training

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

This year's interagency study day for those involved in SATU care provision took place in Farmleigh, Phoenix Park, in October 2017. We acknowledge the Office of the Taoiseach for allowing us complimentary access to this lovely facility. This was the ninth annual study day, and it continues to provide us with an excellent opportunity to remain updated on developments in all aspects of the interagency service. While we received financial support to run this study day from the Manuela Riedo Foundation for many years, this is no longer available. We continue to lobby the HSE and all agencies involved in service provision to provide a defined training budget annually to ensure sustained provision of interagency training.

Despite staffing issues, the team has continued to provide education and training in many areas. This has included the well-established Transition Year programme, run by Deirdra Richardson, but also a range of interagency education collaborations with Dublin Rape Crisis, An Garda Síochána and the STI Foundation. The SATU service was disappointed that neither the UCD programme for Forensic Medical Examiners or the RCSI Higher Diploma in Sexual Assault Forensic Examination took place in 2017, but are optimistic that both will run in 2018.

Enhancing Patient Care

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

Of the 327 patients that attended the SATU in 2017, 119 (36%) attended without reporting the incident to An Garda Síochána. 26 of these patients chose to securely store forensic evidence in the SATU. This evidence is stored for up to one year, and can be released to An Garda Síochána if and when the patient reports the incident.

Emergency Contraception (EC) was given to 144 of 243 (59%) women seen with 120 hours of an incident (the upper time limit for effective hormonal EC). There was a range of reasons (including previous effective contraception, hysterectomy) why the remaining patients did not require EC. All SATU attendees were offered follow-up screening for Sexually Transmitted Infections. 239 men and women accepted this offer, and 158 (66%) actually attended for screening. Such low return rates are not uncommon, both nationally and internationally, and have encouraged continued provision of routine prophylaxis for Chlamydia at the time of the patient's initial attendance. The rate of identification

of Chlamydia has fallen precipitously since the introduction of routine prophylaxis. All patients are also offered a course of Hepatitis B vaccination, and can also be offered HIV prophylaxis on-site if required following risk assessment. In 2017, 36 (11%) patients received post-exposure prophylaxis for HIV, and none of these patients acquired HIV as a result of the incident.

Innovation

In 2016, the SATU undertook a major project, in conjunction with the HSE Office of the Chief Information Officer, to develop a secure, web-based database and reporting system for all six SATUs. This launched in 2017 and has provided us with the data to inform the metrics for this report, and also for our national report of key service activity.

Over the past few years, the service has been offering a patient experience questionnaire in both written and electronic format to encourage feedback from as many SATU attendees as possible. The SATU service continued to do this in 2017, and has used feedback received to drive further service developments. We really value this as it allows us to critically appraise our service through the lens of a service user and underpins continuous quality improvement.

Challenges 2017

The SATU continues to experience challenges staffing the forensic examiner and assisting nurse/midwife rotas. This meant that there were occasions when we were unable to provide an out-of-hours service and had to refer patients to the SATU at the Midland Regional Hospital, Mullingar. This is a far from ideal scenario, and we acknowledge the support of our colleagues in the Mullingar SATU in this regard.

Two of our clinical nurse/midwife specialists (SAFE), Aideen Walsh and Catherine Hallahan headed off for pastures new – leaving us with a significant service gap. While we are delighted that Aideen remains involved in the service, in her new role as Paediatric Forensic Medical Unit Coordinator in Our Lady's Hospital Crumlin, we certainly miss the day-to-day presence of these committed team members.

Recruitment of forensic medical examiners is difficult. Traditionally, these examiners came from a primary care background, but the increasing demands on General Practitioners mean that many of them cannot undertake additional work outside their practices. We are, however, delighted to have recruited Dr. Nicola Cochrane, with her wealth of relevant experience, to join the team and look forward to her ongoing contribution. I acknowledge the commitment of all our forensic examiners, this year and every year. Our staffing shortage has meant that people are going above and beyond in terms of on-call commitment, and this is greatly appreciated.

Although the remit for the adult SATU services is for patients over fourteen years, in 2017 the unit provided care for five female patients less than fourteen years of age. These were instances where acute care in a paediatric service could not be arranged. Upcoming infrastructural developments in paediatric services in the Dublin region are anticipated which will mean that such patients should be appropriately accommodated in the paediatric hospital setting in the future.

Plans for 2018

Our highest priority, to ensure appropriate provision of responsive care at all times, is to increase staffing levels, both for forensic examiner and assisting nurse rotas. As the SATU is a 24/7 service, it is imperative that the SATU has adequate staffing levels to cover the service. We are grateful to the Executive Management Team of the Rotunda who have granted permission to train three replacement nurses in the upcoming postgraduate programme commencing September 2018.

The Citizens Assembly and the Joint Oireachtas Committee on the eight Amendment also took place in 2017. We know from opinion polls, and numerous 'behaviour and attitudes surveys' that a majority of people living in Ireland feel that women who are pregnant as a result of sexual violence should be able to access safe and legal termination of pregnancy, if that is their choice. The SATU services have provided facts to inform this discussion, and we welcome the upcoming referendum on this question.

2018 also brings with it the fourth Edition of our national interagency Guidelines, we look forward to reviewing and updating these as appropriate to ensure that they continue to reflect best practice, patient focused care.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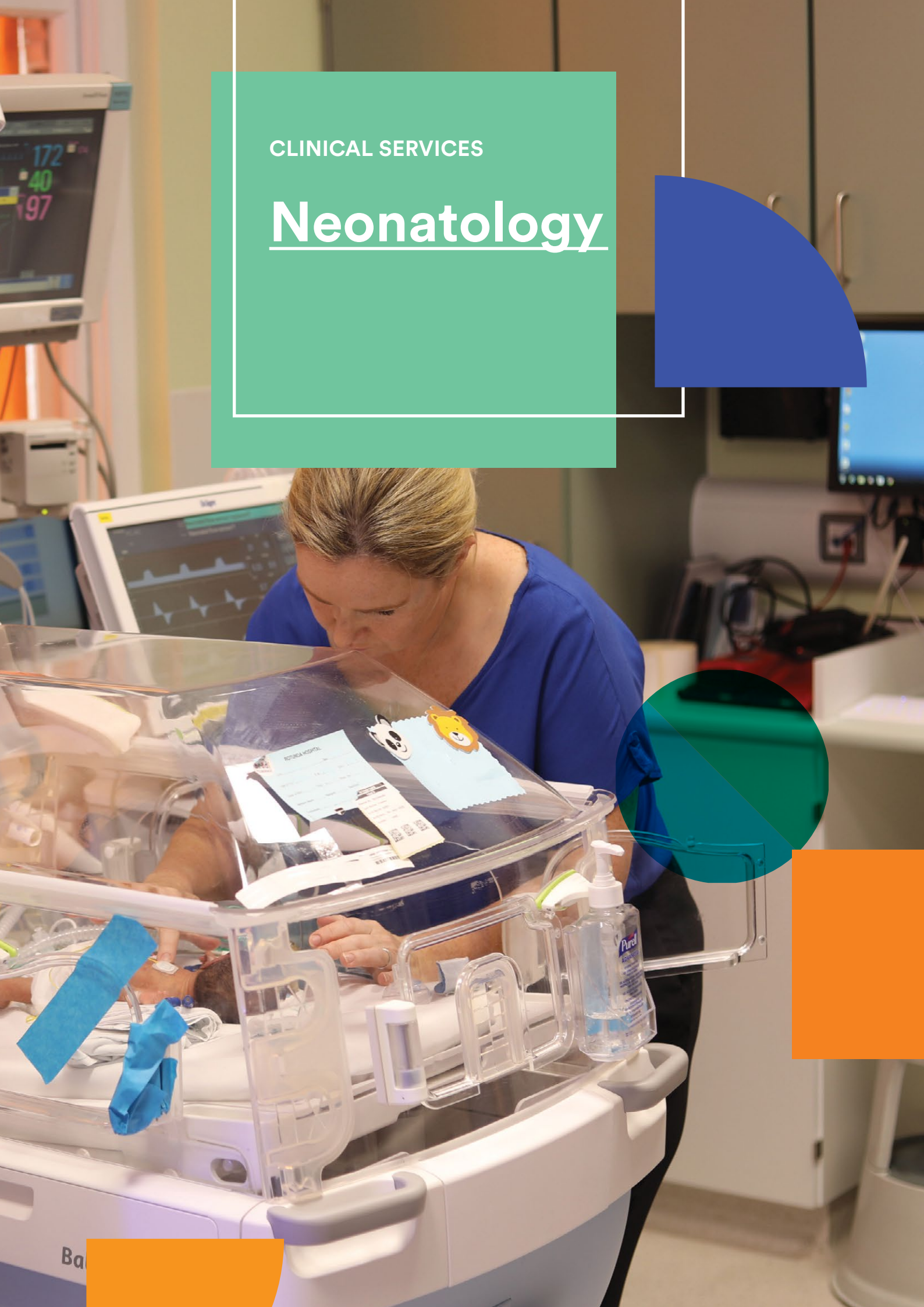
CLINICAL SERVICES

Neonatology



Department of Neonatology

Head of Department

Dr. Breda Hayes, Consultant Neonatologist

Staff

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

Service Overview

The Neonatal Intensive Care Unit (NICU) at the Rotunda Hospital is a tertiary referral center and provides specialist care not only to babies born in the Rotunda but also to small and/or sick babies delivered at other hospitals throughout the state. As part of the RCSI Hospital Group, our service works closely with other perinatal centers (Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital) and has well-developed network pathways for both in utero and ex utero transfer of babies.

In addition, the Rotunda has well established links with both national Children Hospitals (Children's University Hospital, Temple Street and Our Ladys Children Hospital Crumlin). The Rotunda NICU admits approximately 1,200 infants per annum, including 150 very low birth weight infants. The NICU has 39 beds ranging from Level III (intensive care) to Level I (special care), is a center for therapeutic hypothermia, and provides state-of-the-art therapeutic modalities including high frequency oscillation and inhaled nitric oxide.

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

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

Clinical Activity

Neonatal Intensive Care Unit (NICU)

Although the overall number of admissions (1,164) was slightly lower than previous years, the number of very low birth weight babies has remained relatively constant. This included 51 babies <1,000grams and 68 babies 1,000 - 1,500grams. The main category where admissions were reduced was in babies >2,500gms. There was a reduction in both the number of intensive care and high dependency care days of babies admitted (Table 1.2). This likely reflects advances in fetal medicine and a concerted effort on both obstetrical and neonatal teams to reduce potentially avoidable perinatal complications. In particular, the number of admissions with transient tachypnoea of the newborn has significantly decreased with a fall of 20% compared to previous years. In addition, through the provision of intravenous antibiotics and phototherapy on the postnatal wards, NICU admission was averted in 773 babies, thereby avoiding mother and baby separation.

Hypoxic Ischaemic Encephalopathy (HIE)

In 2017, while overall encephalopathy rates were higher than 2016 figures, they were however in keeping with previous years. Fourteen babies had evidence of moderate encephalopathy (eight inborn) and five babies had evidence of severe encephalopathy (two inborn). The Rotunda is one of only four centers nationally providing therapeutic hypothermia and continues to have excellent outcomes following cooling. All babies eligible for cooling were identified and commenced therapeutic hypothermia within the six-hour window following delivery. Seizure burden and evidence of injury on neuroimaging in babies with moderate encephalopathy was low. Of the fourteen babies with moderate HIE, thirteen had normal brain MR imaging and have reassuring neurodevelopmental progress to date. The remaining child has extensive white matter injury and evolving cerebral palsy.

Unfortunately, therapeutic hypothermia does not improve outcomes in babies with severe HIE and outcome in this cohort was poor. Three babies died in the initial neonatal period. The remaining baby assessed has evidence of evolving cerebral palsy and cognitive delay.

Specialist Cardiology Services

We are fortunate to have access to specialist pediatric cardiology services. Dr. Orla Franklin (Consultant Pediatric Cardiologist) attends the unit weekly and provides formal cardiology assessment including echocardiography. In 2017, she assessed 204 babies directly in the NICU. This does not include babies transferred with known duct-dependent cardiac malformations or other babies transferred directly to Our Ladys Hospital, Crumlin for review. The Department of Neonatology also has on-site routine haemodynamics and cardiovascular assessment through Professor Afif El-Khuffash (Consultant Neonatologist) who has extensive training and experience with neonatal echocardiography.

National Neonatal Transport Program (NNTP)

In 2017, the NNTP conducted 564 transports. The NNTP team from the Rotunda conducted 33% (188) of this total number, of which 121 (64%) were from outside the greater Dublin area. The majority of transfers to Dublin by the NNTP are to the Dublin paediatric hospitals for multidisciplinary team management. A smaller proportion of transports are brought directly to the maternity hospitals for tertiary neonatal care. In 2017, the Rotunda received 45 (8%) of the total number of babies transported by the NNTP. Of these, 27 (60%) were national referrals for neonatal management. This represents 25% of the total number (107) of NNTP primary transports for neonatal management to the three Dublin maternity Hospitals in 2017. The remaining 18 babies

were Rotunda booked babies returning from another center. The Rotunda also used the NNTP service to transfer out 77 infants. This represents 14% of all NNTP transports in 2017. Of these, 55 (71%) were referrals to Dublin paediatric hospitals for surgical, neurological or cardiac management, and 22 (29%) were returning infants to their original birth hospitals, outside Dublin.

Paediatric Outpatients

Paediatric outpatients' attendances for 2017 were 8,997. This has increased from 8,084 in 2016. The overall non-attendance rate remains high at 7% for new attendances and 14.6% for return appointments. Significant resources are utilised to trace babies who are not brought for an appointment. Methods of reducing non-attendance at clinics will be a key area for review in 2018.

Specialist Neurology Clinic

In total, 54 babies were seen in 2017 by Professor Mary King, Consultant Paediatric Neurologist in our specialist neurology clinic. The reasons for referral included therapeutic hypothermic treatment in the newborn period, developmental delay, periventricular leukomalacia (PVL) and abnormal neurological examination. The availability of a specialist neurology clinic in the Rotunda greatly facilitates prompt access to specialist neurology services.

Neonatal Developmental Screening Program

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

Of the 125 children offered assessment, 109 had a history of being born with very low birth weight (VLBW) and seventeen children had a history of HIE. Developmental scores are available on 104 VLBW children and sixteen children with a history of HIE. In the VLBW population 34 children (33%) scored within the normal range across all domains of the BSIT-3. Scores fell below the normal range in at least one domain in the remaining children. In 42 children (40%), scores fell within the borderline category. In 28 children (27%), scores fell in the significantly abnormal category.

In the cohort of children with a history of HIE, assessments were broadly reassuring in the sixteen children who attended for developmental assessment. Nine children (56%) scored within the normal range, while a further seven children (44%) were in the borderline range, and none were abnormal.

Paediatric Infectious Disease (ID) Service and Rainbow Clinic

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

In addition, the paediatric ID specialist manages all infants with congenital CMV and toxoplasmosis on a local and national basis via liaison with paediatricians nationwide. In 2016, 325 infants were referred to the Rotunda Rainbow Clinic for specialist follow-up.

Successes & Achievements 2017

Enhancing Patient Care

The Department of Neonatology has always recognised the importance of neurodevelopmental care in the NICU. More recent approaches in neurodevelopmental care recommend judiciously adding in soothing sensory input. In line with this "Tentacles for Tinies" was introduced and launched on World Prematurity Day. The tentacles of the crocheted octopus resemble the umbilical cord and remind babies of being inside the womb.

In addition, to celebrate our premature infants and applaud their strength and tenacity, all babies born <1,500 grams in 2015 were invited back to the Rotunda for a party. This was a lovely day for past families and staff to see children who had such difficult neonatal courses now reaching the magical two years corrected gestational age. Parents with extremely preterm babies in the NICU at that time were also invited. This was a great source of hope and inspiration for families. We hope to host this party annually on World Prematurity Day moving forward.

As had occurred in 2016, increased lactation support (100 hours per month) was continued this year. Our lactation specialist Marina Cullen is now a familiar face on the unit. This has had an enormous positive impact on both mothers and babies at this very difficult and vulnerable period.

A further significant advance in the NICU was the appointment of a dedicated neonatal pharmacist. Fiona Gaffney joined the team in July and has been an immense support with ongoing service developments. In particular she has helped champion a focus on evidence-based therapeutics and medication safety in the Neonatal Unit.

In November we transitioned to the electronic healthcare record (MNCMS). Despite the complexity of neonatal patients, the transition from paper to electronic records went very smoothly. Very quickly the potential of the system and the advantages, in particular for medication safety and ease of access to patient information, was realised. This was largely due to the enthusiasm and positive attitude of the NICU staff.

Education & Training

Staff education is key to continued provision of expert nursing care to sick neonates. Professional development is encouraged and supported through various education programs for neonatal

nurses, such as the Postgraduate Diploma in Neonatal nursing, in partnership with the RCSI. The hospital also sponsors staff to attend the 'Key Principles of Special Care and High Dependency Nursing' and 'Key Principles of Intensive Care Nursing' in the Centre of Midwifery Education. Both of these courses are approved by NMBI as Category Level one. During the year, nurses were also facilitated to attend national and international conferences. In 2017, a team of senior nursing staff attended an international conference on Family Integrated Care (Fi Care) and it is envisaged that this model of care will be introduced following the neonatal unit renovations in 2018.

In her role as National Specialty Director for Neonatology training in the RCPI, Professor Naomi McCallion was integral in Neonatology being recognised in 2017 as an independent subspecialty by the Medical Council of Ireland. In 2017, she also established the first recognised Irish training scheme for neonatology.

The work of our Advanced Nurse Practitioners (ANPs) Ms. Christine Mc Dermott, Ms. Edna Woolhead and Mr. Mark Hollywood is also acknowledged. They have made tremendous advances in their roles within nursing education and the advancement of specialist neonatal nursing. They have major roles within curriculum development, assessment and teaching on the Postgraduate Diploma (Nursing) in Neonatal Intensive Care and also on the 'Principles of High Dependency Neonatal Care' and 'Principles of Neonatal Intensive Care' programmes. They also provide continued medical education on midwifery study days and lectures for HDip and BSc Midwifery students in Trinity College Dublin.

Research

The Neonatal Department continues its active role in research. During 2017 there were a total of five higher degree candidates in the Department: Dr. Raga Malika, Dr. Colm Brethnach, Dr. Adam Reynolds, Dr. Neidin Bussmann and Dr. Patrick McCrossan. The Department of Neonatology continues to actively participate in research trials with a number of single-centered trials and one multicentered trial ongoing in the unit.

Challenges 2017

2017 was a very exciting yet challenging year for the neonatal intensive care unit (NICU). The difficulties of running a very busy NICU within the confines of very outdated physical infrastructure really came to the fore, as evidenced by a fire in the main intensive care unit on Easter Sunday. The professionalism of our staff resulted in swift curtailment of the fire and no injuries were sustained. However, the unit was closed for a number of weeks as emergency infrastructure repairs were completed. In addition, despite the highest levels of hospital hygiene practices, we have suffered multiple serious infection outbreaks over the year. With incubators spaced too close together, it is almost inevitable that further infectious outbreaks will occur. These major infrastructural challenges are compounded by low nurse-to-baby ratios within the unit. Significant resources were invested in nursing recruitment over 2017 with slow but continued improvement in nursing ratios. Additionally, an interim renovation of the unit was approved to correct the ongoing fire hazards. It is hoped that these positive interventions will continue in 2018 and that optimum nursing ratios in a safe physical environment will be reached in the near future.

Plans for 2018

Work will commence on a new four-bed extension to the special care area and complete renovation and modernisation of the remaining NICU in 2018. Given the need to maintain the same level of clinical service these works are being conducted in three separate phases, which are planned to finish in October 2018. Although space restrictions will not improve with this renovation, each area will be thoughtfully designed and patient equipment (incubators, monitors and respiratory drivers) upgraded to de-clutter the patient area and maximize each patient space. Once the works are complete each baby will have their own clearly identifiable patient space. Each bed space in the main ICU and HDU areas will have their own monitor for access to the electronic healthcare record.

In addition, to improve the quality of neurodevelopmental follow-up, it is hoped to appoint a permanent clinical psychologist to the neonatal outpatient team. In recognition of the fact that very preterm babies and high-risk term babies can develop a spectrum of neurodevelopmental difficulties that are difficult to assess, the presence of an experienced clinical psychologist as part of the multi-disciplinary team will help more fully evaluate such high-risk infants.

Neonatology Tables

Table 1.1: Admissions and discharges to the neonatal unit

	2013	2014	2015	2016	2017
Admissions*	1,323	1,439	1,311	1,262	1,146
Discharged alive	1,315	1,416	1,273	1,213	1,094
Infants > 1,500 grams	1,174	1,302	1,145	1,089	975
Infants Treated on Ward	854	846	752	911	773

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

Table 1.2: Categories of Neonatal Care*

	2013	2014	2015	2016	2017
Total Number of Intensive Care Days	2,166	1,976	2,145	2,084	1,855
Total Number of High Dependency Care Days	3,183	2,723	2,463	2,431	2,343
Total Number of Special Care Days	7,199	6,804	6,517	6,264	6,222

*British Association of Perinatal Medicine. Categories of Care 2011

Table 1.3: Admissions to the Neonatal Unit by Birth Weight					
	2013	2014	2015	2016	2017
500 – 1,000g	57	37	46	50	51
1,001 – 1,500g	84	77	82	74	68
1,501 – 2,000g	159	141	143	120	117
2,001 – 2,500g	213	194	175	168	178
Over 2,500g	802	967	827	801	680
Total discharged	**1,315**	**1,416**	**1,273**	**1,213**	**1,094**
* Based on Infants Discharged in 2017					

Table 1.4: Admissions to the Neonatal Unit by Indication					
	2013	2014	2015	2016	2017
Respiratory Symptomatology	497	532	523	497	458
Prematurity < 37 weeks	427	387	346	317	332
Jaundice	411	405	347	294	326
Low birth weight < 2.5kg	343	276	257	237	246
Hypoglycaemia	199	217	196	141	200
Congenital abnormalities	212	191	184	181	174
Suspected sepsis	46	31	40	35	28
Hypoxic Ischaemic Encephalopathy (HIE)	18	28	29	13	25
Neonatal Abstinence Syndrome(NAS)	35	24	28	18	16
Dehydration	10	14	16	14	16
Seizures	26	22	8	12	8
Social	11	10	5	7	8
Gastro-intestinal symptoms	11	10	11	5	3
*Some infants are assigned more than one reason for admission					

Table 1.5: Respiratory Morbidity in Term Infants > 37 weeks Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Respiratory distress syndrome (RDS)	265	243	250	230	247
Transient Tachypnoea of the Newborn (TTN)	228	285	257	263	209
Congenital Pneumonia	13	8	15	27	19
Meconium Aspiration Syndrome (MAS)	26	18	5	9	14
Pulmonary Hypoplasia	3	3	1	3	9
Stridor	17	13	15	4	4
Congenital Diaphragmatic Hernia (CDH)	3	5	6	2	2
Tracheo-Oesophageal Fistula	1	0	1	1	2
Congenital Cystic Adenomatoid Malformation (CCAM)	0	0	1	0	1
Air leak	2	0	0	0	0
Laryngomalacia	1	2	1	2	0

Table 1.6: Congenital Heart Disease in Infants Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Patent Ductus Arteriosus (PDA)	91	61	69	68	55
Dysrhythmia	53	52	63	49	38
Ventricular Septal Defect (VSD)	27	25	25	23	36
Persistent Pulmonary Hypertension Of The Newborn (PPHN)	41	47	36	41	35
Atrial Septal Defect (ASD)	31	24	21	21	11
Atrioventricular Septal Defect (AVSD)	4	3	3	5	4
Transposition Of The Great Arteries (TGA)	3	1	5	3	6
Tetralogy of Fallot	1	4	3	2	4
Hypoplastic Left Heart Syndrome (HLHS)	4	2	4	4	3

Table 1.7: Gastrointestinal Abnormalities in Infants Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Inguinal Hernia	12	6	11	8	15
Cleft Palate Only	5	0	4	2	7
Imperforate Anus	1	2	2	7	4
Tracheo-Oesophageal Fistula	1	0	1	1	4
Cleft Lip	2	1	3	1	2
Spontaneous Perforation	2	2	2	0	2
Bowel Atresia	1	0	0	1	1
Pyloric Stenosis	1	0	0	0	0
Gastroschisis	2	3	3	1	0

Table 1.8: Central Nervous System Abnormalities in Infants Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Neonatal Abstinence Syndrome (NAS)	35	24	28	18	16
Meningitis	8	8	11	7	10
Seizures not associated with HIE	26	22	8	12	8
Microcephaly	3	4	2	3	6
Hydrocephalus	4	4	2	5	3
Erb's Palsy	3	6	0	0	3
Schizencephaly	2	2	3	2	1

Table 1.9: Metabolic / Endocrine / Haematological Abnormalities in Infants Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Hypoglycaemia	199	217	196	141	200
Anaemia of Prematurity	104	81	93	75	81
Thrombocyto-paenia	35	39	47	28	39
Polycythaemia	20	30	39	17	36
Hyperglycaemia	23	21	19	20	31
Haemolytic Disease Of Newborn	31	39	14	13	27
Anaemia (not associated with prematurity)	7	6	8	7	8
Disseminated Intravascular Coagulopathy	33	31	19	4	7
Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH)	3	4	6	5	7
Hypothyroidism	3	2	3	4	1
Galactosemia	2	0	1	0	1

Table 1.10: Chromosomal Abnormalities in Infants Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Trisomy 21 (Down Syndrome)	17	27	14	22	18
Trisomy 18 (Edwards Syndrome)	2	1	0	0	2
Trisomy 13 (Patau Syndrome)	0	0	0	0	2

Table 1.11: Jaundice in Term Infants > 37 weeks Admitted to the Neonatal Unit					
	2013	2014	2015	2016	2017
Non-Haemolytic Jaundice	145	146	130	129	121
Haemolytic Jaundice					
- ABO Incompatibility	26	35	14	11	27
- Rhesus Incompatibility	2	6	2	4	5

Table 2.1: Very Low Birth Weight (VLBW) Infant Admissions to the Neonatal Unit										
	2013		2014		2015		2016		2017	
	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies	All Cases	Excluding Congenital Anomalies
Infants < 401g but ≥22+0 weeks gestation	0	0	2	2	0	0	0	0	0	0
Infants 401-500g	0	0	7	7	0	0	2	1	3	2
Infants 501-1,500g	132	122	126	101	124	108	118	87	111	92
Infants > 1,500g but ≤29+0 weeks gestation	2	1	0	0	5	5	2	0	1	1
Total	**134**	**123**	**135**	**110**	**127**	**113**	**122**	**88**	**115**	**95**

Table 2.2.1: Survival to Discharge Based on Gestational Age - Including Infants with Congenital Anomalies												
	Rotunda 2017 Inborn			2017 Outborn			2017 Total (Inborn & Outborn)			2013-2016 Aggregate		
	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 22 Weeks	1	0	0	0			1	0	0	3	0	0
22+0-22+6	3	0	0	0			3	0	0	11	0	0
23+0-23+6	2	0	0	0			2	0	0	22	2	9
24+0-24+6	10	6	60	0			10	6	60	35	20	57
25+0-25+6	8	6	75	2	1	50	10	7	70	36	29	81
26+0-26+6	6	4	66	1	1	100	7	5	71	50	39	78
27+0-27+6	17	12	71	2	2	100	19	14	74	50	46	92
28+0-28+6	16	15	94	4	4	100	20	19	95	100	92	92
29+0-29+6	10	9	90	0			10	9	90	56	54	96
30+0-30+6	17	17	100	0			17	17	100	47	44	94
31+0-31+6	8	7	88	1	1	100	9	8	88	49	45	92
32+0-32+6	5	5	100	0			5	5	100	29	25	86
>32 weeks	5	5	100	0			5	5	80	32	29	91
Total	108	86	80	10	9	90	118	95	81	520	425	82

Table 2.2.2: Survival to Discharge Based on Gestational age - Excluding Infants with Congenital Anomalies												
	Rotunda 2017 Inborn			2017 Outborn			2017 Total (Inborn & Outborn)			2013-2016 Aggregate		
	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 22 Weeks	1	0	0	0			1	0	0	3	0	0
22+0-22+6	3	0	0	0			3	0	0	9	0	0
23+0-23+6	1	0	0	0			1	0	0	19	1	5
24+0-24+6	7	4	57	0			7	4	57	27	17	63
25+0-25+6	7	5	71	2	1	50	9	6	67	31	26	84
26+0-26+6	5	4	80	1	1	100	6	5	83	43	34	79
27+0-27+6	13	9	69	2	2	100	15	11	73	45	42	93
28+0-28+6	12	12	100	4	4	100	16	16	100	86	81	94
29+0-29+6	9	9	100	0			9	9	100	53	52	98
30+0-30+6	15	15	100	0			15	15	100	42	41	98
31+0-31+6	7	7	100	1	1	100	8	8	100	42	42	100
32+0-32+6	4	4	100	0			4	4	100	24	23	96
>32 weeks	3	3	100	0			3	3	100	27	24	89
Total	87	72	83	10	9	90	97	81	84	451	383	85

Table 2.3.1: Survival to Discharge Based on Birth Weight - Including Infants with Congenital Anomalies												
	Rotunda 2017 Inborn			Rotunda 2017 Outborn			Rotunda 2017 Total (Inborn & Outborn)			Rotunda 2013-2016 Aggregate		
Birth weight grams	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 501	4	0	0	0			4	0	0	13	1	8
501-600	3	0	0	0			3	0	0	36	11	31
601-700	8	5	63	0			8	5	63	35	20	57
701-800	10	6	60	2	1	50	12	5	42	39	29	74
801-900	9	4	44	2	2	100	11	6	55	51	42	82
901-1,000	14	14	100	0			14	14	100	34	31	91
1,001-1,100	10	9	90	2	2	100	12	11	100	52	45	87
1,101-1,200	7	7	100	0			7	7	100	57	53	93
1,201-1,300	12	11	92	3	3	100	15	14	93	71	70	99
1,301-1,400	7	6	86	0			7	6	86	54	47	87
> 1,400	24	24	100	1	1	100	25	25	100	78	76	97
Total	108	86	80	10	9	90	118	95	81	520	425	82

Table 2.3.2 Survival to Discharge Based on Birth Weight – Excluding Infants with Congenital Anomalies												
	Rotunda 2017 Inborn			Rotunda 2017 Outborn			Rotunda 2017 Total (Inborn & Outborn)			Rotunda 2013-2016 Aggregate		
Birth weight grams	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%	n	Survival to discharge	%
< 501	3	0	0	0			3	0	0	12	1	8
501-600	3	0	0	0			3	0	0	26	7	27
601-700	4	2	50	0			4	2	50	31	17	55
701-800	6	4	66	2	1	50	8	5	63	32	27	84
801-900	7	4	57	2	2	100	9	6	67	42	37	88
901-1,000	13	12	92	0			13	12	85	28	26	93
1,001-1,100	9	9	100	2	2	100	11	11	100	47	42	89
1,101-1,200	6	6	100	0			6	6	100	50	48	96
1,201-1,300	10	9	90	3	3	100	13	12	79	68	67	99
1,301-1,400	6	6	100	0			6	6	100	46	42	91
> 1,400	20	20	100	1	1	100	21	21	100	69	69	100
Total	87	72	83	10	9	90	97	81	84	451	383	85

"A big thank you to all NICU staff, midwives, and lactation consultants for supporting me and looking after me and my baby, who was born at 33 weeks"

Table 2.4: Morbidity Data (Including Infants with Congenital Anomalies)								
	Rotunda 2017 (n=118)			Vermont Oxford Network 2017 Birth Year Comparison Data		Rotunda 2013-2016 Aggregate		
	n	Cases	%	n	%	n	Cases	%
Inborn	118	108	92	54,420	88	521	472	91
Male	118	64	55	61,853	50	521	278	53
Antenatal Steroids: All Infants	107	99	93	61,556	84	501	421	84
Multiple Gestation	118	36	31	61,882	26	521	200	38
Antenatal Magnesium Sulphate	93	75	81	61,175	59	492	279	57
Caesarean Delivery	118	84	71	61,851	72	519	370	71
Any Major Birth Defect	116	21	18	61,843	5	520	86	17
Small for Gestational Age	117	19	16	61,761	26	520	122	23
Surfactant Administered in Delivery Room	116	67	58	61,818	22	513	310	60
Surfactant Administered at Any Time	115	85	74	61,826	56	513	328	64
Any Ventilation	110	52	47	59,970	57	484	279	58
Ventilation After Early CPAP	5	35	14	31,358	38	156	50	32
Conventional Ventilation	110	50	46	59,970	54	484	274	57
High Frequency Ventilation	109	13	12	59,953	21	482	78	16
Nasal IMV/SIMV	112	1	1	59,953	35	116	0	0
Nasal Continuous Positive Airway Pressure (CPAP)	113	95	84	59,962	79	483	404	84
CPAP Before or Without Intubation and/or Ventilation	101	35	35	49,666	63	420	156	37
High Flow Nasal Cannula	111	59	53	59,919	54	484	133	27
Inhaled Nitric Oxide	113	17	15	59,952	6	484	60	12
Respiratory Distress Syndrome	110	98	89	59,839	72	484	434	90
Pneumothorax	112	11	10	59,956	4	484	38	8
Chronic Lung Disease	84	14	17	51,896	25	395	68	17
Chronic Lung Disease in Infants < 33 Weeks	79	13	17	47,158	27	367	67	18
Corticosteroids for Chronic Lung Disease	113	12	11	59,887	10	483	24	5
Early Bacterial Infection	113	5	4	59,870	3	479	10	2
Late Bacterial Infection	107	10	9	57,332	8	463	23	5
Coagulase Negative Staphylococcus Infection	107	6	6	57,326	5	463	43	9
Nosocomial Bacterial Infection	107	13	12	57,326	11	465	61	13
Fungal Infection	108	0	0	57,327	1	463	1	0
Any Late Infection	107	13	12	57,319	11	463	61	13
Necrotizing Enterocolitis (NEC)	112	11	10	59,947	5	483	45	9
NEC requiring Surgery	113	1	1	59,957	3	484	12	2
Focal Gastrointestinal Perforation	112	1	1	59,908	2	484	3	1
Probiotics	106	70	66	59,911	16	479	365	76
Patent Ductus Arteriosus (PDA)	113	48	43	59,696	26	484	177	37
Ibuprofen for PDA	113	6	5	59,943	6	484	69	14
PDA ligation	113	0	0	59,985	3	484	11	2
Retinopathy of Prematurity (ROP)	110	76	69	43,861	31	383	58	15
Severe ROP (Stage 3 or greater)	74	4	5	43,861	6	383	22	6
Anti-VEGF treatment for ROP	113	1	1	59,906	2	368	116	32
Intraventricular haemorrhage (IVH):	108	42	39	53,925	25	461	132	29

Severe IVH (Grade 3 or 4)	108	15	7	53,955	8	461	45	10
Cystic Periventricular Leucomalacia (PVL)	110	1	1	54,310	3	470	10	2
Mortality	110	23	21	60,847	14	516	94	18
Mortality excluding Early Deaths	104	17	16	58,132	10	474	52	11
Survival	110	87	79	60,487	86	516	422	82
Survival without specified morbidities	110	64	58	60,742	57	516	278	54

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

Table 2.5: Shrunken Standardised Mortality and Morbidity Rates								
	Rotunda 2017				Rotunda 2014-2016			
Measure	n	SMR*	Lower 95%	Upper 95%	n	SMR	Lower 95%	Upper 96%
Mortality	104	1.1	0.7	1.6	363	1.2	0.9	1.5
Mortality Excluding Early Deaths	101	1.2	0.7	1.7	338	1.1	0.8	1.4
Death or Morbidity	104	0.9	0.7	1.1	363	1.1	0.9	1.2
Chronic Lung Disease (CLD)	82	0.7	0.5	1.1	280	0.8	0.6	1
CLD: Infants < 33 Weeks	77	0.7	0.4	1.1	259	0.8	0.6	1.1
Necrotizing enterocolitis	108	1.7	0.9	2.6	345	1.4	1	2
Late Bacterial Infection	109	1.7	1	2.7	330	0.6	0.4	0.9
Coagulase Negative Staphylococcus	104	1	0.5	1.7	330	1.9	1.4	2.6
Nosocomial Infection	104	1.1	0.4	2	330	1.2	0.9	1.5
Fungal Infection	104	1	0.5	1.5	330	0.1	0	0.7
Any Late Infection	105	0.2	0	1.4	330	1.1	0.8	1.5
Any Intraventricular Haemorrhage (IVH)	105	1.4	1.1	1.9	329	1.6	1.3	1.8
Severe IVH (Grade 3 or 4)	105	1.4	0.9	2.1	329	1.6	1.2	2.1
Pneumothorax	108	1.3	0.8	2	346	1.6	1.1	2.1
Cystic Periventricular Leucomalacia (PVL)	107	0.6	0.1	1.4	335	0.7	0.3	1.2
Retinopathy of Prematurity (ROP)	72	0.8	0.5	1.1	277	0.6	0.4	0.7
Severe ROP (Stage 3 or greater)	72	1.2	0.3	2.5	277	1.3	0.8	1.9

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

Table 3: Neonatal Mortality Data*					
Birth Weight (grams)	Gestation	Delivery	Apgars	Age at Death	Principal Cause of Death
No Congenital Anomalies					
410	24+3	CS	2[1],6[5],7[10]	4.5 Hours	Respiratory Distress Syndrome, Extreme Prematurity, Extremely Low Birth Weight
475	24+2	CS	5[1],5[5]	51 Days	Chronic Lung Disease with Refractory Respiratory Failure, Renal Failure, Hypotension, Bilateral Interventricular Haemorrhages, Extreme Prematurity
510	22+2	SVD	2[1],2[5]	2 hours	Extreme Prematurity
540	22+2	SVD	2[1],2[5]	40 Minutes	Extreme Prematurity
590	24+1	Vaginal Breech	5[1],6[5],8[10]	3 Days	Klebsiella Sepsis, Extreme Prematurity, Pulmonary Haemorrhage
610	23+5	SVD	5[1],7[5]	34 Days	Necrotising Enterocolitis, Intestinal Perforation, Candidal Peritonitis, Interventricular Haemorrhage
640	27+1	CS	9[1],9[5]	40 Days	Necrotising Enterocolitis, Hepatorenal Failure, Myocardial Ischaemia, Chronic Lung Disease
710	25+4	CS	5[1],7[5],8[10]	12 Hours	Escherichia Coli Sepsis, Interventricular Haemorrhage, Refractory Respiratory Failure, Extreme Prematurity
730	23+6	SVD	7[1],7[5]	36 Days	Respiratory Failure, Renal Failure, Interventricular Haemorrhage with Post Haemorrhagic Hydrocephalus, Recurrent Intestinal Perforation, Extreme Prematurity
740	24+2	CS	6[1],8[5]	56 Days	Extreme Prematurity, Interventricular Haemorrhage, Neonatal Cytomegalovirus (CMV), Chronic Lung Disease, Interventricular Haemorrhage
850	26+3	CS	5[1],6[5],7[10]	15 Days	Coagulase Negative Staphylococcus Endocarditis with Intracardiac Thrombus, Pulmonary Interstitial Emphysema, Pulmonary Hypertension, Necrotising Enterocolitis,
815	25+0	Vaginal Breech	4[1],6[5]	38 Days	Necrotising Enterocolitis, Chronic Lung Disease, Interventricular Haemorrhage, Extreme Prematurity
980	27+1	CS	2[1],7[3]	26 Days	Necrotising Enterocolitis, Malrotation, Extreme Prematurity
1,250	27+0	CS	1[1],3[5],7[10]	3 Days	Perinatal Asphyxia, Pulmonary Haemorrhage , Interventricular Hemorrhage with Midline Shift
3,720	39+0	CS	0[1],1[5],4[10]	2 Days	Hypoxic Ischaemic Encephalopathy
Congenital Anomalies					
800	31+3	SVD	4[1],5[5],9[10]	3 Days	Trisomy 18 (Edwards Syndrome)
800	26+3	CS	5[1],8[5]	19 Days	Trisomy 21(Down Syndrome), AVSD, Fulminant Necrotising Enterocolitis, Prematurity
1,050	29+0	Vaginal Breech	1[1],1[5]	DRD	Congenital Sirenomelia, Bilateral Renal Agenesis, Pulmonary Hypoplasia
1,760	30+6	Induced Vaginal Delivery	6[1],3[5],3[10]	4 Hours	Severe hydrocephalus
1,900	34+3	CS	5[1],3[3]	1 Day	Potters Sequence
1,970	39+2	SVD	6[1],7[5],7[10]	6 Days	Trisomy 13 (Patau Syndrome)
2,060	33+4	CS	9[1],6[5]	35 Days	Pulmonary Hypertension, Respiratory Failure treated with Extracorporeal Membrane Oxygenation, Pulmonary Interstitial Emphysema, Cerebellar Haemorrhage, Trisomy 21 (Down Syndrome)
2,150	39+3	SVD	not assigned	4 Days	Anencephaly
2,180	36+4	SVD	7[1],7[5],8[1]	4.5 Hours	Trisomy 13 (Patau Syndrome)
2,380	40+6	SVD	Not assigned	3 Days	Trisomy 18 (Edwards Syndrome)
2,500	37+1	SVD	4[1],2[5],2[10]	2 Hours	Bilateral Congenital Diaphragmatic Hernias with Severe Pulmonary Hypoplasia. Ventricular Septal Defect.
2,510	37+3	SVD	1[1],4[5],6[10]	27 Days	Hypoxic Ischaemic Encephalopathy, Cleft lip and Palate , Abnormal Right Ear

2,740	34+3	CS	4[1],7[3]	6 Days	Caudal Regression Syndrome, Truncus Arteriosus, Severe white matter changes on brain MRI
2,810	39+3	SVD	5[1],2[5]	4.7 Hours	Trisomy 18 (Edwards Syndrome)
3,130	38+4	SVD	9[1],10[5]	21 Days	AVSD, Coarctation of the Aorta, Left sided Superior Vena Cava,
3,090	37+5	SVD	1[1],2[5],1[10]	DRD	Cystic Hygroma, AVSD, Valvular Pulmonary Stenosis
3,380	39+0	CS	9[1],10[5]	1 Day	Hypoplastic Left Heart Syndrome
3,690	36+3	CS	5[1],9[5]	19 Days	Double Outlet Right Ventricle, AVSD, Supraventricular Tachycardia

DRD - Delivery Room Death
CS - Caesarean Section
SVD - Spontaneous Vaginal Delivery
AVSD - Atrioventricular Septal Defect

Table 4.1: Hypoxic-Ischaemic Encephalopathy (HIE)

	2013		2014		2015		2016		2017	
	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn	Inborn	Outborn
Total	**32**	**6**	**21**	**9**	**15**	**11**	**7**	**9**	**22**	**9**
Mild (Grade1)	22	2	13	0	9	2	4	0	12	0
Moderate (Grade 2)	8	2	5	4	6	6	2	8	8	6
Severe (Grade 3)	2	2	3	5	1	3	1	1	2	3
Therapeutic Hypothermia	9	4	7	8	7	10	3	8	10	8
					Therapeutic Hypothermia continued in a single outborn infant with mild encephalopathy		One infant admitted outside the time window for initiation of therapeutic hypothermia		Therapeutic hypothermia discontinued early on two infants due to severe pulmonary hypertension One infant was not eligible for therapeutic hypothermia due to gestation age.	

"From the moment I arrived to the hospital the reception staff, the ER, the midwifery staff were all individually caring, attentive, kind, friendly and cheerful. I was encouraged throughout delivery and after. Everyone conducted themselves so cheerfully and professionally"

Table 4.2: Clinical Details of Newborns with Signs of Moderate to Severe HIE

Grade HIE	Inborn/ outborn	Gestation	Mode of delivered	Arterial Cord Gas		Venous Cord Gas	
				pH	Base Excess	pH	Base Excess
2	Inborn	37+2	EMCS	7.25	-13.3	nd	nd
2	Inborn	39+4	OVD	7.08	-9.9	nd	nd
2	Inborn	39+0	SVD	7.21	-5.1	7.27	-5.8
2	Inborn	41+3	OVD	7.23	-3.8	7.26	-8.6
2	Inborn	40+3	SVD	7.04	-13.5	7.29	-10.1
2	Inborn	40+0	SVD	7.18	-8.8	7.22	-9.7
2	Inborn	41+5	SVD	7.3	-4.5	nd	nd
2	Inborn	37+0	EMCS	6.83	-20.5	6.85	-17.5
2	Outborn	41+3	EMCS	7.0	-14.5	nd	nd
2	Outborn	37+3	ELCS	7.13	nd	nd	nd
2	Outborn	40+0	OVD	6.78	-21.2	6.88	-19.3
2	Outborn	40+0	EMCS	nd	nd	nd	nd
2	Outborn	39+1	EMCS	6.7	-19.5	nd	nd
2	Outborn	37+4	EMCS	6.94	-11.7	7.06	-7.8
3	Inborn	39+3	SVD	6.76	-22.9	6.85	-19.9
3	Inborn	37+3	SVD	6.99	-21.9	nd	nd
3	Outborn	35+1	EMCS	nd	nd	6.5	-27
3	Outborn	39+0	EMCS	6.72	-25.6	6.64	-25.4
3	Outborn	41+3	EMCS	7.09	-16	nd	nd

EMCS = Emergency Caesarean Section; ELCS = Elective Caesarean Section; OVD= Operative Vaginal Delivery;
SVD = Spontaneous Vaginal Delivery; nd= Not documented
*Cleft Lip and Palate with an abnormal Right ear but structurally normal brain MRI apart from evidence of Hypoxic Ischaemic Injury

	1 Minute Apgar	5 Minute Apgar	Therapeutic Hypothermia	Seizures	Brain MRI	Neurodevelopmental Progress	
						Outcome	Age Assessed (months)
	8	10	Yes	Yes	Extensive Watershed Injury	Evolving Cerebral Palsy	4
	2	6	Yes	No	Normal	Normal	12
	1	2	Yes	No	Normal	Normal	6
	2	6	Yes	No	Normal	Normal	12
	5	7	Yes	Yes	Normal	Follow up in another Centre	
	0	5	Yes	Yes	Normal	Normal	4
	4	7	Yes	No	Normal	Normal	4
	3	4	Yes	No	Normal	Normal	6
	3	5	Yes	No	Normal	Normal	4
	2	6	Yes	No	Normal	Normal	4
	3	6	Yes	No	Normal	Followed Locally	
	2	4	Yes	No	Normal	Followed Locally	
	1	7	Yes	No	Normal	Normal	4
	2	4	Yes	No	Normal	Followed Locally	
	0	0	Yes	Yes	Abnormal signal in basal ganglia & Thalami bilaterally consistent with severe ischaemia	Evolving Dyskinetic Cerebral Palsy and Cognitive Delay	12
	1	4	Yes	Yes	Severe hypoxic ischaemic injury affecting both cerebral hemispheres*	Neonatal Death at 4 weeks	
	1	3	No	Yes	Restricted diffusion in thalami, Paracentral, parasaggital regions and hippocampi. Extensive restricted diffusion in watershed distribution and corpus callosum anteriorly and posteriorly and in the anterior aspect of the mid brain.	Follow up Locally	
	0	1	Yes	Yes	No	Neonatal Death Day 2	
	0	4	Yes	Yes	No	Neonatal Death Day 4	

Allied Clinical Services

Laboratory Medicine Department

Head of Department
Dr. Richard Drew, Director of Laboratory Services

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

Service Overview
The laboratory provides a full suite of tests across the divisions of biochemistry/endocrinology, microbiology, haematology/transfusion and histopathology. The laboratory also provides a phlebotomy service, as well as instruments for point-of-care testing. The mortuary and post-mortem services are also part of the laboratory services.

Clinical Activity
The increase in on-call work seen in 2016 has continued and this is most likely related to the introduction of new sepsis screening systems and guidelines.

Successes & Achievements 2017
In 2017, the Laboratory had several notable achievements:

- Retention of Irish National Accreditation Body (INAB) accreditation for laboratory and point-of-care testing
- Introduction of five new tests under the flexible scope of accreditation
- Introduction of the new MN-CMS electronic healthcare record system which has led to automated electronic requesting and reporting of patients results

Enhancing Patient Care
- Introduction of on-site testing for Mycoplasma genitalium and trichomonas by molecular methods.
- Stream-lining of care pathways focusing on more efficient laboratory testing, as evidenced by decreased requesting of unnecessary blood tests in patients with pre-eclampsia.

Education & Training
- Introduction of course/meeting/training evaluation by means of software programmes and a presentation policy at all departmental meetings to allow feedback to those staff that could not attend. This will also be a state registration requirement in the near future.
- Continuation of a journal club for medical scientists to increase awareness of new developments and guidelines.

Research
- Regular multi-disciplinary case study sessions held including Haematology, Transfusion, Microbiology, and Biochemistry cases. The Department has also published multiple peer-reviewed publications in 2017.

Innovation
- Development of a rapid two hour molecular based test for MRSA directly on breast milk samples.

Challenges 2017
The Department of Laboratory Medicine has invested a considerable amount of work into setting-up and ensuring the smooth transition to the MN-CMS electronic healthcare record system. This has resulted in the successful conversion of the laboratory to a paperless system, with the goal being to cease printing of paper laboratory reports completely in the near future. An ongoing major risk for the Department remains the laboratory information system server which requires complete replacement.

Plans for 2018
The Department's plans for 2018 include:

- Appointing a point-of-care coordinator and increasing IT skills in the Department
- Replacement of the main laboratory information system server which is now outdated
- Recruitment of an IT Scientist for the Department
- Recruitment of a new Consultant Histopathologist

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. Lorna Pentony, Medical Scientist
Ms Ava Brazier, Medical Scientist
Ms. Aiveen O'Malley, Biochemist
Ms. 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

	2016	2017	% Difference
Biochemistry and Endocrinology	282,710	282,601	-0.04%
Point-of-Care Glucometer	32,444	32,637	0.6%
Blood Gas Analysis	17,165	15,374	-10%

Highlights for clinical activity in 2017 included:

- A continuing significant increase in numbers of samples analysed for lactate (65% increase).
- An increase in the number of requests for urinary Protein Creatine Ratio (PCR) since its replacement of 24 hour urinary protein in February 2017.
- An increase in Progesterone requests (66%), due to its inclusion in the Rotunda IVF profile, and an increase in Magnesium requests (70%) due its inclusion in the Total Parental Nutrition (TPN) profile.
- A decrease in HbA1C and Fructosamine requests, for an unknown reason.

Successes & Achievements 2017
In 2017, the Division had several notable achievements:

- Retention of INAB accreditation for laboratory testing for Biochemistry, Endocrinology and Point-of-Care testing.
- Introduction of the MN-CMS electronic healthcare record system.
- Introduction of auto-authorisation.
- Introduction of urinary PCR instead of 24 hour urine collection.
- Introduction of paediatric carrier tubes to facilitate primary sampling.
- Introduction of micro-cups to process very small blood volume samples.

Enhancing Patient Care
Implementation of auto-authorisation has led to improved turnaround times for patients.

The introduction of spot urinary PCRs instead of 24 hour urine collections has been a huge benefit to our patients. The 24-hour urine collection patient preparation was time-consuming; it took 24 hours to complete the collection and an additional hour to process in the lab. In contrast the urinary PCR sample is a spot urine sample that is processed without delay in the lab with urgent results being reported within the hour.

Up until 2017, all samples on neonates required separation into a separate tube for analysis, which was time-consuming. The introduction of paediatric carrier tubes has facilitated primary sampling which has led to improved turnaround times for patients. In addition to the paediatric carrier tubes, we have also introduced micro-cups to process very small blood volume samples. This has reduced the number of samples being rejected due to insufficiency.

Education & Training
- All staff were successfully trained for the new MN-CMS electronic healthcare record.
- Participation in a Point-of-Care workshop in the RCPI.
- A number of Journal Clubs were held within the Division, each presented by different staff members.
- Randox International Quality Assessment Scheme (RIQAS) user training day.

Research
The Division contributed to a study on first trimester predictors of uteroplacental disease.

Innovation
New generations of gamma glutamyl transferase (GGT), progesterone and folate assays were introduced.

Challenges 2017
We are unable to expand the endocrinology service as we are running at maximum capacity on our analyser.

The Biochemistry Division had difficulty in maintaining the Point-of-Care (POC) service due to non-replacement of the POC coordinator.

Plans for 2018
- Introduction of the new generation of the Roche FT4 assay.
- Introduction of the Wako direct bilirubin method.

Division of Clinical Microbiology

Head of Division
Dr. Richard Drew, Consultant Microbiologist

Staff
Mr. David Le Blanc, Chief Scientist
Ms. Niamh Cahill, Senior Medical Scientist
Mr. Haydn Hammerton, Senior Medical Scientist
Ms. Patricia Baynes, Medical scientist
Ms. Ita Cahill, Medical Scientist
Ms. Anne Lamont, Medical Scientist
Ms. Bernadette Lennon, Medical Scientist
Ms. Ellen Lennon, Medical Scientist
Ms. Martha McElligot, Medical Scientist
Ms. Gemma Tyrrell, Medical Scientist
Ms. Grainne McDonald, Laboratory Aide
Mr. Tom Murphy, Medical Scientist
Ms. Kavneet Kaur Kainth, Medical Scientist

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

Clinical Activity

Table 1: Location	2016	2017	% Difference
Serology	58,268	57,028	-2%
Andrology	4,761	5,048	+6%
PCR	5,542	6,183	+12%
Microbiology	72,309	66,113	-9%
Referral	9,166	12,271	+34%
Total	**150,046**	**146,643**	**-2%**

Successes & Achievements 2017
In 2017, the Division had several notable achievements:

- New molecular test was introduced for C.difficile.
- Increased screening was introduced for carbapenemase producing Enterobacteriaceae, a potentially serious multi-drug resistant organism.
- Further expansion of molecular testing with the introduction of the molecular assay for trichomonas and Mycoplasma genitalium.
- With the input of other disciplines, a clinical management pathway for vaginal discharge was introduced.

Education & Training
- Staff were trained in the use of mass spectrometry.
- Training continued for staff in andrology analysis.

Research
The Division has been very active in terms of research output. Research papers have focused on areas such as:

- Rubella immunity.
- Group B Streptococcus.
- Rapid molecular diagnostics for positive blood cultures.
- Influenza molecular testing.

Innovation
- Validation of a new molecular test for detecting MRSA in breast milk.
- Further development of hospital-wide antimicrobial guidelines in partnership with the Pharmacy Department.

Challenges 2017
The Division of Clinical Microbiology faced several challenges during the year, which included:

- Physical limitation of space within an older part of the hospital with poor design layout in comparison to contemporary laboratory standards.
- Increased general bacteriology workload due to an increase in sepsis screening being performed across the hospital.

Plans for 2018
The Division's plans for 2018 include:

- Introduction of a new molecular test for bacterial vaginosis.
- Introduction of a new multiplex assay for testing positive blood cultures (FilmArray).

Division of Haematology and Transfusion

Head of Division
Dr. Fionnuala Ní Áinle, Consultant Adult Haematologist

Staff
Dr. Melanie Cotter, Consultant Paediatric Haematologist
Ms. Deirdre Murphy, Chief Medical Scientist
Ms. Emily Forde, Senior Medical Scientist
Mr. Ciaran Mooney, Senior Medical Scientist
Ms. Deirdre O'Neill, Senior Medical Scientist
Ms. Siobhan Enright, Haemovigilance Officer
Ms. Aileen Carr, Medical Scientist
Ms. Christine Clifford, Medical Scientist
Ms. Deirdre Corcoran, Medical Scientist
Ms. Edel Cussen, Medical Scientist
Ms. Elaine O'Leary, Medical Scientist
Ms. Lilliana Rasidovic, Medical Scientist
Ms. Shagufa Zaman Rakhi, Medical Scientist
Ms. Karen Fennelly, Laboratory Aide
Ms Catherine Conran, Laboratory Aide

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

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

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

Clinical Activity for Blood Transfusion

Table 1: Investigation	2016	2017	% Difference
Group and Save	6,543	6,470	-1%
Total Blood Group Testing	20,789	20,391	-2%
Crossmatching of Patient Blood Samples	471	284	-39%
Blood Antibody Investigations	591	530	-10%
Crossmatch: TransfusionRatio	1.26	1.87	+48%

In blood transfusion there was an overall 3% reduction in testing.

Of note was the 39% decrease in the number of patients crossmatched, but this resulted in a significant increase in the crossmatch: transfusion ratio.

Clinical Activity for Haematology

Tabel 2: Investigation	2016	2017	% Difference
Total Workload	55,712	52,218	-6%
FBC on call	7,662	6,773	-12%
Coagulation on call	1,053	935	-11%
Urgent FBC	5,441	5,753	+6%
Urgent coagulation	781	829	+6%

2017 reversed the trend of 2016: there was a 6% decrease in workload in the Haematology Division, in part due to a decrease in both routine and out-of-hours testing. On-call workload decreased in 2017 compared with 2016 levels.

Successes & Achievements 2017
Successes and achievements included the introduction of "Thrombocalc", which is a user-friendly electronic Venous Thromboembolism (VTE) risk assessment tool for pregnant patients.

Enhancing Patient Care
"Thrombocalc" has been expanded for use across the hospital to identify women at risk for VTE and to implement measures aimed at VTE risk reduction.

The move to single unit, instead of multiple units blood transfusion, has led to a reduction in the exposure of patients to blood products following delivery.

Education & Training
An ongoing education process around haemovigilance has continued in 2017 led by the haemovigilance officer.

Research
Recruitment continued to the international Highlow randomised controlled trial and a prestigious Health Research Board Definitive Investigation and Feasibility Award (DIFA) research grant was awarded to the Rotunda Principal Investigator that will permit the expansion of recruiting sites in Ireland. This is the first large randomised controlled trial in pregnancy providing high quality evidence on the optimal dose of anti-coagulation for the prevention of recurrent Venous Thromboembolism in pregnant women with a prior history of such clots.

Challenges 2017
The Division of Haematology and Transfusion faced several challenges during the year, which included:

- Physical limitation of space within an older part of the Rotunda Hospital building, with poor design layout in comparison to modern laboratory standards.
- An international trend to increased major obstetric haemorrhage was noted. Reflecting this, resources and planning of major obstetric haemorrhage protocols and drills, including "code red" continue to be prioritised.
- Increase in on-call work, especially from the emergency services.

Plans for 2018

The Division's plans for 2018 include:

- In close collaboration with national obstetric and haematology colleagues and with the Irish Blood Transfusion Service (IBTS), planning towards targeted RAADP through identification of RhD negative mothers carrying RhD negative fetuses at booking. Such a policy would greatly reduce the number of RhD negative mothers receiving RAADP.
- Investigate the feasibility of implementation of Blood Track Phase three along with the electronic healthcare record.
- Replace one full blood count analyser.
- Upgrade current analysers for Blood group and antibody screening/investigation with a possible view to greater flexibility and cost reductions.
- Awaiting move to EDTA samples for cord bloods as clotted samples are not optimal for haemoglobinopathy screening or blood group and direct Coombs testing (DCT).

Division of Histopathology

Head of Division

Dr. Eibhlis O'Donovan, Consultant Histopathologist

Staff

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

Service Overview

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

Clinical Activity

Table 1: Year	2013	2014	2015	2016	2017
Surgical Blocks	9,567	10,322	11,531	13,029	11,266
Placental Blocks	5,808	5,882	5,232	5,343	5,551
Surgical Cases	4,333	4,178	4,512	4,782	4,692
Placental Cases	1,629	1,700	1,500	1,388	1,367
Full Autopsy Cases	90	82	83	58	53
Limited Autopsy Cases	10	13	7	7	12
Fluid Cases	157	158	108	99	83
Fluid Blocks/ Preps	180	183	118	108	84

Key Performance Indicators (KPIs)

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

Quality Objectives 2017

1. Implementation of MN-CMS.
2. Reduce handling and use of Formalin, to keep exposure of staff to this Class two carcinogen to a minimum.
3. Investigate safer reagents for tissue processing and staining.
4. Library of digital images for ICC and special stains

Successes & Achievements 2017

- "Lean" has continued to be a useful tool as workload increases, following the successful application of Lean principles to the renovation of the laboratory in 2015.
- Retention of INAB accreditation.

Enhancing Patient Care

A Rotunda Gynaecological outpatient hysteroscopy service was opened on the Connolly Hospital campus in February 2016 to reduce waiting lists. There was an 12% increase in specimens from this clinic in 2017. The turnaround times for these samples were the same as those for samples taken in-house.

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

Education & Training

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

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

Innovation

In preparation for implementation of the electronic patient record (MN-CMS) in November 2017, one member of staff was assigned to develop and implement this project at the Rotunda.

Challenges 2017

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

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

Plans for 2018

The Division's plans for 2018 include:

- Evaluation of safer reagents for tissue processing and staining.
- The validation of the Donatello processor.

Laboratory Medicine - Quality Management

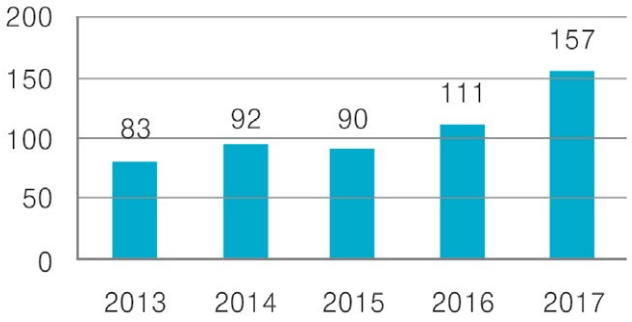
Head of Department
Ms. Susan Luke, Quality Manager

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

Clinical Activity
The Department of Laboratory Medicine maintained accreditation in 2017 across all disciplines, confirming all processes are compliant with the applicable standards (ISO 15189 and ISO 22870). The use of Flexible Scope of Accreditation was maintained by all Divisions within the Department with the exception of Blood Transfusion, where it is not permitted. The laboratory is now responsible for recording and updating the scope on the Irish National Accreditation Board (INAB) website.

Successes & Achievements 2017
The Laboratory submits an Annual Report for Blood Transfusion to the Health Protection Regulatory Agency (HPRA). This report documents the activity for the previous year and reports blood usage and wastage, status of accreditation and informs of any planned future changes. The 2017 report was submitted and has been accepted.

Figure 1: No. of Audits Carried Out



A significant increase occurred in the number of audits in 2017. This was due to haemovigilance audits, follow-up audits to verify effectiveness of preventive actions and KPIs being recorded on Q-Pulse. These audits consisted of:

- Examination audits – 12.
- ISO 15189 & ISO 22870 standards - 22.
- Vertical audits - 16.
- Quality indicator reviews - 25.
- Point of care – 7.
- Haemovigilance – 22.
- External – 5.
- Clinical – 2.
- Miscellaneous – 46.

The laboratory implemented a Risk Management System in 2015 and continued to expand this across all Divisions in 2017.

Each Division is continuing to map its processes, such that each critical process is identified and a Failure Mode Effect Analysis (FMEA) is carried out to identify risks that may result in a failure in the process. This allows us to prioritise risk and manage accordingly. This process is carried out on all new methods/ processes.

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

Clinical Nutrition and Dietetics Service

Head of Service

Ms. Laura Kelly, Senior Dietitian, Adult service

Staff

Ms. Anna-Claire Glynn, Senior Dietitian, Neonatal Service
Ms. Marian Mc Bride, Senior Dietitian, Adult service
Ms. Alexandra Cunningham, Basic Grade Dietitian, Adult service

Service Overview

The Adult Dietetic service accepts referrals for:

- Pre-gestational diabetes.
- Gestational diabetes.
- High Body Mass Index (BMI>35kg/m^2).
- Nutrition support.
- Severe hyperemesis gravidarium.
- Other nutritional concerns.

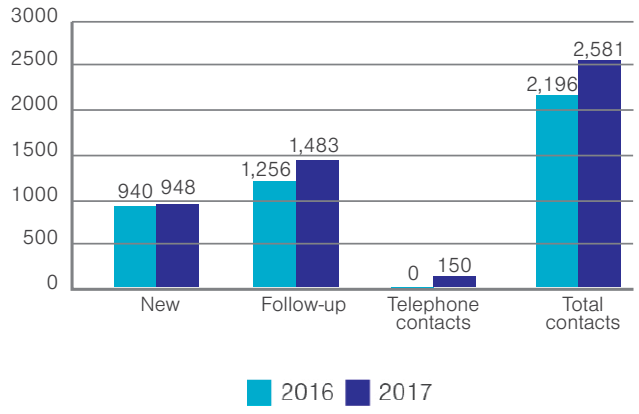
The Neonatal and Dietetic service accepts referrals for:

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

Clinical Activity

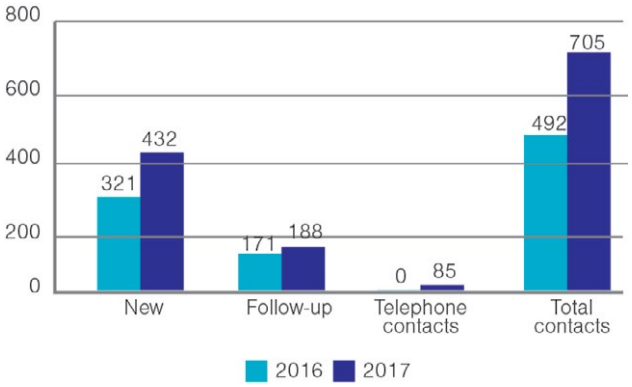
Adult Services

Figure 1: Clinical Nutrition activity for diabetes services



Referrals increased from the diabetes service (15%) and the non-diabetes service (43%). Diabetes and non-diabetes activity increased across both new (1% and 26%, respectively) and repeat (15% and 9%, respectively) appointments. The dietetic service also commenced recording telephone contacts with patients.

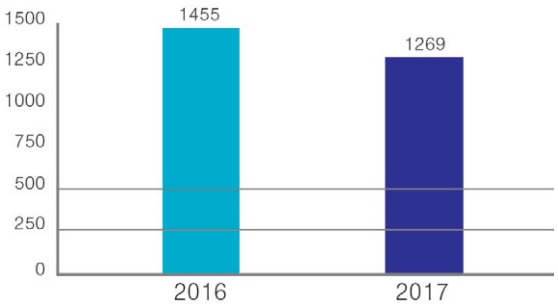
Figure 2: Clinical Nutrition activity for non-diabetes services



The non-diabetes service includes support for patients with high BMI, hyperemesis, other nutritional concerns and general nutritional support. Attendance rates are better for one-to-one appointments (93% for diabetes, 78% for non-diabetes patients) compared with group appointments (87% diabetes, 69% non-diabetes patients).

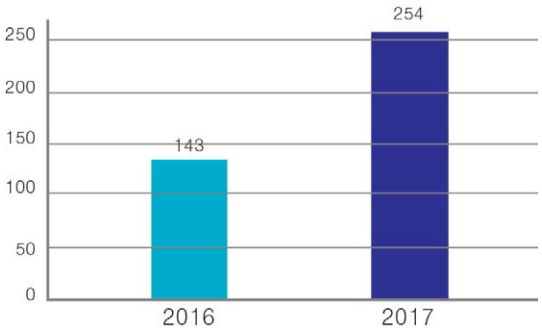
Neonatal Services

Figure 3: Total number of dietetic contacts for inpatient neonatal service



Routine dietetic monitoring is provided to all infants born < 32 weeks' gestation or those with birthweight <1.5kg who are admitted to the Neonatal Unit, and also to other infants referred by Neonatal staff.

Figure 4: Total number of dietetic contacts for outpatient neonatal service



A dietetic outpatient service is provided for infants referred by the Rotunda Neonatal staff.

There was a decrease in dietetic inpatient contacts in the Neonatal Unit (13% decrease) but there was a significant increase in dietetic outpatient contacts (44% increase) in 2017.

Successes & Achievements 2017

Enhancing Patient Care / Innovation

Adult Service

- A referral audit in December 2017 showed that 69% of women meeting dietetic criteria were referred. The service has continued to improve the service to non-diabetic patients with nutritional concerns.
- Gestational Diabetes resources produced in the Rotunda (in collaboration with National Maternity Hospital and Coombe Women & Infants University Hospital) are used nationally.
- Ongoing research with DIT to evaluate online dietary assessment tool in pregnancy.
- Inter-maternity hospital group has been developed across all national maternity hospitals to develop future national guidelines.

Neonatal Service

During 2017, a local parenteral nutrition guideline in line with National HSE guidance was created.

A vitamin and mineral supplementation guideline for infants in the Neonatal Unit was drafted, with a plan for implementation in 2018.

The dietetic service worked collaboratively with the MN-CMS electronic healthcare record implementation team to incorporate an electronic ordering system for parenteral nutrition.

The dietetic service worked closely with the Neonatal Speech and Language Therapist to help develop the Rotunda Neonatal Speech and Language Therapy service.

The team worked collaboratively with other health professionals, including Non-Consultant Hospital Doctors and the Pharmacy Service, to evaluate aspects of the neonatal nutrition. This included weight and head growth trends in preterm infants, and the cost of parenteral nutrition at the Rotunda Hospital.

The team also nominated the secretary of the Neonatal Dietitians Ireland (NDI) group. The group aims to enhance and standardise neonatal nutrition nationally.

Continuous Training and Development

All dietitians in the Rotunda are CORU (Health and Social Care Professionals Council) registered practitioners and the service actively engages in continuous professional development (CPD), such as journal clubs, shared case management, attending short courses or conferences, and providing training to other health professionals locally and nationally.

Dietitians continue to have regular staff meetings, to review and report on clinical activity and implement guidelines locally and nationally.

Challenges 2017

The lack of administration support for the dietetic service was a significant challenge in 2017. Due to numbers and complexity of infants admitted to the Neonatal Unit, the Neonatal Dietitian continues to prioritise referrals according to their highest nutritional risk.

Plans for 2018

- Head of Department to be appointed to formalise the structure of the dietetic service.
- To complete audit/improvement plans as part of the National Maternity Standards review.
- To implement appropriate referral criteria and a pathway for infants requiring outpatient dietetic monitoring.
- To implement further the neonatal nutrition guidelines to help enhance patient care, such as the vitamin and mineral supplementation guideline for infants.

Medical Social Work Service

Head of Service
Ms. Sinead Devitt, Head Medical Social Worker

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

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

Clinical Activity
Homelessness
Nationally, the homelessness situation continued to deteriorate during 2017. This had a significant effect on some patients attending the Rotunda Hospital, especially if a patient was not habitually resident or had no residency status in Ireland. A pregnant patient in this position is ineligible for social housing supports from the County Council and at best is offered night-by-night accommodation through the homeless freephone number, even after their baby is born. The Head Medical Social Worker has highlighted this situation to the Homeless Central Placement Service. This issue has also been included in feedback given to the HSE National Social Inclusion Office on maternity-specific items to be included in the development of the Dublin Homeless Hospital Discharge Protocol.

Further issues, which cause significant difficulties for families, are the length of time which they are spending in temporary homeless accommodation and their placement in areas which are geographically distant from family supports and children's schools.

Child Protection
In 2017, the medical social work team were involved in 148 child protection cases. The medical social work team made 91 referrals to Tusla, while the remaining cases already had Tusla involvement. The main types of concerns where a referral was made or received from Tusla in 2017 are seen in Table 1.

Table 1: Reasons for Referral to TUSLA

	2016	2017
Drug Use	56	53
Underage Pregnancy	38	22
Domestic Violence	22	34
Mental Health	15	9
Previous Children in Care	11	4
Child Welfare	9	16
Alcohol Misuse	6	3
Child Neglect	5	3
Adoption	2	2
Learning Difficulty	2	2

Domestic Violence
While it is a common perception that domestic violence stops or reduces during pregnancy, research demonstrates that not only does it not stop during pregnancy but, in many cases, it can commence or escalate. Though not all domestic conflicts warrant the involvement of Tusla, in 2017, there were 34 cases where Tusla social workers were involved with families due to domestic violence. This was an increase of twelve from the previous year.

Mental Illness
A multidisciplinary approach to assessment and support for Mental Illness is adopted within the hospital, where the medical social workers, the mental health support midwives and the perinatal psychiatrist work collaboratively to ensure that patients receive appropriate support.

Teenage Pregnancy Clinic
The medical social worker attached to the Teenage Pregnancy Service worked closely with the service's specialist midwife in order to provide a holistic and consistent service to all patients booked into the service in 2017. A total of 22 teenagers were referred to Tusla by the medical social worker as they were under the age of consent. This was sixteen less than the previous year.

Bereavement Medical Social Worker
The bereavement medical social worker offers a service to parents who experience the loss of a baby at all stages of pregnancy, including miscarriage, ectopic pregnancy, stillbirth or neonatal death. In 2017, she offered information and support to 134 families whose babies required funeral arrangements. Support services were also provided to 525 patients who experienced an early pregnancy loss.

Fetal Medicine Service
The medical social worker attached to the Fetal Medicine Service worked closely with the multidisciplinary team to identify patients who may require additional emotional and practical support. In 2017, she received over 153 referrals from the Fetal Medicine Service. Over 66% of these referrals were for support following recent abnormal results or diagnoses. In 48% of these referrals, bereavement follow-up was required. The most common reason for referral was a diagnosis of fetal chromosomal abnormality (Trisomies 21, 18 or 13) resulting in 31% of referrals, followed closely by fetal cardiac abnormalities at 24%. The remaining referrals received included parental anxiety due to a previous

adverse medical history of other congenital anomalies and the need for pre-testing support.

Neonatal Intensive Care Unit

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

In addition, bereavement support is offered to parents if their baby dies while in neonatal care.

Substance Misuse

In 2017, the medical social worker attached to the Infectious Disease Service (DOVE Danger of Viral Exposure clinic) provided emotional and practical support to women attending this specialist service. Patients attending this service have an infectious disease diagnosis and/or substance misuse issues. The social worker liaised closely with the specialist Midwives to provide a comprehensive service for women attending the service. Where required, the social worker referred patients to Tusla and other community services to ensure that patients and their babies had appropriate supports in place. There was an increase in the number of deliveries to substance misusing women in 2017 (Table 2).

Table 2. Social Worker Support to Substance Misuse Cases

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

Successes & Achievements 2017

In 2017, the Medical Social Work Service put in place enhanced systems to capture data associated with the specialist services provided by the Service. This will optimise appropriate service planning and will complement data eventually generated by the electronic healthcare record (MN-CMS).

A second full year of data was collected on the number of referrals made and received from Tusla. This is as a result of the introduction of the Child Protection Data Form in 2015.

This data will be updated on an annual basis to explore emerging patterns and to plan future service delivery.

The medical social work team now deliver an introduction to the Rotunda's Child Protection Policy at the Rotunda's Corporate Induction Programme.

In 2017, the Medical Social Work Service developed a liaison perinatal mental health social work role in recognition of the HSE's launch of a new specialist perinatal mental health model of care. The model identifies the Rotunda as a designated hub within the RCSI Hospitals Group, where specialist perinatal mental health services will continue to be developed and will eventually have a dedicated medical social worker attached to the multidisciplinary team.

Education & Training

The medical social work team attended numerous courses and training days during 2017 to enhance their professional development.

The team also provided training within the hospital at the Professionals' Bereavement Study Day and at the Specialist Midwifery Service training sessions for Public Health Nursing students. In May 2017, the Head Medical Social Worker hosted graduate/post-graduate social work students from the University of New Hampshire.

Challenges 2017

In December 2017, the Children First Act 2015 was fully implemented. The Act made a number of provisions including the requirement for the Rotunda Hospital to develop a Child Safeguarding Statement and to carry out a risk assessment to identify whether a child could be harmed whilst availing of our services. A challenge for the Medical Social Work Department was to ensure that the hospital is compliant with the new legislation, but without any additional resources being provided. Compliance also includes all staff members completing the mandatory e-learning module 'An Introduction to Children First'. This brought the further challenge of developing a system to support staff members to complete the e-learning module, especially those who are not particularly computer literate.

The large number of patients presenting to the Medical Social Work Service with accommodation issues posed an ongoing challenge for the team throughout the year.

Plans for 2018

The Medical Social Work Service plans to work with colleagues within the hospital, the RCSI Hospitals Group Children First Steering Committee and the HSE Children First National Office to implement Children First in the Rotunda Hospital before March 2018, when all relevant organisations are required to be compliant with the legislation. The Medical Social Work Service plans to implement a Children First awareness campaign which will include hospital broadcasts, staff briefing sessions and assistance for staff experiencing difficulty completing the Children First e-learning module.

The Medical Social Work Service plans to deliver staff briefing sessions on making domestic violence referrals to the Service, in various key locations throughout the hospital.

Pharmacy Service

Head of Service
Dr. Brian Cleary, Chief Pharmacist

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

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

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

Service Activity
The Service provides a full pharmacy service to all clinical areas in the Rotunda Hospital, including adult and neonatal requirements. 778 unique products were dispensed by the Pharmacy Service 29,600 times over the course of 2017. The overall budget was approximately €1,600,000.

From the implementation of the MN-CMS system in November 2017 until the end of the year 15,953 medication orders were placed on the system. A future challenge will be the recording of clinical pharmacy activities to demonstrate the proportion of orders verified by a pharmacist and the rate of documented pharmacist interventions.

Successes & Achievements 2017
There were a number of achievements within the field of Medication Safety at the Rotunda Hospital in 2017, across several areas, including:

- A significant amount of input from the Pharmacy team and multidisciplinary colleagues in preparing for inspection under the HIQA Medication Safety Monitoring Program. The inspection report was positive and acknowledged the sustained focus on medication safety over the past number of years.
- Recruitment of a fixed-term NICU Clinical Pharmacist to continue the development of Clinical Pharmacy services to the NICU.
- Successful implementation of national standardised concentration infusions, updated drug monographs and smart pump technology with dose error reduction software in the NICU.
- The Pharmacy Service supported the ongoing rollout of the Maternal and Newborn Clinical Management System (MN-CMS) which went live in the Rotunda in November 2017. Extensive support was provided prior to, during and after the go-live in the Rotunda Hospital.
- Ongoing optimization of MN-CMS medication processes in collaboration with end-users of the system.
- Ongoing implementation of the hospital's Medication Safety Strategy.
- Integration of "Thrombocalc" (our thromboembolism risk assessment system) into MN-CMS to improve workflow and user experience, facilitating continued high rates of venous Thromboembolism risk assessment.
- Participation in national HSE Venous Thromboembolism Quality Improvement Collaborative
- Integration of the hospital's high risk Infusions medication safety bundle into MN-CMS.
- Ongoing development and updating of the Rotunda Antimicrobial Guide App, with continued development of antimicrobial consumption surveillance and research on therapeutic drug monitoring in pregnancy, as well as safe neonatal vancomycin administration.
- Collaboration on National Antimicrobial Point Prevalence Survey with the European Centre for Disease Prevention and Control.
- Implementation of MIDatabank medicines information software.

Research
The "Thrombocalc" project continued with a successful research placement / collaboration with the University of Southern Denmark for one of our Research Pharmacists.

A new post of Research Pharmacist was established in conjunction with the School of Pharmacy, Royal College of Surgeons in Ireland with collaboration from Prof Naomi McCallion. This program of work will explore intravenous drug delivery to extremely low birth weight neonates.

Collaborative research with neonatal nursing colleagues assessing the safety of medication use processes for high risk infusions.

Completion of a program of research assessing Influenza vaccination during pregnancy with publications on uptake and the perceptions of women and health professionals on vaccination in pregnancy.

The Pharmacy Service is collaborating with, and providing ongoing support to a range of maternal and newborn randomised controlled trials on conditions including pre-eclampsia, gestational diabetes, persistent pulmonary hypertension and patent ductus arteriosus.

Enhancing Patient Care

A Pharmacy Service-led neonatal medication safety project and the overall approach to medication safety in the organisation were commended in two HIQA reports (Medication Safety Monitoring Programme in Public Acute Hospitals - an Overview of Findings and the 2017 Overview Report of Regulatory Findings) following an inspection under their Medication Safety Monitoring Programme in March 2017. HIQA commented that "The overall approach to the strategic planning and implementation of a medication safety programme proved effective in this hospital."

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

Challenges 2017

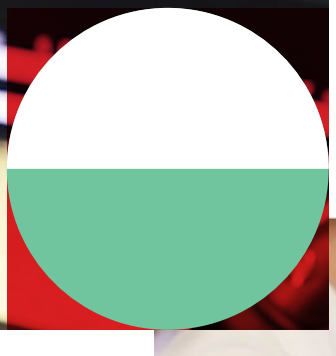
The Service faced several challenges this year which included:

- Preparation for and support of the MN-CMS go-live in November 2017, including support for midwifery, nursing and medical colleagues seven days a week from 07:00 to 23:00.
- Implementation of the hospital's Medication Safety Strategy and ongoing development of medication safety initiatives.
- Expansion of clinical services while minimising costs of medicines.
- Delivery of ward top-up services at times of Pharmaceutical Technician annual leave.
- Lack of ward top-up services in some clinical areas e.g. Theatre and Lillie Suite.
- Development of a fully integrated version of Thrombocalc that will extract risk factors from patients' electronic record automatically, streamlining the risk assessment process.
- Repeated drug shortages continued to consume a significant amount of time for pharmacy staff with medication safety and cost implications.

Plans for 2018

The Service's plans for 2018 include:

- Establishment of a permanent post of NICU Clinical Pharmacist.
- Continued development and sharing of Rotunda innovations on thrombosis risk assessment, NICU high risk infusions and medication safety.
- Continue the development of the hospital's role within the European Network of Teratology Information Services with the establishment of the Irish Medicines in Pregnancy Service to provide information on medications in pregnancy, conduct novel research in this context and advocate for safe and effective use of medicines in pregnancy.
- Implementation of high leverage risk reduction strategies to reduce the risk of harm from high alert medications with a particular focus on oxytocin, epidural analgesia and insulin.
- Implementation of patient photos in MN-CMS to reduce the risk of wrong patient errors.
- Improve the quality of postnatal analgesia and encourage women to play an active role in pain management after delivery.

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Physiotherapy Service

Head of Service
Ms. Cinny Cusack, Physiotherapy Manager

Staff
Ms. Anne Duignan, Senior Physiotherapist (NICU)
Ms. Brona Fagan, Senior Physiotherapist
Ms. Anna Hamill, Senior Physiotherapist
Ms. Niamh Kenny, Senior Physiotherapist
Ms. Sinead Lennon, Physiotherapist
Ms. Grainne Sheil, Physiotherapist
Ms. Gena Kenny, Physiotherapist
Ms. Siobhan Burke, Physiotherapist

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

Inpatient postnatal care is focused on mothers who are at risk of pelvic floor dysfunction and all mothers are encouraged to attend postnatal classes in this regard.

The outpatient service provides assessment and treatment of pregnant women with musculoskeletal conditions including pelvic girdle pain. Management of pelvic floor dysfunction includes treating urinary and faecal incontinence, pelvic floor pain, dyspareunia and prolapse management prior to and after gynaecological surgery.

The Physiotherapy Service in the Neonatal Intensive Care Unit (NICU) provides assessment and analysis of movement patterns and postural dysfunctions to facilitate positioning and handling of the neonate. Discharge planning with parents facilitates transition to outpatient physiotherapy until ongoing care is provided in the community or the baby is discharged from treatment.

Clinical Activity
Antenatal Classes
Health promotion and antenatal education form key components of our women's health service. Preparation for parenthood classes are run in collaboration with the parent education midwifery team and the community midwifery scheme. Approximately 20% of first time mothers attend for antenatal classes.

Inpatient Physiotherapy

Table 1: Clinical Activity

Year	2013	2014	2015	2016	2017
Prenatal Physiotherapy	89	92	133	88	92
Postnatal Physiotherapy	7,457	7,378	7,249	7,338	7,442
Gynaecology	217	183	204	179	200
Urinary Retention	NC*	62	47	42	46
Babies	55	74	74	45	51

*Not collected

Outpatient Physiotherapy
Postnatal Classes aim to provide an opportunity for questions, support and advice on pelvic floor muscle recovery and assessment of Diastasis of the Rectus Abdominus Muscle (DRAM). Education is given on how to safely return to exercise and fitness, while reducing the risk of back pain and incontinence. Women can self-refer for individualised treatment for pelvic floor dysfunction up to six months post-partum. A total of 290 patients were seen for postnatal classes. 825 patients attended the pelvic girdle class.

The number of patients referred as outpatients during 2017 with the following conditions were:

Table 2: Adult Outpatient Conditions referred

Year	2013	2014	2015	2016	2017
Pelvic Girdle Pain	1,092	1,206	1,333	1,517	1,566
Urinary Incontinence	295	279	359	357	392
Obstetric Anal Sphincter Injuries	185	164	167	165	138
Prolapse	65	52	76	103	118
Carpal Tunnel Syndrome	46	48	56	77	78
Dyspareunia/ Pelvic Floor Pain	10	13	32	53	42
Faecal Incontinence	6	19	11	13	17

A total of 4,135 outpatient appointments were given in 2017.

Table 3: Paediatric Outpatients Conditions referred

Year	2013	2014	2015	2016	2017
Plagiocephaly& Torticollis	111	112	97	83	75
Developmental Delay	105	156	66	64	43
Talipes and Lower Limb problems	90	82	94	57	34
Upper Limb	15	20	17	7	7

A total of 719 Paediatric outpatient appointments were given in 2017.

Successes & Achievements 2017
Enhancing Patient Care
The purchase of a bladder scanner has facilitated more specific management of urinary retention and bladder dysfunction. Competency training has been completed for senior physiotherapy staff.

Following the integration of pessary management into the physiotherapy management of prolapse, suitable patients are now being referred and facilitated in self management of silicone pessaries.

The Physiotherapy Service moved to a new modular build in the grounds of the hospital in February 2017. This has provided bright, spacious accommodation with three treatment rooms and room for parent education or patient exercise classes. This has significantly enhanced the facilities for patients and staff and in particularly for babies.

The MN-CMS electronic healthcare record was introduced in November 2017 and integrated into the Physiotherapy Service for all obstetric, neonatal and paediatric patients.

Continuous Professional Development (CPD)

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

Staff continuously update their CPD requirements by attending postgraduate short/long courses. These include:

- Brazelton Course provides training on the Neonatal Behavioural Assessment Scale (NBAS).
- Bayley course to assess developmental functioning of infants and toddlers.
- The Family and Infant Neurodevelopmental Education (FINE) programme which is a unique educational pathway in family-centred care.
- Ongoing peer support for neonatal physiotherapy provided by Consultant Neonatal physiotherapist Adare Brady.
- Dynamic taping course for management of pregnancy related musculoskeletal conditions.
- Lecture on Perinatal Mental Health.
- Paediatric continence course for physiotherapists.
- Postgraduate MSc in Quality and Safety in Healthcare 2016-18.

Challenges 2017

The Service faced several challenges during the year, which included:

- Year-on-year increase in referrals to the outpatient service without an increase in secretarial support. This creates challenges with the management of high volumes of telephone calls and antenatal appointment scheduling.
- Hurricane Ophelia necessitated cancellation of clinics and rescheduling of a significant number of patients.

Plans for 2018

- Validation of the Lacey Assessment of Preterm Infant (LAPI) tool by auditing physiotherapy outcomes against NICU neonatal outcomes at the end of first year of data collection
- Senior staff member to undertake the LAPI course.
- Updating paediatric physiotherapy pathways.
- Physiotherapy project aiming to improve patient attendance and reduce patient DNA (Did Not Attend) rates from 23%.
- Ongoing research collaboration with the MAMMI study (Maternal health and Maternal Morbidity in Ireland).
- Undergraduate physiotherapy placements for RCSI School of Physiotherapy students.
- Postgraduate clinical assessments for Bradford University Continence course.

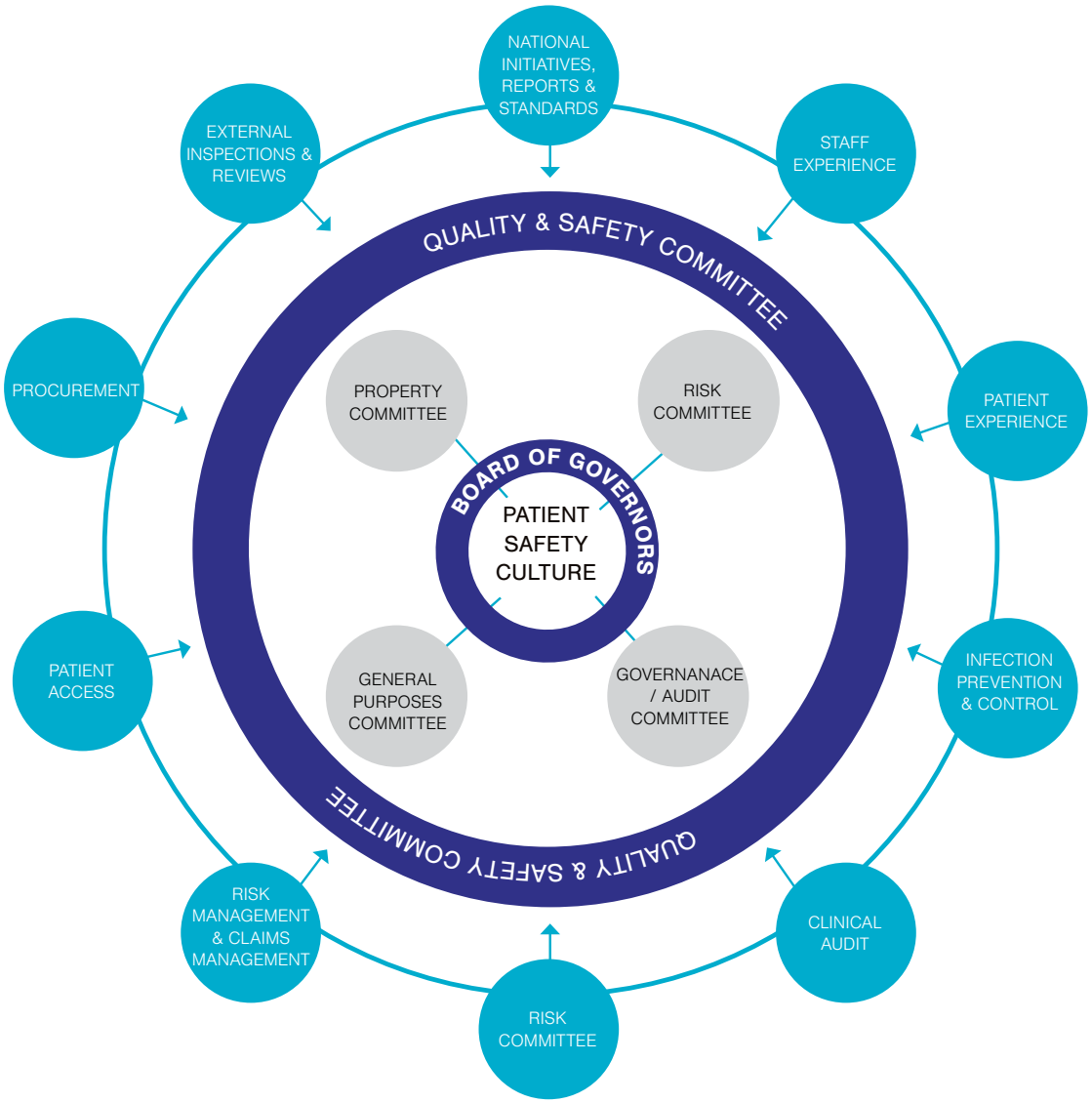
Quality and Safety Services

Quality and Patient Safety Service

Head of Service
Ms. Sheila Breen, Quality and Patient Safety Manager

Staff
Ms. Sorcha Heaphy, Information Governance Manager
Ms. Leanne Kiernan, Information Administrator
Ms. Emma O'Mahoney, Information Administrator
Ms. Mariam Rachvelishvili, Information Administrator
Ms. Lynn Richardson, Information Administrator

Organisational Structure Quality & Patient Safety Management



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

The Quality and Patient Safety Manager ensures a coordinated approach to patient improvement initiatives and the implementation of recommendations emanating internally or agreed nationally. The Rotunda Hospital is the data controller for patient and staff information and all requests for release of such information is managed in compliance with statutory and legislative frameworks.

Customer Feedback

Feedback is an important means by which the hospital gains awareness of the needs of patients and allows the hospital to be held accountable to our patients. The Rotunda Hospital encourages and facilitates patients and service users to provide feedback and comments on the service they receive in all areas of care. A summary of the patient experience is reported monthly to the Quality and Safety Committee. Feedback forms for service users are available throughout the organisation. In addition, a record of letters, emails and 'thank you' cards received are collated and reviewed monthly.

Activity

An inpatient Patient Experience Survey was undertaken over a three-week period commencing in June 2017. Some of the survey findings include:

- 99% would recommend the Rotunda to a family member or friend.
- 98% were satisfied with the service they received.
- 99% had confidence in the staff providing care.
- 99% were always treated with dignity and respect.
- 91% agreed that the food was of a high quality.

Some opportunities for improvement were identified, which were progressed over the following months.

Successes & Achievements 2017

Of the 1,313 items of feedback logged in 2017, there were 1,265 positive comments and 53 negative comments or opportunities for improvement identified, which is an outstanding reflection on the standard of care provided at the hospital.

There has been a 26% decrease in the number of complaints received in comparison to 2016. Complaints are received verbally, in hard copy and electronically. Details regarding these complaints are summarised in the table below.

Table 1: Complaints	2016	2017
Complaints received	123	91
• Written	104	81
• Verbal	19	10
Complaints closed	124	87
% closed within 30 days of receipt	(94%)	(98%)

Elements of each complaint are categorised under eight broad headings, as classified by the HSE. Issues regarding 'communication and information' remain the most frequent theme. A number of initiatives have been progressed to highlight the importance of good clear communication with patients and family members. 31 recommendations were identified during the complaints review process; the majority of which were implemented during 2017 or otherwise early in 2018.

All staff receive training on complaints handling at induction, with an emphasis on the local timely resolution of issues or concerns when they are raised by a patient or family member. Training for staff involved in the review of and response to formal complaints was facilitated during the year as part of an RCSI Hospitals Group initiative.

Information Governance

In 2017, the hospital responded to Freedom of information, Routine Access, General and Data Protection Requests as per the following table:

Table 2: Data Requests	2017
FOI Requests received • Personal • Non-personal	313 279 34
Routine Access Requests received	954
General Requests received	267
Data Protection Requests received	50

Successes & Achievements 2017

Irish Healthcare Awards

The 2017 ceremony was held in November and two projects from the Rotunda were honoured:

Providing Lactation Support to Premature Babies in the Neonatal Unit won the Patient Education Project of the Year (Non-Pharmaceutical). The aim of the initiative was the targeted provision of lactation support for mothers of premature babies in the Unit to improve provision of mother's own milk for these vulnerable babies. The timely provision of mother's own milk for preterm babies increased from 32% to 60% over three months.

Introducing the Edinburgh Postnatal Depression Scale in the RCSI Group was commended for Public Health Initiative of the Year. An education and training programme was developed and delivered to facilitate the early screening of postnatal depression in Cavan General Hospital and Our Lady of Lourdes, Drogheda. There is now a standardised screening programme in place in the Group.

World Prematurity Day

The Tentacles for Tinies initiative was launched as a pilot programme to assess the benefits of neonatal octopus for premature babies. The tentacles of the octopus resemble the umbilical cord and premature babies who cuddle the octopus have been reported as being calmer, less likely to pull on their monitoring and tubing and generally appear more comfortable. There has been unprecedented interest in the initiative and our Rotunda Knitters have been inundated with requests for patterns and offers of help.

MN-CMS - Electronic Health Records

A full electronic health record (EHR) for all newborn babies and women receiving maternity care was introduced in November. The main benefits are:

- Improved patient care as a result of better communication, supported decision making and effective planning of care
- More effective and efficient recording of information reflecting best standards in documentation
- Enhanced clinical audit and research locally as a result of better quality data
- Informed business intelligence that will drive local and national management decisions

Seasonal Flu Vaccination

Over 66% of our staff were vaccinated against the Flu for 2017 - 2018 season, which was up from 52% the previous year.

Charter Day Quality Showcases

All staff had an opportunity to showcase quality initiatives and poster presentations on Charter Day in November. Awards were presented to the top three, based on the impact of the initiative on patient care and benefit to the Hospital.

GP Initiatives

The new quarterly Rotunda GP Connect E-Zine was launched during the year to keep our GP colleagues informed of service developments and innovations in the Hospital. Local GPs were also invited to an educational study evening to further enhance our strong relationships.

National Standards for Safer Better Maternity Services

A self-assessment was undertaken against the new standards by multidisciplinary teams. For each standard, we documented the supporting evidence of compliance, rated our level of quality and developed quality improvement plans to address areas for improvement identified. These will be progressed to completion over the coming months.

10th Annual Service of Remembrance

This Remembrance Service is an integral part of our extended care and service to bereaved families and the ten annual service was held on November nineteenth in the Pro-Cathedral. The service remembers and honours the precious short lives of babies who have died through miscarriage, ectopic pregnancy, fetal anomaly, stillbirth or neonatal death. A growing number of families attend annually and many travel long distances. The service is also attended by Chaplains from the main churches, voluntary perinatal bereavement support organisations, members of the Board of Governors and many hospital staff.

General Data Protection Regulation (GDPR)

This EU Regulation comes into effect on May 25th 2018. A number of workstreams were progressed to ensure that we are more transparent and open about what we do with personal data. At the request of the Governance/Audit Committee, our Internal Auditors will undertake a review to assess our readiness for GDPR in early 2018.

Laboratory Accreditation - INAB

This annual laboratory accreditation inspection took place in May 2017. The assessors were very complimentary and stated that the "quality system is well managed and undergoes frequent review and change".

Open Disclosure

The Rotunda remains committed to implementation of the National Open Disclosure Policy, whereby we are open and honest in our communication with service users and their family members when things go wrong. Training for staff continues and it is included in our Corporate Induction Programme.

HIQA Medication Safety Audit

HIQA conducted an announced onsite audit/inspection on medication safety in March. The report indicates that the Hospital had a well established medication safety programme in place and that medication safety was prioritised with clear leadership and support from the Management Team and Staff.

Food Safety Assurance Award

The Catering Department received an award at the Food Safety Assurance Award held at CATEX.

Plans for 2018

The introduction of the General Data Protection Regulations in May 2018 will require the Hospital to review its current system of data protection against the new requirements and implement plans to address any deficiencies.

The Health Information and Quality Authority's (HIQA) 2018 programme of monitoring against National Standards will include the National Standards for Safer Better Maternity Services, with a particular focus on obstetric emergencies. It will require completion of a self-assessment tool, which will then be followed with onsite inspections.

Infection Prevention and Control Service

Head of Service
Dr. Richard Drew, Consultant Microbiologist

Staff
Ms. Anu Binu, Infection Control Midwife
Ms. Marian Brennan, Infection Control Midwife
Ms. Alva Fitzgibbon, Infection Control Midwife

Service Overview
An annual Infection Prevention & Control plan is submitted to the Infection Prevention and Control (IPC) Committee at the start of the year and progress is discussed at each meeting. A representative of the IPC team is on various hospital committees such as Quality and Patient Safety, Drugs and Therapeutics as well as the Medical Board. The Infection Prevention and Control Committee is chaired by the Master, Professor Fergal Malone, and the IPC team also meet weekly to deal with more immediate IPC issues. The purpose of the service plan is to highlight key areas in which the hospital can focus to improve patient care. This incorporates areas such as infection surveillance, decontamination of patient equipment and monitoring key performance indicators. Infection outbreaks and other significant events are also reviewed at this group.

Service Activity
Surveillance
The IPC team provides ongoing surveillance of key infection-related issues such as maternal bacteraemia and multi-drug resistant organisms. The major issue in 2017 was a significant rise in maternal bacteraemia due to Group B Streptococcus (Fig 1). A retrospective review of these cases was performed and published in the Journal of Infection. There was no single clone responsible, however isolates have been sent for whole genome sequencing for further analysis. A similar rise was not seen for neonatal blood cultures (Fig 2).

Figure 1
Incidence of clinically significant bbstetric positive blood cultures

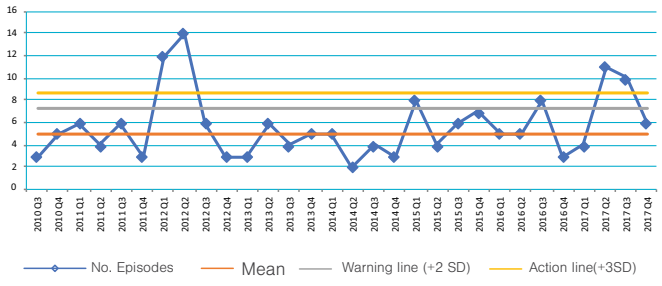
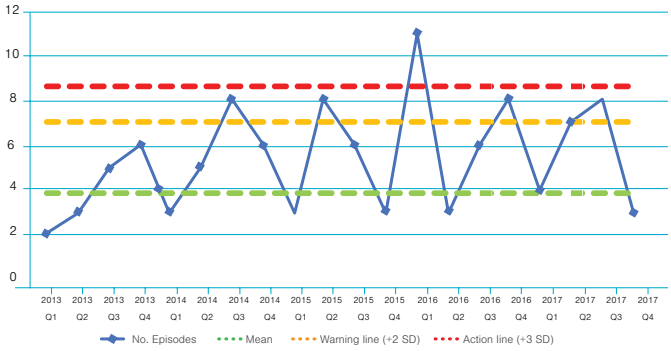


Figure 2
Incidence of clinically significant neonatal blood cultures



Monitoring
Internal audits are carried out in relation to hand hygiene and also other IPC-related issues, such as waste management and cleanliness across the hospital. Decontamination audits are performed by a member of the IPC team. Electronic devices were purchased to help local staff to perform their own audits and ensure that results can be generated in an efficient manner to facilitate dissemination of information.

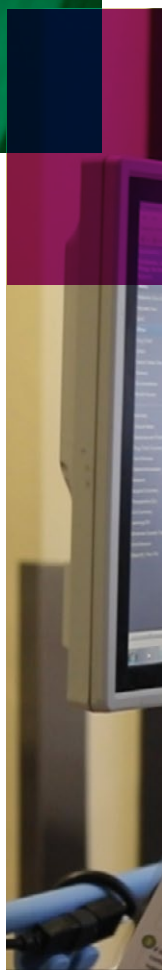
Successes & Achievements 2017
Education & Training
- Regular hand hygiene audits and decontamination audits.
- Teaching on the Rotunda Hospital Obstetric Emergency Training (RHOET) course.
- Supporting implementation of sepsis screening for antenatal and postnatal patients.
- Auditing of care bundles in the NICU for peripheral and central venous catheters.

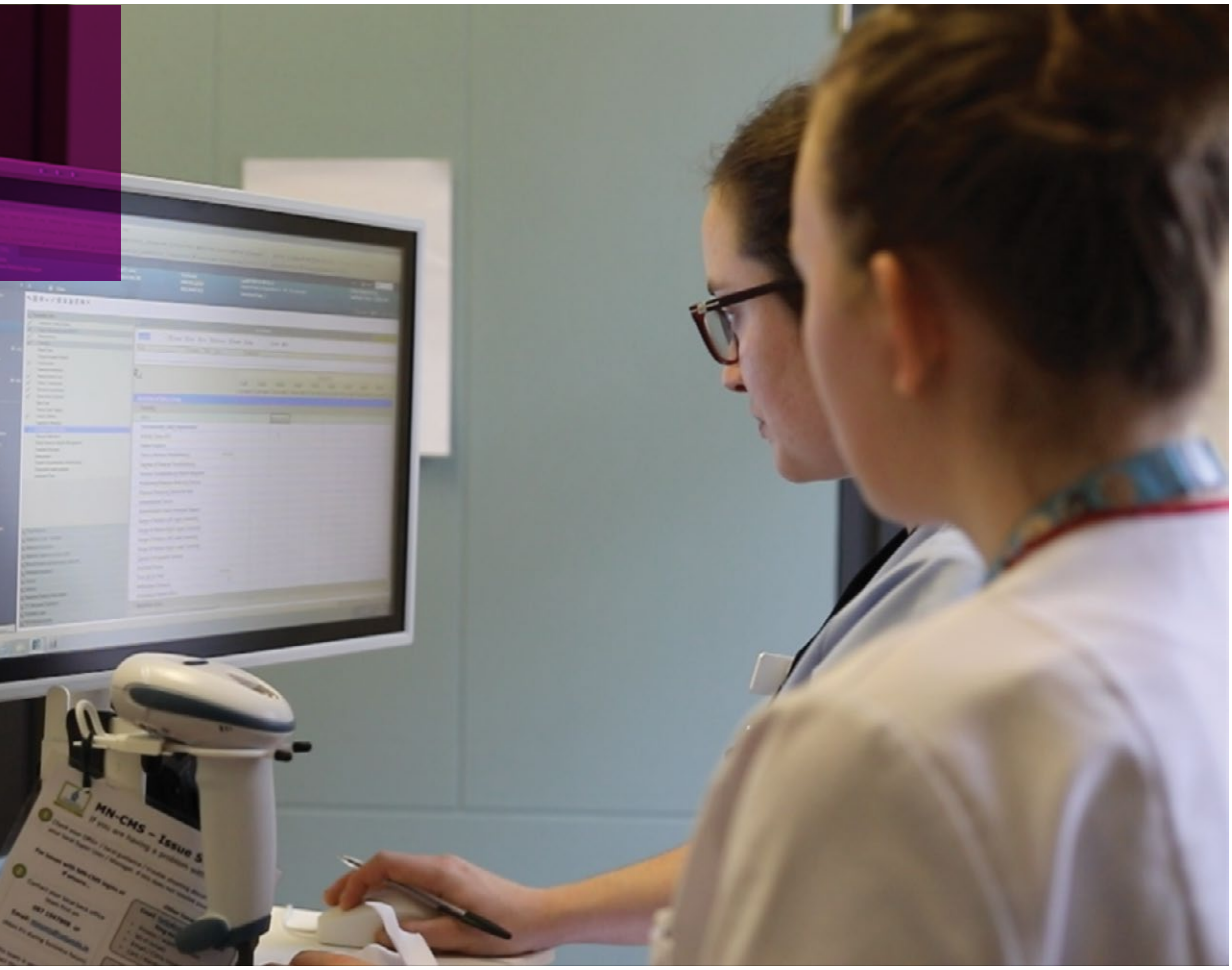
Enhancing Patient Care
The Infection Prevention and Control Service has introduced several multidisciplinary pathways which have aimed to improve patient care. This has included the introduction of a vaginal discharge pathway to help assessment of both pregnant and non-pregnant women.

Challenges 2017
There were several infectious outbreaks in the NICU during the year which were managed by the Outbreak Committee.

Plans for 2018
The primary areas which the IPC team plans to focus on for 2018 include:

- Appointment of a new Consultant Microbiologist, with special responsibility for infection prevention.
- Introduction of a care pathway for women undergoing caesarean deliveries to reduce the risk of infection.
- Refurbishment of the NICU to reduce infection risk.





Clinical Risk Service

Head of Service
Ms. Louise Cleary, Clinical Risk Manager

Staff
Ms. Michelle McTernan, Clinical Risk Advisor
Ms. Fiona Walsh, Clinical Risk Midwife
Ms. Lisa Pugh, Clinical Risk Administrator

Service Overview
The Clinical Risk Service is responsible for the ongoing development of a comprehensive clinical risk management programme across the hospital including risk identification, analysis and support in incident investigation and reviews. The service maintains the clinical incident management system, notifies insurers of reported incidents, produces trend reports and provides feedback to other departments and committees in respect of incident trends.

Claims management is also a key function within the service and the risk management team is the key point of contact for the hospital's solicitors as well as the Clinical Indemnity Scheme (CIS) at the State Claims Agency in this regard. The clinical risk and claims team also analyse claims data for learning to be implemented within the hospital.

Service Activity
The hospital has a weekly internal Initial Incident Review Committee Meeting, which is chaired by a Senior Consultant Obstetrician Gynaecologist, assisted by an Assistant Director of Midwifery, additional senior consultant obstetricians, a consultant neonatologist and the Clinical Risk Manager. Such initial incident reviews are a form of Concise Desktop Reviews and all are completed within one week of an incident occurring. Any clinical incident of note in the hospital can be brought to this Initial Incident Review Committee for evaluation. In 2017, a total of 67 such reports were completed and forwarded for evaluation and action to the Executive Management Team. Once the Executive Management Team receives an Initial Incident Review report, a decision is made within one week on whether there is a need for an additional formal review, either in a Concise or full Systems Analysis format.

During the year, there was close liaison and participation with the RCSI Hospitals Group with the continued implementation of the monthly RCSI Hospitals Group Women and Infant's Senior Incident Management Forum (SIMF) where all identified Serious Reportable Events (SREs) and Serious Incidents (SIs) are discussed. A new addition to this forum was the timely dissemination of "learning from adverse events" between hospitals within the Group with a focus on "shared learning".

Successes & Achievements 2017
Education & Training
Learning from selected clinical cases continued to be shared through Clinical Risk Service staff training sessions and individual patient safety meetings throughout the year.

Figure 1
Initial Incident Reviews Completed

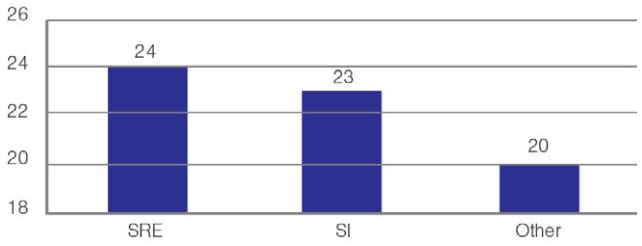
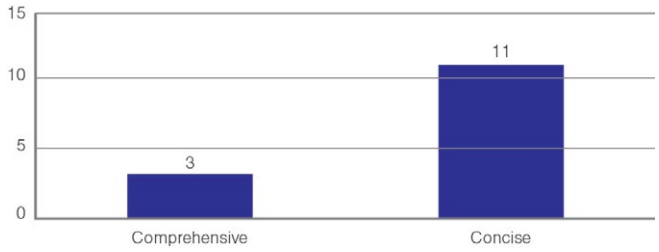


Figure 2
Systems Analysis Reviews Commissioned



Quality Initiatives
Various recommendations for quality improvement initiatives were made throughout 2017. These initiatives continue to be strongly supported by the Hospital's Practice Development Unit. The following are examples of quality initiatives introduced in 2017:

- The development of an updated Operative Vaginal Delivery Guideline.
- An emphasis on the importance of a two-person swab count after every single case requiring vaginal suturing after vaginal delivery, and documentation of that count on the Perineal Repair Form.
- Refresher / ongoing training sessions for all relevant clinical staff to ensure competency in using point-of-care blood gas analyser machines.
- Education for all staff regarding the importance of good record keeping, in particular following the implementation in November 2017 of the MN-CMS electronic healthcare record.
- Various audits were also recommended and conducted in 2017, triggered by reported trends identified from the clinical occurrence forms, including neonatal outcomes following shoulder dystocia and cases of hypoxic ischaemic encephalopathy.

Challenges 2017

Challenges encountered in 2017 included:

- Maintaining a major emphasis on the identification and reduction of clinical risk within the hospital even as clinical volume and patient complexity increase.
- Timely completion of Systems Analysis Reviews, which are commissioned in response to the outputs of the hospital's weeky Initial Incident Review meetings, within the recommended HSE time frame is particularly challenging. The workload on Clinical Risk Service staff, as well as on clinical staff members of the hospital who perform these reviews in addition to their other clinical duties, is very significant and will require additional resources to completein a timely manner.

Plans for 2018

The service has a number of development plans for 2018, which include:

- Supporting the development and implementation of the HSE Integrated Incident Management Framework.
- Revision of the hospital's Incident Management Policy in line with the HSE Incident Management Framework.
- Continue to embed a culture of open disclosure.
- Improvements to the patient handover process.
- Revision of the hospital's Clinical Claims Policy.
- Redevelop the hospital's Intranet for the dissemination of education efforts on "learning from incidents reported" to the wider hospital community.

Health and Safety Service

Head of Service
Mr. Les Corbett, Health and Safety Manager

Service Overview
The Rotunda Hospital is committed to ensuring full compliance with the Health, Safety and Welfare Act, 2005 within a busy healthcare environment. The Rotunda Health and Safety Statement is updated annually and is linked to the HSE Corporate Safety Statement. The facilities of the Rotunda Hospital are routinely examined and changes are implemented if necessary. Despite the age of the building, such changes have ensured that stringent health and safety standards are observed while continuing to develop a safer environment for all hospital end-users.

Service Activity
Health & Safety Committee
The Health and Safety Committee members inspected four work areas during the year and provided managers with an inspection report documenting follow-up recommendations. Two new Health and Safety Committee members were elected.

One unannounced inspection was conducted by Health and Safety Authority Inspectors who met with key hospital committee members and information was satisfactorily supplied.

Work continued on the integration of the Health and Safety Authority (HSA) five-year plan and the HSA Safety & Health Audit for the Healthcare Sector which is being undertaken with selected Health and Safety Committee members and stakeholders.

Fire Prevention
Fire drills were conducted in all hospital areas twice during the year.

A hospital wide fire audit/risk assessment was conducted by an external fire consultant following a fire in the NICU with recommendations for improvement and implementation.

Fire alarm testing (to check alarms and fire doors) was conducted on a weekly basis.

The Dublin Fire Brigade checked Fire Tender access to the temporary front carpark barrier during the Luas works.

Security
Monthly meetings were held with Noonan Security Hospital Group Manager to ensure the provision of a quality service.

Incident Investigation
Staff are encouraged to report any incident that has caused, or has the potential to cause, a health and safety problem. During 2017, 77 incidents were investigated, many of which resulted in improvements to health, safety and security systems in order to prevent or manage hazards identified. All incidents were discussed at the Health and Safety Committee and the Quality and Patient Safety Committee meetings. Ten incidents were reported to the Health and Safety Authority.

Chemicals
Two Dangerous Goods Safety Adviser (DGSA) audits were conducted by an external agency, DCM Compliance, which identified some areas requiring corrective action. This was reported to the Health and Safety Committee and the Quality and Patient Safety Committee. The SafeDoc chemical management risk assessment database is continually being updated by the hospital.

Successes & Achievements 2017
There were several successes/achievements for the hospital within the area of health and safety in 2017 including:

- Four training sessions were conducted for practical fire extinguisher use and there were also twelve scheduled days of Fire Awareness Training.
- The hospital's Dangerous Goods Safety Adviser (DGSA) provided four on-site training sessions and an external agency, DCM Compliance, provided a further two days of in-house training

Innovation
- CCTV, panic alarms and access control systems were expanded and upgraded following audits and building upgrades.
- A new type of baby tag and band (designed to reduce the number of alarms) have been trialed and installed.
- Front carpark converted to a one way system with an additional vehicle barrier.

Challenges 2017
The service faced challenges throughout the year, which included:

- Managing the impact of ongoing Luas works on Hospital operations.
- Hospital wide fire risk assessment/audit.

Plans for 2018
The Service plans for 2018 include:

- Test of Internal Emergency Plan.
- Conduct Radon survey of hospital.
- Extend panic alarm, access control and CCTV in OPD.
- Fire Brigade inspection of fire roads.
- Installation of staff pedestrian gate (front car park).

Clinical Audit Service

Head of Service
Dr. Sharon Cooley, Consultant Obstetrician Gynaecologist

Staff
Ms. Mary Whelan, Clinical Audit Facilitator
Dr. Valerie Jackson, Clinical Audit & Surveillance Scientist
Mr. Colin Kirkham, Research Officer

Service Overview
The Rotunda Hospital Clinical Audit Service was established in June 2011 and has developed significantly since then to support a structured approach to evaluating care against local, national and international standards.

Service Activity
All clinical audit activity within the hospital is monitored and routinely reported. Promoting a high standard of practice among clinical staff and all other healthcare workers undertaking clinical audit is a key objective of the hospital. The service provides a forum for the sharing and dissemination of clinical audit work in the hospital, which is facilitated by the use of the clinical audit database, the bi-annual Rotunda Hospital Audit and Research Day, and quarterly audit results meetings.

Successes & Achievements 2017
Enhancing Patient Care

Register of Clinical Audit
In total, 83 clinical audits were registered in 2017 (64 first audits and nineteen re-audits). This represents a 24% increase in audit activity compared with 2016, in which 67 audits were registered.

Clinical Audit Group weekly meeting
The core group within the Clinical Audit service continues to meet on a weekly basis to discuss and approve audit applications. All reports and action plans received are also reviewed at this time.

Clinical Audit Steering Group
The Clinical Audit Steering Group endeavour to meet on a quarterly basis.

Education & Training
The clinical audit team regularly delivers in-house educational sessions on the clinical audit cycle across all disciplines. Nine information sessions were held in 2017. A total of 71 staff members attended, with representatives from all clinical areas. In addition, two external workshops in the Centre for Midwifery Education (CME) were delivered for Advanced Midwife Practitioner/Advanced Nurse Practitioner and Clinical Midwife Specialist/Clinical Nurse Specialist post-holders.

Several audits were presented at national meetings in 2017, which included:

- **The Use of Methotrexate in the Management of Ectopic Pregnancy.** Dr. Jenny Stokes, Fourth Irish Congress of Obstetrics, Gynaecology & Perinatal Medicine, December 2017. Kilkenny, Ireland
- **Magnesium Sulphate administration for severe pre-eclampsia in HDU.** Dr. Nada Warreth, British Maternal & Fetal Medicine Society (BMFMS) nineteenth Annual Conference. March 2017. Amsterdam, The Netherlands

Innovation
MN-CMS
Like all departments in the hospital, the Clinical Audit team were delighted to see the introduction of the Maternal & Newborn Clinical Management System (MN-CMS) electronic healthcare record in November 2017. We envisage it being of great benefit to staff in conducting their clinical audits, with quicker access to real-time, high quality data.

Increased access to clinical audit personnel
Funding was secured to purchase additional computer equipment for use by clinical audit staff. This has facilitated meeting audit leads at times and locations convenient to them to review and finalise audit documentation. It has also improved engagement and audit turnaround times, thereby enhancing service-user satisfaction with the clinical audit process as a whole and indeed increasing audit throughput.

Challenges 2017
Dissemination of findings
Ensuring clinical audit findings are disseminated throughout the organisation is an ongoing challenge. The Biannual Audit and ongoing Research Meeting, the Interim Results Meetings and group emails are invaluable in this regard. However, we acknowledge there may still be small numbers of staff who cannot attend these meetings or do not have access to email. Reaching all such staff to ensure complete dissemination of results is crucial to the hospital's quality improvement goals.

Plans for 2018
Networking and Leadership
The Service will continue to forge and develop links with their peers on a national and international level through the Irish Clinical Audit Network.

In addition, the service will continue to progress plans to develop a national maternity clinical audit hub in the Rotunda by creating a central repository of audits and topics with a view to identifying regional and national priorities and supporting local audit activity in smaller units.

General Data Protection Regulation (GDPR)
GDPR is a new EU Regulation that comes into operation on May 25, 2018. It strengthens the powers of the Data Protection Commissioner and defines new responsibilities on data controllers. We look forward to working with the hospital data protection officer to ensure all clinical audit processes are compliant with these new regulations.

Clinical Audit Workshops
It is planned to facilitate a clinical audit workshop for Advanced Midwife Practitioners and Clinical Midwife/Nurse Specialists in conjunction with the Centre for Midwifery Education.

Academia

Department of Research

Heads of Department

Rotunda — Dr. Joanna Griffin, Director of Research & Academic Affairs
RCSI — Dr. Liz Tully, National Clinical Network Manager

Staff

Ms. Jessica Colby-Milley, Research Manager
Ms. Lisa McSweeney, Research Manager
Ms. Meadhbh Aine O'Flaherty, Research and Development Coordinator
Dr. Patrick Dicker, Biostatistician
Mr. Colin Kirkham, Research Officer
Ms. Fiona Brady, Research Coordinator
Ms. Andrea Lydon, Research Coordinator
Ms. Alma O'Reilly, Research Coordinator
Mr. Liam Dwyer, Research Assistant
Ms. Rachel McDermott, Research Assistant
Ms. Fiona Cody, Research Sonographer
Mr. Cormac McAdam, Communications Manager
Mr. Mark Kerins, Communications Officer

Service Overview

The Rotunda Hospital Board has taken the key strategic step of providing seed financial and administrative support to a new joint Department of Research, run operationally with our major academic partner, the Royal College of Surgeons in Ireland.

In 2017, there was a significant focus on the integration and development of our research infrastructure with the research objectives of the RCSI Department of Obstetrics & Gynaecology. This sharing of staffing and resources has resulted in a substantial increase in our funding streams, as well as in our portfolio of research studies and clinical trials.

In 2017, the formalised integration of our joint research activities, has resulted in increased staffing levels alongside a considerable increase in the departmental footprint within the School of Midwifery. The linking of services has enabled consistent growth of our research portfolio and better access to important clinical research supports.

Network Collaborations

HRB Mother and Baby Clinical Trial Network Ireland
Headquartered at the RCSI Rotunda Research Department, the HRB Mother and Baby Clinical Trials Network Ireland (HRB MB-CTNI) is a new, exciting and unique partnership between the two successful perinatal research entities, Perinatal Ireland and the SFI-funded INFANT centre in Cork, which further solidifies the existing collaboration and partnership between the seven largest academic obstetrics units on the island. The HRB Mother and Baby CTNI has a well-established record in collaborative research and in conducting large-scale, multicentre, randomised controlled trials, with a core focus on the conduct of clinical trials of novel interventions and diagnostics in pregnancy and neonatology.

Portfolio of network trials in 2017
PARROT — multicentre stepped wedge randomized trial of a point-of-care (POC) device to measure plasma PlGF (Placenta Growth Factor) in women who present with suspected pre-eclampsia prior to 37 weeks' gestation.

IRELAND – multicentre randomised trial investigating the role of aspirin in the pregnancy outcome of women with pre-gestational diabetes.

HIGHLOW – randomised trial comparing different doses of medication to prevent recurrence of life-threatening blood clots in pregnant women.

MINT – pilot study to obtain preliminary data to assist in the design of a definitive multicentre trial of milrinone therapy in newborns with Persistent Pulmonary Hypertension (PPHN).

Perinatal Ireland
Perinatal Ireland is a multicentre, all-Ireland research consortium focused on carrying out research into women's and children's health. The consortium, which was the first HRB-funded network in the country, links the seven major academic obstetric hospitals across the island of Ireland as well as representatives of all seven medical schools on the island of Ireland. The network is also headquartered at the RCSI Rotunda Research Department and has a well-established international reputation in obstetric and paediatric research, with current ongoing studies including RECIPE and HOTPOT.

SMART study

This industry-sponsored SMART study (SNP-based Microdeletions and Aneuploidy Registry) is a post-market study that aims to further evaluate the performance of a non-invasive prenatal screening test for fetal abnormalities. In partnership with Natera, the SMART study was initiated at the Rotunda in June 2016, with over 2,500 patients recruited by the end of 2017.

Business Development Unit (BDU)

In 2017, the Business Development Unit continued to develop strategic partnerships and collaborate with a number of international centres. Our overarching aim was to diversify and increase research funding and resources for our key research themes by developing external partnerships with industry and other commercial organizations. In 2017, we launched a Horizon 2020 partnership with Philips and Huawei, while also working with IBM on hospital infrastructure and development plans. Projects with Natera, New York Presbyterian Innovation Centre, TSSG Waterford and Web Society are ongoing and have great potential for the Rotunda's research profile.

Technology Partnerships

In collaboration with RCSI, the Rotunda has been working with the leading Information and Communication Technology Company, Huawei, to collaborate in research and innovation in the area of mobile health (M-Health) opportunities. The Department has been working to combine our expertise to identify unmet needs and areas for improvement in maternal and newborn care, which could be addressed using technologies such as ICT, "Big Data", and remote patient monitoring. In 2017, significant European funding was secured through Horizon 2020 to develop this concept in the diabetes setting, as part of a large pan-European consortium.

Research Communications

In 2017, the Research Department led the redevelopment and redesign of the Rotunda Hospital website, www.rotunda.ie in order to make the site more accessible to patients, which involved organising the site's content in a patient-focused manner, and making the site design more inviting to patients, visitors and prospective patients. This included a simpler colour scheme that is friendly and professional. In the two months from the relaunch of the website until year end, www.rotunda.ie received 71,000 page views, with 68% of visitors accessing www.rotunda.ie on their mobile devices.

In 2017, we also focussed on developing and expanding our social media reach with the Rotunda Hospital Twitter Account, moderated by the Research Department seeing a steady increase in followers and engagements over 2017. The account gained 600 new followers and had over 500,000 impressions in 2017. On Facebook, the Rotunda page gained over 1,100 new followers in 2017.

The HRB Mother and Baby Clinical Trial Network Ireland, also co-ordinated from the Research Department, developed and launched an online outreach programme, 'Curious Parents', to highlight the research work of the network and to provide clear, reliable information on a range of pregnancy conditions and newborn health issues. As part of this initiative animated videos were commissioned and produced, discussing key pregnancy complications like pulmonary hypertension, gestational diabetes and pre-eclampsia, as well as a social media and online engagement campaign.

Research Events

The Rotunda Hospital Clinical Trials Day was held in May 2017 in the Pillar Room. The 'Trials in 3' competition proved incredibly interesting and offered the opportunity for staff to present their research projects to the assembled crowd in just three minutes. First prize went to Dr Niamh Murphy for her excellent presentation on the upcoming 'RECIPE' study.

The Research Department held its inaugural Innovation Day in September 2017. Over 100 members of the public along with a wide variety of Rotunda and RCSI staff participated in the day. A design thinking workshop and talks from innovators, entrepreneurs, patent lawyers and clinicians was held and questions were invited from the audience. It generated a number of excellent ideas for the improvement of patient services and care pathways. It was also a great opportunity for networking throughout the hospital and with our external partners.

Research Ethics Committee

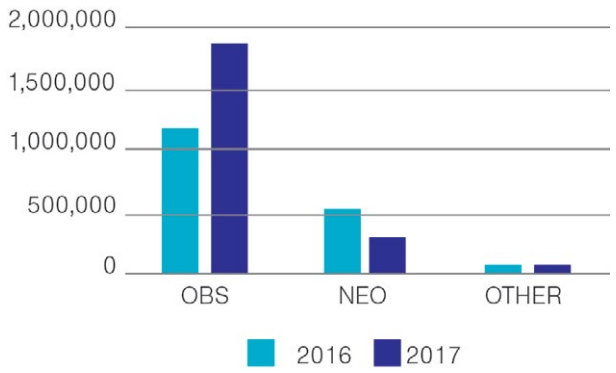
The Research Department plays an important role in assisting the hospital Research Ethics Committee in both an advisory and administrative capacity. In 2017, a total of 24 applications were reviewed by the Hospital's Research Ethics Committee, while the Research Advisory group reviewed 28 applications.

Funding Success

This year, more than €2.2 million in research funding was secured through a diverse variety of funding streams. This included the hospital being awarded two HRB Definitive Intervention Funding Awards (Prof F. Breathnach and Prof F. Ni Ainle), as well notable project grants from the National Children's Hospital Fund and the Children's Fund for Health (Prof A. El-Khuffash). We were also named as the only Irish Partners on a €14.2 million H2020 European-wide consortium focused on improving patient outcomes through integrated big data solutions (Prof F. Breathnach).

Funding of €60,000 to continue the Department's outreach and communication activities was secured through the HRB Knowledge Exchange and Dissemination Scheme for our network activities. These major successes, combined with generous project support from the Rotunda Foundation has resulted in a significant overall increase in research funding over the past twelve months (c20%).

Figure 1
Research Funding



Awards & Achievements

The Society for Maternal and Fetal Medicine in the US awarded a Rotunda Senior House Officer, Dr. Daniel Galvin, an award for Best Oral Research presentation on the GENESIS study, while Dr. Karen Flood was honoured by the same group for her paper on the PORTO study, both of which were major Perinatal Ireland research studies. Dr. Colm Breatnach won the Fellows' Clinical Research Award at the Paediatric Academic Societies meeting in San Francisco. Prof. Afif El-Khuffash developed and launched an App supporting targeted neonatal echocardiography to train neonatal doctors.

Challenges 2017

- Ongoing challenge of maintaining and growing diverse research funding streams.
- Utilising limited space efficiently to accommodate the growing department.
- Establishing new and effective communication channels with staff, media, industry and the public.

Plans for 2018

- Continued development of the new Clinical Innovation Hub & Knowledge Platform.
- Launch and rollout of our new ultrasound training & research programme – SOUNDSTART commercialisation of a novel cord blood collection device invented by the Rotunda's Health and Safety Manager.
- Launch and coordination of three new major, multicentre, national trials.
- Continued development and rollout of our public dissemination programme, such as the CREATE exhibition at the Science Gallery Dublin.
- Develop and redesign of the Rotunda Intranet.
- Develop and design the RCSI Rotunda research webpage.

Research Ethics

Head of Committee
Prof. Michael Geary, Chairman

Committee Members
Dr. Peter McKenna
Prof. Fergal Malone, Master
Ms. Margaret Philbin
Dr. Maeve Eogan
Dr. David Corcoran
Dr. Richard Drew
Dr. Sharon Cooley
Dr. Emma Doyle
Dr. Roisin Ni Mhuircheartaigh
Dr. Fionnuala Ni Ainle
Dr. Cathy Madigan
Dr. Deirdre Daly
Dr. Joanna Griffin
Mr. John O'Loughlin
Ms. Kristina Odlum
Ms. Cliona Christle
Ms. Nuala Johnson
Dr. David Smith
Dr. Tomas Iwan
Ms. Sorcha Heaphy
Mr. Colin Kirkham

Service Overview
The Research Ethics Committee was established in 1995 as a Hospital Committee with overall responsibility to approve any research conducted in the hospital or related to the hospital by employees of the hospital or individuals from outside the hospital.

Dr. Peter McKenna, the Chairman of the Committee, resigned from the Committee in March 2017 following his retirement. The Committee and the hospital are very grateful to Dr. McKenna for his substantial contribution over his 24 years on the Committee and intermittently in his role as Chairman during that time.

Dr. Maeve Eogan and Dr. Sharon Cooley covered as Chairmen for a number of months prior to Professor Michael Geary taking on the role from September 2017. Professor Geary has previously been a long term member of the Committee and had been Chairman for a number of years in the past.

During 2017 Ms. Nuala Johnson, Ms. Cliona Christle and Dr. David Smith resigned from the committee. Their hard work and contribution to the Committee over many years is acknowledged. Ms. Sorcha Heaphy, Hospital Information Governance Manager was appointed to the Committee in 2017 and Dr. Tomas Iwan, NCHD Representative joined the Committee in July 2017.

Activity
The Committee met on nine occasions in 2017. There were 35 research applications considered during the year and of these 31 were approved. Thirteen research advisory applications were considered by the Research Advisory Group and twelve of these were approved and brought to the Research Ethics Committee's attention.

RCSI Department of Obstetrics and Gynaecology

Head of Department

Prof. Fergal Malone, Professor & Chairman

Staff

Prof. Fionnuala Breathnach, Associate Professor
Prof. Paul Byrne, Honorary Clinical Professor
Dr. Karen Flood, Senior Lecturer
Dr. Ronan Gleeson, Senior Lecturer
Dr. Bridgette Byrne, Senior Lecturer
Dr. Carmen Regan, Senior Lecturer
Prof. Sam Coulter-Smith, Honorary Clinical Professor
Prof. Michael Geary, Honorary Clinical Professor
Dr. Carole Barry, Honorary Senior Lecturer
Dr. Naomi Burke, Honorary Senior Lecturer
Dr. Kushal Chummun, Honorary Senior Lecturer
Dr. Sharon Cooley, Honorary Senior Lecturer
Dr. Jennifer Donnelly, Honorary Senior Lecturer
Dr. Maeve Eogan, Honorary Senior Lecturer
Dr. Mary Holohan, Honorary Senior Lecturer
Dr. Edgar Mocanu, Honorary Senior Lecturer
Dr. Hassan Rajab, Honorary Senior Lecturer
Dr. Rishi Roopnarinesingh, Honorary Senior Lecturer
Dr. Siobhan Corcoran, Maternal Fetal Medicine Subspecialty Fellow
Dr. Hala Abu Subeih, Maternal Fetal Medicine Subspecialty Fellow
Dr. Catherine Finnegan, Specialist Registrar / Tutor
Dr. Ann McHugh, Specialist Registrar / Tutor
Dr. Cathy Monteith, Specialist Registrar / Tutor
Dr. Niamh Murphy, Specialist Registrar / Tutor
Ms. Claire O'Rourke, Midwife Sonographer
Ms. Ann Fleming, Midwife Sonographer
Ms. Grainne McSorley, Research Nurse
Ms. Michelle Creaven, Administration
Ms. Suzanne Kehoe, Administration
Ms. Suzanne King, Administration

Service Overview

Patient Services

The RCSI Fetal Medicine Centre continues to provide select advanced fetal medicine services for patients of the Rotunda Hospital, as well as those referred from throughout Ireland. During the current year, a total of 11,471 fetal ultrasound examinations were performed at the centre.

A marked decline in first trimester screening using nuchal translucency, in favour of a significant increase in demand for early non-invasive prenatal testing (NIPT) risk assessment, has continued as the efficiency of NIPT becomes more popular.

Teaching

185 medical students participated in the RCSI Obstetrics & Gynaecology core seven-week clinical teaching rotations. The RCSI Department of Obstetrics and Gynaecology has a leadership role in providing teaching and assessment for undergraduates at the Rotunda Hospital, National Maternity Hospital, Our Lady of Lourdes Hospital Drogheda, Midland Regional Hospital Mullingar, St. Luke's Hospital Kilkenny, Waterford Regional Hospital, and Cavan General Hospital. These students participated as sub-interns on the hospital wards and in clinics, contributing significantly to the mission and function of the hospital, while providing increasingly positive feedback on their learning experiences.

Additionally, the Department participated in a novel programme to train Physician Associates, under the direction of the RCSI School of Medicine. This programme trains a new type of medical support staff, who work as a member of a medical team under the supervision of a doctor in a range of support roles for various clinical practices.

Research

We have enjoyed a strong collaborative relationship with our hospital research partners over the past number of years. This year saw a further integration of our shared research endeavor with the Rotunda Hospital, encompassing perinatal research both a local site and national level. Please see the section on the Rotunda/RCSI Research Department for further information.

Successes and Achievements 2017

In 2017, the Department published scientific articles in international publications with major scientific impact, and was one of the most prominent international participants at the world's largest obstetric research meeting, the Society for Maternal Fetal Medicine, held in Dallas.

Challenges 2017

The main challenge for the Department in 2017 was maintaining high standards of clinical teaching for undergraduate medical students despite ever-increasing numbers of students needing to be taught the core specialty of obstetrics and gynaecology. The quality of teaching has been maintained through the recruitment of additional academic staff and dynamic tutor registrars. The Department has access to a new, state-of-the-art simulation centre at the RCSI York Street building which has allowed the implementation of new teaching and assessment techniques, which focus on improving communication and clinical skills.

Plans for 2018

In 2018, the Department will continue to enhance its research portfolio, with additional PhD and MD candidates conducting a range of randomised and observational clinical trials (see RCSI Rotunda Research Department for further details). The Department will also expand its academic staffing by appointing key new consultant staff at its other affiliated hospitals.

Library and Information Service

Head of Service
Ms. Anne M O Byrne, Head Librarian

Staff
Ms. Geraldine Walsh, Assistant Librarian

Service Overview
The Library & Information Service of the Rotunda Hospital, provides reference/study facilities, as well as electronic access and computer facilities, to the staff and students of the hospital. In addition, it provides services for medical students from the Royal College of Surgeons of Ireland who use the facilities as part of their residency programmes. Midwifery students may also use the facilities during their courses of study.

Facilities include the following services: study facilities (fifteen study spaces), networked computer access (six personal computers), "24 hour access facilities", and integrated print-photocopy services. Electronic facilities include access to electronic journals and medical databases through ATHENS registration, to support evidence-based practice. Access to the library catalogue online, Internet and e-mail facilities support communication processes.

The Library and Information Service (LIS) provides appropriately qualified staff to assist in the dissemination of Library and Information Services to users.

Successes and Achievements 2017
A number of key developments were put in place to aid service development.

Midwifery and nursing staff were invited to CINAHL (Complete Index of Nursing and Allied Health Professionals) training as a refresher for accomplished researchers in February 2017. New rotational staff availed of on-site registration for an electronic clinical summary database, UpToDate, in January 2017, as a result of the successful introduction of the programme to the Rotunda in December 2016.

Planning has commenced for the 275th Anniversary of the founding of the Rotunda Hospital in 2020. Through the work of strategic planning groups, Ms. Anne O'Byrne has been appointed Chair of the Historical Working Group. This Working Group is comprised of staff from interdisciplinary areas who support these events, and has met on two occasions in 2017. The Rotunda Board is fully briefed on developments in this regard through the work of the various planning groups.

End-User-Training Programmes.
The Library and Information Service continues to support electronic access to its evidence-based resources. Through its induction programmes and end-user training, users are made aware of evidence-based tools and access points. Due to reduced LIS staffing, training was limited to "one-to-one" sessions for the first six months of 2017.

Communication
In keeping with the principle of information sharing, the library continues to produce its newsletter "Trimester" on a quarterly basis and continued with a designated "Research Issue" in September 2017. The graphic design of the Rotunda Delivery Newsletter is also produced by Library and Information Service Staff, thereby reducing costs.

The LIS continues to support the research activities of staff through its contribution to the Lenus and OLAS databases. Users are supported in systematic reviewing and literature search facilities.

Challenges 2017
The main challenge for 2017 was how to maintain services with reduced staff because of maternity leave. This resulted in periods of reduced services for library users.

Plans for 2018
In 2018, we will further develop plans for the Rotunda's 275th anniversary in 2020. A Historical Working Group has been established and will push forward with the creating many 2020 commemoration events. Additionally, the following cultural events are planned for 2018:

- Rotunda contribution to Culture Night in September 2018 where the public will be invited to a public lecture and tours of the historic Rotunda Chapel. It is hoped that this first time contribution will be well received by the people of Dublin.
- In October 2018 the Rotunda will mark the centenary of the Midwives (Ireland) Act of 1918 with a Conference in the Pillar Room of the Rotunda. The conference will discuss historical and contemporary perspectives in midwifery in 2018.

The Rotunda Foundation

Head of Foundation
Ms. Sheila Costigan, General Manager

Staff
Mr. Chetan Chauhan, Marketing Executive

Board Members
Mr. Andrew Wortley, Chairperson / Director
Mrs. Marie Malone, Secretary / Director
Ms. Sylvia Graham, Director
Mr. Colm Reilly, Director

Advisors to the Board
Mr. James Clancy, Company Secretary
Mr. Daragh O'Shaughnessy, KSi Taxation Advisor
Mr. Declan Mulhall, Partner, KSi Faulkner Orr Accountants
Ms. Carla Glynn, Communications Research & Corporate Partnerships

Overview
The Rotunda Foundation is the official fundraising arm of the Rotunda Hospital and operates as a registered charity (CHY20091). It was established in 1971 under the name of 'Friends of the Rotunda' and incorporated as a Limited Company by Guarantee and Not Having A Share Capital. The Foundation is registered with the Charities Regulatory Authority (CRA).

The Charity has a firm commitment to transparency, accountability and an adherence to good governance, best practice and performance. It publishes annual audited accounts approved by KSi Faulkner Orr Accountants.

The Foundation relies on revenue it generates annually from fundraising activities, corporate sponsorship and donations and does not receive any funding from the State.

Successes & Achievements 2017
The Foundation supported a significant number of the Rotunda's Research & Training Programmes by providing seed capital to finance several high-quality research studies and the training of healthcare staff. The Foundation has used donations to support specialist services within the Rotunda and to purchase new essential equipment that would otherwise, not be funded by the State:

- **Research: SUMIT Study** to enhance Understanding of Maternal and Infant sepsis through collaboration between the Rotunda and Temple Street Hospitals.
  Principal Investigator: Dr. Richard Drew.
  Researcher: Dr. Mary Meehan, Temple Street.
  Using the MinION equipment purchased at a cost of €11,500. This research highlights a resource-sharing approach between two research centres resulting in significant cost savings.
- **Research: RECIPE – Reducing Emergency Caesarean and Improving Primiparous Experience**
  Principal Investigator: Dr. Naomi Burke
  Lead Researcher: Dr. Niamh Murphy (MD Candidate)
  The RECIPE Study is a most significant study between the Rotunda Hospital, Dublin and Our Lady of Lourdes Hospital, Drogheda. The aim of the study is to test a formula which our researchers have developed previously, and which may help to predict which women may be most at risk of requiring an emergency caesarean delivery during labour with their first baby. This study will help Rotunda's Medical Staff to optimise the best possible care for all pregnant women.
  Grant Awarded Year 1 - €53,536
- **Research: Neonatal Noise Exposure and Noise Reduction during Emergency and Elective Neonatal Transfer**
  Funding for the purchase of equipment for study with the National Neonatal Transport Programme.
  Dr. Naomi McCallion, Dr. Nural Aminudin and Dr. Jan Franta
  Grant Awarded Year 1 - €20,000
- **Research: Intrapartum CTG and Partogram Characteristics**
  Can they help predict fetuses with poor tolerance of labour? Research Fellow Post
  Dr. Breda Hayes, Dr. Adam Reynolds, Ms. Cliona Hughes
  Grant Awarded Year 1 - €29,000
- **Research: Mental Health Strand of the MAMMI Study Trinity College**
  Research Study exploring the health and the health problems experienced by first-time mothers during pregnancy and up to twelve months after the babies birth.
  Grant Awarded Year 2 - €33,211
- **Funding to establish a Rotunda Communications Programme**
  To Promote the Rotunda Hospital's Services and its key research themes through the provision of a focused communications programme. The programme provides a dedicated and centralised strategy in communicating and disseminating the Hospital's services and research, which is a vital part of the Rotunda's Research Strategy.
  Grant Awarded Year 1 - €30,000
- **Equipment Funded: Dornier Medilas D Multibeam Laser and Disposable Light Guide**
  Grant Awarded - €50,663
- **Equipment Funded: Servo Control Cabinet for Theatre**
  Grant Awarded - €12,915
- **Equipment Funded: Infant View Finder for Neonatal Intensive Care (NICU)**
  Grant Awarded - €1,060
- **Healthcare Training: Funding to support two NICU Nursing Staff – FiCare Study Day in UK**
  Grant Awarded - €740
- **Healthcare: Funding to support the Rotunda's Annual Staff Step Challenge Initiative**
  Grant Awarded - €370

The Foundation has used donations in the best possible way by funding the development of new initiatives within the Rotunda to support improved patient care programmes:

- Beads of Courage Programme in NICU.
- Aidan and Donnacha's Wings – Ceramic Hand & Foot Prints for bereaved parents.
- Tentacles for Tinies Initiative in NICU.

- The Journey Initiative in the Fetal Assessment Unit.
- The Rotunda's Pastoral Care and Bereavement Support Services.
- The Rotunda's Medical Social Work Services
  Grants Awarded - €35,000.

Fundraising & Events

The Foundation does not receive any State funding and generates revenue each year by actively encouraging Rotunda staff, patients, their families and friends to participate in fundraising activities. Fundraising initiatives this year have included:

- Rotunda Golf Classic – *The Masters' Cup.*
- Supermarket Bag Packing.
- Christening Party Fundraisers.
- Coffee Morning Fundraisers.
- Birthday Party Fundraisers.
- Sponsored Charity 5K, 10K Walks/Runs.
- VHI Women's Mini Marathon.
- Hell & Back Challenge in aid of NICU.
- SSE Airtricity Dublin City Marathon.
- New York City Marathon.
- Sale of Easter Eggs.
- Coin Box Collections and Raffles.
- Sale of Publications gifted to Rotunda Hospital by Artists / Authors.
- Sale of Football Shirts in aid of Rotunda Research Fund.
- Sale of Christmas Cards.
- Sale of Art illustrating the Rotunda Hospital.
- Sale of Designer Silver Jewellery Collection.
- Sale of Memorabilia.
- Chamber Orchestra Performances in the Pillar Room.
- Christmas Swim Fundraiser.
- Sky Dive Fundraisers.
- Rotunda Foundation Annual Membership Subscriptions.
- Conferences & Training Courses.
- Charity Collaborations with Feileacain, NILMDTS.
- Charity Partner Collaboration with Park Rite Parnell Street Car Park.
- Corporate Giving Fundraisers.
- Charity Ball – Pete's 166 in aid of the Rotunda's Journey Initiative.

The Pillar Room

Another substantial source of revenue in aid of the Rotunda Research Fund is generated each year through the hire of the Pillar Room complex as a facility for private and corporate functions. It is also used extensively by the Hospital for conferencing, teaching and examination purposes.

The Rotunda Chapel

The Foundation manages all enquiries from the public for tour visits to the Rotunda Chapel. Admissions are charged at a rate of €5 per person as a donation to the Foundation in aid of the Rotunda's Medical Social Work Services. These reservations are arranged by appointment only.

Volunteering

The Rotunda Knitters & Crochet Volunteer Group continues to supply the Rotunda Foundation with their hand-crafted knitwear for new-born and premature babies born at the Rotunda. Complimentary gift packs are distributed monthly to new parents in celebration of their baby's birth and other memorable dates throughout the year such as World Prematurity Day, World & National Breastfeeding Weeks, Valentine's Day, St. Patrick's Day, Spring Awakening, Summer Joy, Winter Warmth and Merry Christmas.

Mother & Baby Donations Appeal

The Rotunda's Medical Social Work Service is regularly asked to provide support to pregnant mothers who find themselves in a crisis situation with little or no money to care for their newborn infants. Our Mother & Baby Donation Appeal is promoted throughout our social media platforms and requests are made for new or nearly new items of clothing, prams, car seats and general overnight toiletries for both mother and her newborn baby.

The Board of the Rotunda Foundation wishes to extend its gratitude to our generous donors and to all those who have organised and supported fundraising activities during 2017.

Challenges 2017

The Rotunda Foundation addressed the many controversies that faced Ireland's community, voluntary and charity sector during the past two years. These controversies, involving a handful of organisations, placed the entire sector under intense public scrutiny and this continued to impact upon charities during 2017.

Responding to this, the Board of the Rotunda Foundation took appropriate action to expand its membership to embrace a wider diversity of expertise and improve its governance. It also placed greater emphasis upon transparency by publishing good quality information on the impact of its work and upon improving its financial reporting procedures.

The Foundation has also worked closely with senior Rotunda staff to increase fundraising awareness and the hospital's wish list needs. During the year, it has held several major events highlighting World Prematurity Day and National Breastfeeding Week.

Plans for 2018

In 2018, the Foundation aims to continue to expand its activities and its use of digital technology to raise awareness and realise a greater potential with regard to major campaign fundraising, volunteering and communications.

Corporate Services

Human Resources

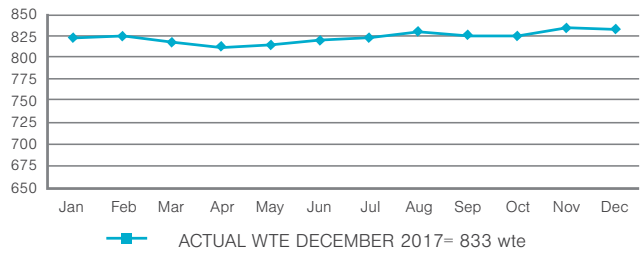
Head of Department
Mr. Kieran Slevin, Human Resources Manager

Staff
Ms. Cathy Hyland Ryan, Deputy HR Manager
Ms. Teresa Grace, HR Officer
Mr. Anton Nesterenko, HR Officer
Ms. Anita Smith, HR Officer
Ms. Ursula White, HR Officer
Mr. Ciarán Dunleavy, HR Administrator

Service Overview
The Human Resources Department continued throughout 2017 to provide HR corporate services across the hospital for Medical, Midwifery/Nursing, Allied Health Professional, Management/ Administrative, and Support Services staff.

Headcount Management
The Rotunda year end whole time equivalent staff was 833. We received RCSI Group approval for seventeen new midwives; six new Consultant posts; three WTE administration staff and one Clinical Nurse Specialist in mental health.

Figure 1
Rotunda WTE 2017



Workforce Planning
With the launch of the Hospital's new Strategic Plan for 2017–2021, the Human Resources Department is supporting and contributing to working groups, in particular, strategic principle two, which is to provide the best patient and staff experience as the maternity hospital of choice.

Absenteeism
The Hospital absence rate was similar in 2017 with an average absenteeism rate of 3.5%. The HSE target for absenteeism within all organisations was set at 3.5% for 2017. This demonstrates the overall commitment of Rotunda staff and continuous effective management of absence. Throughout 2017, the Rotunda Hospital continually had absence rates lower than the national average for HSE hospitals and also consistently had one of the lowest rates of absence within the RCSI Hospitals Group.

Employee Resourcing
100 recruitment competitions were supported in 2017, with an average recruitment turnaround time of six and a half weeks.

Employee Development
A wide range of training and development programmes were provided through HR during 2017, to ensure employees and management were equipped with the skills and abilities to achieve the hospital's strategic goals.

Training and development opportunities offered to employees in 2017 included:

- "Hello My Name Is" — The hospital launched Hello My Name is in 2017. HR supported the initiative with the rollout of name badges. Briefing sessions, were held to educate employees and other tips and mechanisms to remind users to answer the phone with their name, location and other relevant information.
- Bespoke Customer Service Training — this was developed and delivered for the employees in the Private and Semi Private Clinic to support the clinics business model.
- Improving the Patient Experience — This programme was added as a new module to the Staff Induction Programme so all new starters will be trained upon their arrival. Further training sessions will be run on an ongoing basis with information on dates, times and locations to be communicated via email and employee notice boards. The initiative was showcased in the Excellence Awards 2017 co-ordinated by the HSE.
- Policy and Procedure Training such as Dignity at Work, Attendance Management, Grievance and Disciplinary Management.
- Pre-retirement planning courses.

Employee/Industrial Relations
Throughout 2017, the HR Manager continually engaged with trade unions and representative bodies in the hospital on a variety of issues primarily focused on cost efficiency measures and ensuring all parties were compliant with the Public Service Agreements (IHCA, IMO, IMPACT, INMO, MLSA, SIPTU, TEEU). The HR Manager regularly meets with Heads of Department to ensure a continual proactive corporate approach to the resolution of employee and industrial relation issues. The HR Manager regularly meets and collaborates with the HR Managers from all of the Voluntary Hospitals throughout Ireland, the Health Services IBEC Industrial Relations Executive and HSE Corporate Employee Relations unit.

Service Developments
In March 2017, the Rotunda Hospital renewed our contract for our Employee Assistance Programme (EAP) with the VHI. The EAP continued to provide assistance to staff on a confidential basis, which is a core principle of the EAP service. HR led on a number of health related projects including Employee Wellness events, Step Challenge, Healthy Ireland initiatives including the Flu Vaccination programme and tips on how to have a good day.

The Human Resources Department further supported the implementation of the electronic patient chart system (MN-CMS) and TMS, which is a time and attendance management system.

Organisational rollout of TMS has been progressed and supported by HR.

The Human Resources Department submits monthly returns to CompSTAT in relation to the European Working Time Directive (EWTD) for Non Consultant Hospital Doctors (NCHD's). We are delighted to consistently return 100% compliance. This is achieved due to ongoing collaboration between the Clinical Directors Office, TMS Project Co-Ordinator, NCHD's and Human Resources Department. The Human Resources Department continues to liaise with all Heads of Department in relation to sick leave records and real-time deductions.

Challenges for 2017

2017 was a demanding year for the Human Resources Department especially due to retirements and resignation within the Department and for the hospital due to the continued high volume of clinical activity and acuity of hospital activity. The challenge to HR was to resource the Hosptial to ensure a safe and quality service within the defined financial allocation and with the implementation of the provisions of the Haddington Road Agreement and Lansdowne Road Agreement.

In 2017, the Human Resources Department was audited by a number of external agencies to ensure it was fully compliant with regulatory/legislative requirements, including best practices, and this entailed a significant additional body of work. HR is actively engaged in a number of projects to include full compliance with the National Vetting Bureau (Children's and Vulnerable Persons) Act 2012 and further rollout of TMS.

Plans for 2018

In 2018, the HR Department will further rollout the (TMS) Time Management System. It is also planned to appoint a Training and Development Manager.

Finance

Head of Department
Mr. James Hussey, Head of Finance and Procurement

Staff
Mr. Alan Holland, Financial Accountant
Ms. Liz Dunne, Payroll and Superannuation Manager
Mr. Ed Smith, Patients Accounts Manager
Mr. Denise Rogers, Creditors
Ms. Carmel Kennedy, Creditors
Mr. Sean Williamson, Procurement

Service Overview
The Finance Department is responsible for:

- Budgetary Management and Service Support.
- Cash flow and Treasury management.
- Financial Compliance and regulation.
- Business Case support and Funding management.
- Payroll & Pensions - Management, control and process of €57m in pay and pensions.
- Patient Accounts - Generation, management and collection of €12.3m in income.
- Creditors - Control and Management of €15m in Creditor payments.
- Procurement - Contracts and Stores Management.

Departmental Activity
Initial Financial allocation in 2017 was €50.932m (Table 1)

Table 1: Rotunda Initial HSE Financial Allocation 2017	
Pay	€54.823m
Non – Pay	€13.931m
Income	(€17.822m)
Total	**€50.932m**

Maternity services are demand-led and therefore cost drivers are determined by clinical demands and in ensuring that the Hospital is resourced to provide a safe and quality healthcare service. The Rotunda's initial profile of projected expenditure for 2017 to maintain a safe level of service and excluding service developments was as follows (Table 2).

Table 2: Rotunda Projected Funding Requirement 2017	
Pay	€56.394m
Non – Pay	€14.954m
Income	(€18.052m)
Total	**€53.296m**

Initial funding as outlined, indicated a projected shortfall in funding of €2.3 million (-4.5%) in 2017. In addition, there was a cumulative carry forward shortfall from 2014-2016 of (€389,000) which needs to be addressed with our core funders, the RCSI Hospitals Group / HSE.

An initial financial shortfall of this magnitude presents a significant challenge and financial risk in meeting the hospital's statutory and fiduciary responsibilities and in ensuring a quality and safe service. Achieving financial break even through cost containment measures and value for money initiatives only is not achievable and would require supplementary budget.

The most significant risk of this financial shortfall in funding is its impact on cash flow.

Financial Risks in 2017 were:

- Funding shortfall.
- Cash flow management.
- Lack of capital funding for essential medical equipment replacement and minor capital works and refurbishments to meet required standards.

Successes & Achievements 2017
Payroll and Superannuation
All Measures from the Lansdowne Road Agreement were implemented and some reversals of FEMPI measures were actioned in 2017. Ongoing savings continue to be achieved in variable pay costs such as agency and overtime. All superannuation obligations to hospital employees and pensioners were met in 2017.

Creditors
€15m in non-pay expenditure was processed through creditors in 2017. Despite reduced funding and major cash constraints in 2017, the hospital fulfilled all obligations to their suppliers under the Prompt Payments Act in 2017.

Patient Accounts/Cash Office
A continuing challenge still facing Patient Accounts is the continuing pending of charges and part payment of legitimate statutory charges for inpatient or day service activities by the Private Medical Insurers. There is also an insistence by PMIs on signing a waiver form which is particularly stressful for patients in the Neonatal Intensive Care Unit. A significant achievement in 2017 was getting agreement to discharge aged maternity levy debt.

Procurement
The Procurement Department has worked with Health Business Services (HBS), the business division of the HSE, to initiate cost reduction and non-pay savings in 2017. A number of contracts were renewed and rolled into 2017 with the agreement of HBS and a number of procurement requests are being progressed in collaboration with the HBS.

Budgetary Management
Extensive negotiations and consistent and continual communication in with funding bodies has been provided in order to bridge the initial funding shortfall. These include:

- HSE/RCSI Hospitals Group.
- National Cancer Screening Service.
- Pre-Hospital Emergency Care Council - Neonatal Transport.

A substantial supplementary budget allocation was negotiated in the third Quarter of 2017. This, in conjunction with cost containment measures and value for money initiatives, was instrumental in achieving effective financial break-even in 2017.

Table 3: Final Budgetary Out-Turn 2017	
Actual Expenditure (€'000)	€53,921
Final Budget (€'000)	€53,691
Variance (€'000)	(€230)
% Variance	(0.43%)

Financial Statements 2017

The external auditors of The Rotunda Hospital are Deloitte. Proper accounting records have been kept which disclose the financial position of the Rotunda Hospital and comply with accounting standards laid down by the Minister for Health.

The Financial Statements give a true and fair view of the state of financial affairs of the Hospital at December 31, 2017 and have been certified by external auditors.

Challenges 2017

Cash Flow

Cash flow and the management of cash was the most significant financial risk and challenge facing the Hospital in 2017. This is a high priority financial risk for The Rotunda as a Voluntary Hospital, as the Hospital requires cash funding in order to maintain safe service and meet regulatory and fiduciary obligations to employees and creditors.

Medical Equipment Replacement Programme

There is a significant requirement to replace end-of-life medical equipment but there has been ongoing shortfalls in capital funding for replacement.

Finance Department Key Performance Indicators for 2018

- Ensure that The Rotunda is adequately financially funded and resourced in 2017 in order to continue to provide safe quality services.
- Ensure that there is a sufficient cash flow in order to meet our obligations to all stakeholders.
- Source funding for essential medical equipment replacement and minor works programme.
- Further develop the culture within the Finance Department to create a more responsive, service-orientated Department.
- Integrate feeder systems such as Pharmacy and Catering to Financial Systems to produce more timely and relevant information.
- Develop services within finance so that the hospital can provide more responsive, relevant and timely information on pension and payroll requests.
- Provide support to organisational roll-out of the Time Management System (TMS) for personnel management.
- Develop links with other maternity hospitals so that the Hospital can work collaboratively to resolve common issues such as non-payment of legitimate debts by Private Medical Insurers.

"A thank you to all clerical staff, security, medical staff, midwives, catering staff, cleaners and care assistants for the care I received before, during and after birth. Despite the potential stressful nature of maternity hospitals all staff gave top class care"

Information Technology

Head of Department
Mr. Cathal Keegan, IT Manager

Staff
Mr. Gerard Payne, IT Systems Adimistrator
Mr. Martin Ryan, IT Infrastructure Manager
Mr. Derek Byrne, Applications/Integration Manager
Ms. Eimear McLoughlin, IT Support Officer
Ms. Fiona Quill, IT Support Officer
Mr. Anthony Shannon, IT Support Officer

Service Overview
The Information Technology Department (IT) supports the development and maintenance of the IT function throughout the hospital campus. To facilitate this, we provide helpdesk support for over 800 users and manage an estate of over 1,500 connected devices. We continuously review industry best practice to provide optimal service reliability and monitor technological advancements to see how best they can be leveraged to improve our service. Data security is essential in a healthcare setting and we have worked closely with the HSE to strengthen our position from both an administrative and clinical device perspective. All staff employed in the hospital are continually reminded of the vital role that they play in IT data security.

Successes & Achievements in 2017
This year saw the culmination of over 24 months of planning and development with the implementation of the Maternal Newborn Clinical Management System (MN-CMS), a multidisciplinary project that required input and collaboration from all hospital departments. Midwives, Clinicians and Paramedical staff worked together to design the workflows for the various maternity pathways available, whilst the IT Department focused on implementing the infrastructure and equipment required to make the system accessible throughout the hospital. This involved the complete readdressing of our internal network address ranges to facilitate direct access to the NHN (National Health Network), the implementation of a hospital wide wireless network for mobile access to the patient chart and the configuration and installation of over 300 pieces of equipment including carts, scanners, mobile printers, connectivity engines, wall mounts, medical grade PC's and tablets. This task turned out to be larger than we ever imagined and necessitated input from every member of the IT team along with a close working relationship with our Technical Services department who assisted in the installation.

Our next steps now are in maintaining and supporting this infrastructure to ensure a reliable and accessible system at all times.

In May 2017 there was a ransomware cyberattack that was estimated to have affected more than 200,000 computers in 150 countries and caused up to a billion dollars in damages. This outbreak targeted Microsoft Windows operating systems which comprises of 95% of systems here in the Rotunda. Initial reports indicated that the NHS in the UK had suffered significant outbreaks causing a severe disruption to services in many of their Trusts. Steps were immediately taken to limit external access to the Rotunda network and all email traffic was suspended. Over the weekend and following days we participated in the HSE's Emergency Response Team briefings and validated over 550 computers to ensure that they were patched to the correct level and had current anti-virus definitions applied to prevent infection. This involved a massive effort over the first 72 hours and a plan of operation for Monday when the vast majority of staff returned to work and accessed their computers. In consultation with the HSE all sites agreed to keep email traffic suspended until Wednesday (five days after outbreak) to ensure that any potentially infected unread emails in staff's inboxes could be addressed. We were happy to confirm that we suffered no infections as a result of this outbreak and this has done much to raise computer security awareness amongst management and employees.

Coincidently, our next major project scheduled following this cyber-attack was the upgrade of our central Anti-Virus management platform. This project took considerable discussion and planning as we deployied these changes to over 600 devices of various configurations. Deployment was on a phased basis with non-critical areas targeted first, once these areas reported no issues, deployment was approved for all areas. This new deployment improves our security standing with the addition of Advanced Threat Protection through cloud-based signature matching and a greater visibility of all activity across the Hospital.

Plans for 2018
In 2018 we will look to build on the successful MN-CMS implementation by introducing a structured support process for the system. Working together with the HSE, Cerner and our local MN-CMS back office, we will provide support across all aspects of the system. As this system is now the primary method of documenting and reviewing patient clinical notes it is imperative that it is always available to the user. To ensure that this is the case, we will be reviewing our legacy networking and storage infrastructure with a view to upgrading to a more redundant solution.

The cyber-attack has reinforced the need for greater security awareness amongst all employees and we need to keep end user education high on the agenda.

Support Services

Head of Department
Mr. Ray Philpott, Support Services Manager

The following are under the remit of the Support Services Department:

- Capital Projects Office.
- Catering Department.
- Clinical Engineering Department.
- CSSD.
- Health and Safety.
- Household Department.
- Linen.
- Non-Clinical Claims Management.
- Portering Department.
- Technical Services Department.
- Telecommunications Systems.
- Waste Management Services.

Services Overview
The Support Services Department provides key supports to the clinical needs of the Rotunda Hospital. 2017 was an extremely challenging year due to a number of complex infrastructural capital works projects which were progressed in 2017. These projects were extremely complicated and intrusive on clinical areas whilst also impacting directly on support services. All projects required a multi-disciplinary approach from clinical, technical and support service staff as well as infection control.

Projects were all managed through Support Services and meetings were regularly held with external and internal stakeholders. This ensured that all projects progressed in a timely fashion through constant engagement and effective communication.

Successes & Achievements 2017
The following capital projects were commenced/completed in 2017:

- **Day Care Unit -** Improved facility and space.
- **Fetal Assessment Unit -** Enhanced and upgraded facility to improve patient comfort and dignity.
- **NICU expansion and upgrade -** Enhanced facilities in NICU to alleviate overcrowding and meet recommended spatial requirements.
- **Installed new Generator -** Health and safety requirement to support and provide back up for power and an essential requirement for excessive power outages.
- **Electrical Board replacement -** Phased replacement throughout the campus of all old electrical boards to meet required modern standards.

Plans for 2018
2018 will prove to be another challenging year for the Support Services Department. Major capital plans include a new three storey development adjoining our existing building, improving our existing Theatre, Delivery Suites and Emergency Department areas. Building a new sub-station to help power our existing site and complete refurbishment of our main NICU.

Catering Department

Head of Department
Mr. Yoichi Hoashi

Service Overview
We continue to provide food and refreshments for our patients to a consistently high standard as well as operating the staff restaurant which has become a real social hub in the hospital. In 2017, the Catering Department continued to build on the many changes and improvements achieved in the previous year.

Departmental Activity
While our in-patient activity levels naturally mirror the hospital activity, the Department enjoyed substantial increases in the staff restaurant activity due to ongoing enhancements and improvements made since 2016.

Successes & Achievements
Substantial numbers of direct patient complimentary and positive feedback confirm satisfaction with the catering services. This was also confirmed in the feedback on the catering service in the context of the Patient Experience Survey (2017) released in the Autumn. The trend was all positive with 91.4% (2016: 89.4%) stating that the “food I received was of a high quality” and 98.4% (2016: 97.6%) stating that patients were “satisfied with the meals you received”

Since November 2017, the staff restaurant opening hours were extended to include evenings and weekends, to coincide with the rollout of MN-CMS. The extended hours, provided without extra resources, has been very well received by the hospital staff.

The Catering Department streamlined various manual administrative processes in 2017 by rolling out the use of TMS (Time Management Systems) and through integration of financial systems for ordering and processing of invoices.

Regular Internal and external audits on food safety ensures the hospital food safety management system is compliant with the requirements of I.S. 340: 2007.

Challenges 2017
The flow of patient dietary and allergen information to catering has been sub-optimal and we are collaborating with other disciplines in order to address this.

Plans for 2018
Below are plans to improve user experience with the catering dept:

- Electronic food ordering system to streamline and ensure patients only get offered their prescribed diet.
- Pilot Room Service in single rooms.
- Seek funding for extending the patient catering service to 24/7.
- Introduce in the Staff Restaurant:
  - — Cashless dining for convenience, security and efficiency.
  - — Compostable disposables.

Clinical Engineering Department

Head of Department
Mr. Henry Gelera

Service Overview
Clinical Engineering Department manages all medical equipment in the Hospital.

Departmental Activity
Some medical equipment - (Fetal Monitors, Ultrasound machines, Syringe Pumps), were replaced under the HSE Medical Equipment Replacement Program in 2017. The Medical Device/Equipment Oversight Management Committee has met periodically to discuss and address issues in relation to medical devices. There had been a lot of project redevelopment works, especially in NICU, which requires substantial input from the Department to reallocate and review medical equipment needs.

Successes & Achievements
The Medical Equipment management internal audit was conducted and there were no major issues raised. The HSE national equipment management system has been slowly implemented into the local database system.

Challenges 2017
The primary challenge is to ensure that all medical equipment is safe and meets the required standard to provide a quality service with restricted funding and resources.

Plans for 2018
- To continue to provide efficient and reliable service within its current resources.
- To fully implement the web based work requisition system across the hospital.
- To continuously seek more funding from HSE and other sources to upgrade or replace critical medical equipment.

Central Sterile Service Department

Head of Department
Mr. John Oyedeji

Decontamination Coordinator
Ms. Anu Binu

Service Overview
All reusable medical devices are safely and effectively decontaminated, maintained and managed in accordance with legislation, national decontamination standards and HSE Code of Practice and best practice recommendations. The Rotunda has an on onsite Central Sterile Supplies Department (CSSD) and a designated decontamination co-ordinator. CSSD is the core department within the hospital in which re-usable medical devices, both sterile and non-sterile are decontaminated. In 2017 there were 64,226 surgical/delivery packs in total: 24,045 trays and 40,181 single packed instruments reprocessed in CSSD.

Quality Assurance & Improvement
Decontamination audits are performed by the decontamination co-ordinator, CSSD manager and staff and infection control link staff. Results are reported to the Infection Prevention Control Committee. A new online audit tool was implemented in 2017 to facilitate trend analysis and improve feedback to staff. The overall annual compliance rates for decontamination of medical equipment (DOME) exceeded required KPI rates (>90%). As a result of staff suggestions and audit observations a number of quality improvement initiatives were undertaken:

- Introduction of a new method for chemical disinfection (Mediclean tablets) with resultant cost saving and positive feedback from staff.
- Procurement of a new trolley for transporting reusable medical devices in Postnatal Ward B.
- Review of decontamination practices for breast pump attachments and introduction of single use breast pump tubing and valves.
- Replacement of Point of Care Devices for glucose monitoring to improve compliance with decontamination requirements

In 2017, CSSD raised seventy non-conformance actions in line with the HSE Code of Practice. Examples of improvement measures identified as a result include;

- Increased education for clinical staff on sharps management
- Replacement of existing surgical scissors with a more effective and easier to use alternative (Tungsten carbide (TC) surgical scissors).

No risk incidents related to decontamination of reusable invasive medical devices were recorded in 2017.

CSSD Infrastructure
The reverse osmosis water purification plant, used in the final stage of the cleaning and disinfection was relocated to a new location to accommodate building works. Contingency plans

were put in place and due to excellent project planning there was no impact on service during this time.

Education & Development of Standard Operating Procedures (SOP)

A continuous programme of education and training for staff involved in decontamination of reusable medical devices is maintained. Existing SOP are regularly reviewed and new decontamination SOP are produced as required.

Plans for 2018

The plans for 2018 will focus on maintaining compliance with national standards for decontamination and reprocessing of reusable medical devices. In particular, automated methods for ultrasound probe decontamination will be trialled. CSSD plans further integration of the IT systems and processing equipment with expansion of the instrument tracking system to single packed items. It is hoped that this will be done as part of the Quality Improvement in Decontamination Programme facilitated by the HSE.

Household Services Department

Head of Department

Ms. Catherine L'Estrange

Service Overview

2017 proved to be one of the most challenging years in resourcing for the Household Department. A lot of time was invested re-engineering how we met our targets set down by the National Hygiene Standards. To ensure we can stand over and be proud that our patients are taken care of in a hygienically clean environment that reflects a modern healthcare facility with the assistance and help of every individual within the Department. We met our targets in 2017. Household received a positive report regarding our environment from HIQA from their unannounced inspection in March. Yet again, our scores from our internal Patient Satisfaction Survey in relation to how hygienic our environment was from a patient perspective remain excellent scoring 99.2%.

Success and Achievement

Achievements were attained in 2017 despite resource restrictions and with an increasing service demand. The Department still maintained and met all its targets set down by the National Hygiene Standards. The Department and all its staff were delighted with the excellent results attained in our Patient Satisfaction Survey (99.2% versus 98.2% on the previous survey). These results clearly illustrate that we are succeeding and improving year on year through the efforts of all the staff in the Department.

Plans for 2018

We will continue to improve and change our services to meet the increasing demands that will undoubtedly come in 2018.

Portering Department

Head of Department
Mr. Paul Shields

Service Overview
The current Portering Services Department continues to provide a high level of service adhering to the various national standards such as HIQA, Decontamination etc.

We have seen a large increase in the demands on the service from other departments since their workloads and services have increased with new clinics opening around the Hospital.

Our waste streams have maintained a good level of recycling and composting which is down to the regular training provided annually and we hope to increase this in 2018. A waste awareness day was held to refresh all staff on how to use, maintain and improve the utilisation of our waste services.

Plans for 2018
In 2018, we will attempt to increase our recycling and compost streams and further reduce our waste that goes to landfill, thus, reducing the costs associated with this. We will continue to inform staff on good practice associated with waste and will again hold a further Waste Awareness Day. We will attempt to acquire another porter to service the CSSD because of the increase in their workloads.

We will continue to meet operational service demands of the hospital and work with others to address increased demand for services due to substantial building works programme planned for 2018.

Patient Services

Head of Service
Ms. Niamh Moore, Patient Services Manager

Team Leaders
Ms. Anna Mooney, Deputy Patient Services Manager
Ms. Susan Daly, Colposcopy Unit
Ms. Denise Gleeson, Adult Outpatients
Ms. Kathy Hayes, Paediatric Outpatients
Ms. Carol Marmion, Paediatric Outpatients
Ms. Julie Mc Evoy, Admissions/Reception
Ms. Jacinta Core, Laboratory Medicine
Ms. Louise O'Hara, Healthcare Records & Ward Clerks
Ms.Noeleen Costello, Central Appointments & Gynaecology Outpatients service
Ms. Donna O'Connor, Central Appointments & Gynaecology Outpatients service

Service Overview
Patient Services provides front line receptionist and back office support to ensure the smooth operation of scheduled and non-scheduled patient appointments, admissions of all patients and management of patient records. This includes 24 hour support at the main hospital reception and switchboard, as well as all scheduled clinical appointments and medical typing. The staff from Patient Services are located in 30 separate locations across the Hospital campus supporting patients and our clinical colleagues.

Successes & Achievements 2017
2017 was an extremely busy and exciting year due to the implementation of the Maternal Newborn Clinical Management System (MNCMS) in November.

Patient Services representatives were involved in the local implementation team since 2014 and continued this involvement and support throughout 2017. One of our team became a Super User trainer on the project team and assisted in the training of all staff (clinical and administrative) on how to use the new system.

We continue to work with our colleagues to work out the teething problems that come with all new IT systems.

The Service continued to report on a weekly basis to the National Treatment Purchase Fund national waiting list extract project. In 2017, patients experienced an increase in waiting times for routine Gynaecology appointments as the demand for this service continues to exceed the capacity available.

We introduced a second digital dictation software system to improve the support available to our clinical colleagues and service to our patients. We continue to work with our software providers to integrate these systems with the hospital databases (iPMS & MNCMS) when this is available.

Outpatient telephone clinics were successfully implemented in key public gynaecology clinics. This means that patients do not have to attend the hospital to receive a scheduled communication with their consultant and this clinical activity is recorded and can be reported on.

The structure of all public booking visit appointments was changed in 2017 to include a dating scan in Adult Outpatient Department (AOPD) for all patients. This re-structuring of all clinics on iPMS and ensuring that patients were scheduled in the right appointment slot for the right time was a challenge for all involved in this project. Patient feedback has been extremely positive about this improved service and it has reduced the length of time that each patient spends in AOPD.

Challenges 2017
Retention of staff was a constant challenge. It has also been a challenge to deliver service without disruption with resource deficits and shortfalls. However, no patient appointments, admissions or procedures were delayed due to depletion of available staff.

Key staff within the Service contributed to weekly national work stream conference calls to support the implementation planning for MN-CMS. This caused additional challenges on top of routine workload and service but proved fruitful with the successful implementation in November.

Access to training for front line administrative staff continues to be challenging in 2017. In order to provide an improved customer service experience it is essential that staff receive appropriate training. We will continue to work with our HR colleagues to improve this situation.

Plans for 2018
Like many other services, in 2018 we will continue to review administrative work process and flows to support the ongoing success of MN-CMS. We will utilise any available administrative efficiencies from MN-CMS to improve our patient communication service. Once we have archived the old hard copy charts to off-site storage it is envisioned that we develop a call centre service to improve telephone access and response to our patients and General Practitioners.

In 2018 we will commence a validation process of all patients waiting more than three months for a Gynaecology Outpatient appointment.

The hospital administrative database iPMS is due for an upgrade to version five in 2018.

The other plans for 2018 include the creation and roll out of inpatient and day-case waiting lists. We will also commence using the electronic Time Management System (TMS) to record staff attendance and availability.

Clinical Reporting

Head of Service
Ms. Kathy Conway, Head of Clinical Reporting

Staff
Ms. Martina Devlin, HIPE Clinical Coder
Ms. Eilis Feehan, HIPE Clinical Coder
Ms. Carmen Gabarain, HIPE Clinical Coder
Ms. Siobhan Mc Nally, IPIMS Support Officer

Service Overview
Clinical Reporting oversees the production of hospital data reports for internal and external use. Activity is validated between current electronic systems such as the patient management system (iPMS), the maternity and neonatal management system and other data support systems. There are routine periodic reports produced for hospital management and local managers as well as reports that are exported to the Health Service Executive and other external agencies.

Internal Reports
- A monthly key performance indicator is produced to assist hospital management in analyzing and planning for activity in all areas. This report is also circulated to the Board of Governors.
- Ad hoc reports on specific activity are produced as required.
- Reports for the purpose of audit or research.

External Reports
- RCSI Hospitals Group Senior Incident Management Forum (SIMF).
- Irish Maternity Indicator System report to HSE.
- Patient Activity Statement to RCSI Hospitals Group and to HSE as well as publishing on Rotunda website.
- Business Intelligence Unit report to HSE.
- Annual submission for Vermont Oxford Network.
- Export HIPE data to Hospital Pricing Office (HPO).

Successes & Achievements 2017
There were 11,465 day cases and 13,948 inpatients coded during 2017. All coding deadlines were met.

Challenges 2017
There were challenges in meeting coding deadlines due to retirements and resignations of experienced Hospital In patient Enquiry (HIPE) coders. Skilled and experienced HIPE coders are a scarce resource and are difficult to replace. There is a very small number of staff available in this specialised area across the healthcare system.

Plans for 2018
Discussions are in progress to incorporate IT Midwives, together with HIPE and statistical reporting into a single business intelligence unit. The key remit of this role is to define, develop and monitor coherent departmental strategic business objectives that support the delivery of optimum healthcare service provision and service initiatives, which meet the highest professional standards.

Governance

Board of Governors

The Board of Governors is an independent group established by a Royal Charter of December 2nd, 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 with 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 2017

Dr. David Abrahamson
Mr. Alan Ashe
Dr. Maria Wilson Browne
Dr. Cliona Buckley
Mr. Cedric Christie
Dr. Sam Coulter Smith
Dr. Michael Darling
Mr. John Diviney
Dr. Frederick Falkiner
Dr. James Gardiner
Prof. Michael Geary
Dr. Mary Henry
Mrs. Nuala Johnson
Dr. Mary Keenan
Venerable Gordon Linney
Prof. Tom Matthews
Dr. Peter McKenna
Mr. Richard Nesbitt
Prof. Patricia Noonan Walsh
Mrs. Kristina Odlum
Ms. Hilary Prentice
Mr. Denis Reardon
Mr. Ian Roberts
Dr. Melissa Webb
Mr. Michael Wickham Moriarty

In 2017 Mr. Alan Ashe, Mrs. Nuala Johnson and Prof. Patricia Noonan Walsh all retired from the Board after many years of service. New Board members appointed were Mr. Michael Wickham Moriarty and Prof. Michael Geary, who returned from a leave of absence.

Appendices

Appendix 1

Rotunda Hospital Clinical Summary Data 2017

1. Total Mothers Attending	Totals
Mothers who have delivered babies weighing >500 grams	8,226
Mothers who have delivered babies weighing <500 grams (including miscarriages)	1,448
Hydatidiform Molar Pregnancies	27
Ectopic Pregnancies	214
Total Mothers Delivered	**9,915**

2. Maternal Deaths	Totals
Maternal Deaths	0

3. Births	Totals
Singletons	8,042
Twins	358
Triplets	9
Quadruplets	0
Total Babies delivered weighing 500 grams or more	**8,409**

4. Obstetric Outcome	Totals 2017	%
Spontaneous Vaginal Delivery	4,079	50%
Forceps	327	4%
Vacuum	1,024	12%
Caesarean Section	2,796	34%
Induction of Labour	2,509	31%

5. Perinatal Deaths*	Totals
Antepartum Deaths	28
Intrapartum Deaths	5
Stillbirths	33
Early Neonatal Deaths	19
Late Neonatal Deaths	5
Deaths associated with Congenital Anomalies	22

*Autopsy rate 31/52 (60%)

6. Perinatal Mortality Rates	Totals
Overall Perinatal Mortality Rate per 1,000 Births	6.2
Perinatal Mortality Rate Corrected For Lethal Congenital Anomalies	3.6
Perinatal Mortality Rate Including Late Neonatal Deaths	6.8
Perinatal Mortality Rate Excluding Unbooked Cases	6.1
Corrected Perinatal Mortality Rate Excluding Unbooked Cases and Lethal Congenital Anomalies	3.4

Appendix 1

Rotunda Hospital Clinical Summary Data 2017

7. Age of Women	Nulliparous	Multiparous	Total Mothers Delivered >500g
<20 yrs	156	14	170
20–24 yrs	547	270	817
25–29 yrs	795	740	1,535
30–34 yrs	1,153	1,568	2,721
35–39 yrs	721	1,661	2,382
40+ yrs	181	420	601
Total	3,553	4,673	8,226

8. Parity	Totals	% from Total Mothers Delivered >500g
Para 0	3,552	43%
Para 1	2,771	34%
Para 2–4	1,800	22%
Para 5+	103	1%
Total	8,226	100%

9. Country of Birth / Nationality	2017	%
Irish	2,971	36%
EU	656	8%
Non EU	438	5%
Unknown/Unrecorded	4,161	51%
Total	8,226	100%

10. Birthweight	Totals
500 — 999 gms	50
1,000 — 1,499	63
1,500 — 1,999	120
2,000 — 2,499	349
2,500 — 2,999	1,108
3,000 — 3,499	2,841
3,500 — 3,999	2,755
4,000 — 4,499	960
4,500 — 4,999	146
>5,000	17
Total	8,409

Appendix 1

Rotunda Hospital Clinical Summary Data 2017

11. Gestational Age			
	Nulliparous	Multiparous	Totals
<26 weeks	20	6	26
26 - 29 weeks + 6 days	26	29	55
30 - 33 weeks + 6 days	66	57	123
34 - 36 weeks + 6 days	210	217	427
37 - 41 weeks + 6 days	3,260	4,448	7,708
42 + weeks	61	9	70
Total	3,643	4,766	8,409

12. Perineal Trauma after Vaginal Deliveries				
	Nulliparous	Multiparous	Totals	%
Episiotomy & Extended Episiotomy	1,157	333	1,490	27%
First Degree Laceration	156	414	570	11%
Second Degree Laceration	539	998	1,537	28%
Third Degree Laceration	90	42	132	2%
Fourth Degree Laceration	3	3	6	0.1%
Other Lacerations	212	495	707	13%
Intact	112	876	988	18%
Totals	2,269	3,161	5,430	100.0%

13. Third or Fourth Degree Tears*			
	Nulliparous	Multiparous	Totals
Occurring Spontaneously	43	38	81
Associated with Episiotomy	7	0	7
Associated with Forceps	13	3	16
Associated with Vacuum	26	3	29
Associated with Vacuum & Forceps	12	1	13
Associated with Occipitopostenor position	7	6	13

*Some women have a Tear associated with Both Episiotomy & Instrumental Delivery.

14. Stillbirth in Normally Formed Infants			
	Nulliparous	Multiparous	Total Mothers
Placental Cause	6	6	12
Cord Accident	1	5	6
Feto Maternal Haemorrhage	0	0	0
Infection	2	0	2
Unexplained	2	2	4
Total	11	13	24

Appendix 1

Rotunda Hospital Clinical Summary Data 2017

15. Perinatal Mortality in Congenitally Malformed Infants			
	Nulliparous	Multiparous	Total Mothers
CNS Abnormalities	0	2	2
Cardiac Abnormalities	0	3	3
Renal Abnormalities	1	2	3
Chromosomal Abnormalities	2	7	9
Diaphragmatic Hernia	0	2	2
Other	0	3	3
Total	**3**	**19**	**22**

16. Early Neonatal Deaths in Normally Formed Infants			
	Nulliparous	Multiparous	Total Mothers
Prematurity	2	3	5
Infection	0	0	0
Placental	0	0	0
Other	0	1	1
Total	**2**	**4**	**6**

17. Hypoxia Ischaemic Encephalopathy*			
Grades	Grade 1	Grade 2	Grade 3
	12	8	2

*In born babies only

18. Severe Maternal Morbidity	Total
Massive Obstetric Haemorrhage	36
Peripartum Hysterectomy	12
Transfer to ICU/CCU	19
Eclampsia	4
Acute Renal or Liver Dysfunction	37
Pulmonary Oedema /Acute Respiratory Dysfunction	2
Severe Sepsis	10
Uterine Rupture	1
Status Epilepticus	2
Other	3

19. Body Mass Index				
	2014	2015	2016	2017
Underweight: <18.5	168 (2%)	168 (2%)	175 (2%)	169 (2%)
Healthy: 18.5 - 24.9	4,762 (54%)	4,454 (53%)	4,407 (52%)	4,224 (51%)
Overweight: 25 - 29.9	2,342 (27%)	2,323 (28%)	2,307 (28%)	2,333 (28%)
Obese class 1: 30 - 34.9	890 (10%)	838 (10%)	923 (11%)	989 (12%)
Obese class 2: 35 - 39.9	288 (3%)	294 (4%)	306 (4%)	309 (4%)
Obese class 3: >40	117 (1%)	116 (1%)	129 (2%)	120 (2%)
Unrecorded	220 (3%)	168 (2%)	160 (2%)	82 (1%)
Total Deliveries	**8,787**	**8,361**	**8,405**	**8,226**

Appendix 2

Comparative Summary Results for Ten Years

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Babies born	8,799	8,912	8,792	9,319	9,041	8,841	8,980	8,538	8,589	8,409
Perinatal Deaths	64+7*	56+5*	69+5*	59+2*	66+2*	63+6*	68+2*	71	54+5*	51+1*
Perinatal Mortality Rate	8.1	6.8	8.4	6.5	7.5	7.8	7.7	8.3	6.9	6.2
Corrected Perinatal Mortality Rate	5.7	4.7	5.7	3.7	4.9	4.5	4.5	4.8	4.1	3.6
Mothers Delivered	9,655	9,709	9,594	10,547	10,397	10,314	10,814	10,078	10,024	9,915
Maternal Deaths	1	1	3	3	2	3	2	1	0	0
Caesarean Section %	26	29	28	29	29	31	31	32	35	34
Forceps/Vacuum %	20	20	21	19	18	17	17	17	16	16
Epidural %	49	49	47	46	48	47	47	47	45	48
Induction %	21	23	27	29	28	29	30	29	29	31

*Unbooked

Appendix 3

Perinatal Deaths 2017

Gestational age at Delivery (Weeks)

Stillbirths		
20 0/7 – 23 6/7	2	6%
24 0/7 – 27 6/7	8	24%
28 0/7 – 31 6/7	3	9%
32 0/7 – 36 6/7	9	27%
37 0/7 – 39 6/7	5	15%
>/= 40 0/7	6	18%
Total	33	100%

Early Neonatal Deaths		
20 0/7 – 23 6/7	2	11%
24 0/7 – 27 6/7	4	21%
28 0/7 – 31 6/7	3	16%
32 0/7 – 36 6/7	2	11%
37 0/7 – 39 6/7	7	37%
>/= 40 0/7	1	5%
Total	19	100%

Weight at Delivery (Grams)

Stillbirths		
500 – 999g	9	27%
1,000 – 1,499g	2	6%
1,500 – 1,999g	7	21%
2,000 – 2,499g	5	15%
2,500 – 4,999g	10	30%
>/= 5000g	0	0%
Total	33	100%

Early Neonatal Deaths		
500 – 999g	4	21%
1,000 – 1,499g	3	16%
1,500 – 1,999g	3	16%
2,000 – 2,499g	3	16%
2,500 – 4,999g	6	32%
>/= 5000g	0	0%
Total	19	100%

Appendix 4

Outpatient Activity Data 2017

Clinic	New Attendences	Return Attendences	Total
Antenatal & Postnatal	10,949	34,871	45,820
Gynaecology	3,264	6,933	10,197
Paediatrics	5,051	3,136	8,187
Endocrinology	2,784	2,356	5,140
Gastroenterology	32	16	48
Haematology	182	226	408
Anaesthesia	1,011	7	1,018
Nephrology	216	657	873
Psychiatry	475	669	1,144
Infectious Diseases	119	95	214
Allied Health	5,486	9,128	14,614
Diagnostic ***	3,520	16,239	19,759
Total	**33,089**	**74,333**	**107,422**

*** Ultrasound, EPU and FAU excludes Radiology

Appendix 5

Financial Information

THE ROTUNDA HOSPITAL, DUBLIN

NON CAPITAL INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31 DECEMBER 2017

	2017	2016
	€'000	€'000
CUMULATIVE NON-CAPITAL DEFICIT BROUGHT FORWARD FROM PREVIOUS YEAR	**389**	219
PAY		
Salaries	**52,540**	49,188
Superannuation and gratuities	**4,467**	4,369
	57,007	53,557
NON-PAY		
Direct patient care	**5,920**	5,861
Support services	**5,624**	4,980
Financial and administrative	**2,981**	2,997
	14,525	13,838
GROSS EXPENDITURE FOR THE YEAR (including prior year deficit)	**71,921**	67,614
Income	**(17,611)**	(17,567)
DEFICIT FOR THE YEAR (including prior year deficit)	**54,310**	50,047
Determination – HSE notified for the year	**(53,691)**	(49,658)
CUMULATIVE DEFICIT CARRIED FORWARD TO FOLLOWING YEAR	**619**	389

Appendix 6

Clinical Audits Performed during 2017

Title of Audit	Speciality	Audit Type
Anaesthesia for Labour and Caesarean Section for High BMI Patients	Anaesthetics	First Audit
Antacid prophylaxis in obstetrics	Anaesthetics	First Audit
Variance in cuff pressure of endotracheal tube and LMA during laparoscopic surgery	Anaesthetics	First Audit
Remifentanil Patient Controlled Analgesia (PCA) for Labour analgesia	Anaesthetics	First Audit
Obstetric Anaesthesia Workforce: Are we compliant?	Anaesthetics	Re-audit
Patient pain scores Day 1 (24-48 hrs) following Caesarean section under regional anaesthesia	Anaesthetics	First Audit
Neurological Complications after Labour Analgesia	Anaesthetics	First Audit
Clinical audit of intra-operative use of prophylactic anti-emetics for caesarean delivery under regional anaesthesia.	Anaesthetics	First Audit
Effectiveness of labour analgesia in post discectomy patients - A retrospective audit of patients with lumbar discectomies who had neuraxial analgesia in labour	Anaesthetics	First Audit
To measure temperature of patients postoperatively in Post Anaesthetic Care Unit (PACU)	Anaesthetics	First Audit
Audit on risk factors, complications and treatment of peripartum hysterectomies during 2013-2017 in Rotunda Hospital	Anaesthetics	First Audit
Audit to identify patients who met dietetic referral criteria but were not referred and to establish an improvement plan to increase accessibility.	Clinical Nutrition	First Audit
“Back to Hospital Care” from CMT	Community Midwifery	First Audit
Audit of interval between colposcopic procedure and histological result/management plan letter to patients	Gynaecology	First Audit
Compliance with NCSS guidance regarding excisional treatments	Gynaecology	First Audit
Out-patient hysteroscopy	Gynaecology	First Audit
The use of cold coagulation for the treatment of cervical intraepithelial neoplasia	Gynaecology	Re-audit
Audit on management of Low Grade Smears in Colposcopy	Gynaecology	First Audit
Audit of glandular cytology referrals	Gynaecology	First Audit
Audit of Crossmatch Transfusion Ratio	Laboratory Medicine	First Audit
Management of postnatal mastitis	Lactation	First Audit
Re-Audit of Completion of EPDS (Edinburgh Postnatal Depression Scale) on discharge	Mental Health	Re-audit
Medication Reconciliation for Babies Transferred into the Neonatal Intensive Care Unit	Neonatology - Medical	First Audit
Audit of the Postnatal Management of Infants at High Risk of Haemolytic Disease of the Newborn	Neonatology - Medical	First Audit
DCT positive babies: Are we doing the day 10 haemoglobin?	Neonatology - Medical	First Audit
Audit of how and when feed thickener is used within the Neonatal Intensive Care Unit.	Neonatology - Medical	First Audit
Motivational interviewing on daily basic practice among healthcare professionals in Rotunda Hospital re health promotion	Neonatology - Medical	First Audit
Is there a higher risk of sepsis in babies who receive stock PN for 48 hours vs 24 hours?	Neonatology - Medical	First Audit
Time spent in theatre, after a bleep, waiting for sections of different categories.	Neonatology - Medical	First Audit
Is a chest X-Ray at 4 hours really required to diagnose Transient Tachypnea of newborn?	Neonatology - Medical	First Audit
Hand Hygiene in NICU: it’s Time for excellence.	Neonatology - Medical	First Audit
Discharge Follow up from postnatal wards of late preterm infants (34-37 weeks) to paediatric outpatient department	Neonatology - Medical	First Audit

Appendix 6

Clinical Audits Performed during 2017

40% Dextrose Gel for the management of Neonatal Hypoglycaemia	Neonatology - Medical	Re-audit
Audit of the documentation of neonatal seizure in NICU in 2016 – compliance with current guideline	Neonatology - Medical	First Audit
Audit of Weight and Head Circumference Changes in Preterm Babies Born Under 32 Weeks, From Birth to 2 Years Corrected Age	Neonatology - Medical	First Audit
Are we over-diagnosing and thus over-treating necrotising enterocolitis within the neonatal unit?	Neonatology - Medical	First Audit
Establishing a threshold for outpatient review of infants at risk of jaundice	Neonatology - Medical	First Audit
Out Of Hour, Blood Transfusions In NICU And Can It Be Prevented?	Neonatology - Medical	First Audit
Documentation: Stick it, Write it, Sign it, Stamp it.	Neonatology - Medical	Re-audit
The Operations and Outcomes of the Screening for ADA-SCID in the Irish Traveller Community	Neonatology - Medical	First Audit
Documentation Practices in relation to gastric tube feeding on the Neonatal Unit	Neonatology - Nursing	Re-audit
Therapeutic Hypothermia E-Register Development Project	Neonatology - Nursing	First Audit
External Cephalic Version (ECV) clinic audit	Nursing/Midwifery	First Audit
Postnatal GTT's in semi-private and private clinics	Nursing/Midwifery	First Audit
Swab Count Re-Audit	Nursing/Midwifery	Re-audit
Return rate of SPC women for TFT bloods (HYPOTHYROID DISEASE PATIENTS)	Nursing/Midwifery	First Audit
Audit of throughput to Advanced Midwife Practitioner (AMP) in ER	Nursing/Midwifery	First Audit
Re audit of domestic violence enquiry in the Private and Semi private Clinic setting	Nursing/Midwifery	Re-audit
Compliance with Epidural Top-Up Procedure	Nursing/Midwifery	First Audit
Continuation of Breastfeeding following discharge from CMT care at 8 weeks	Nursing/Midwifery	First Audit
Completion of Intake and Output record in Delivery Suite	Nursing/Midwifery	First Audit
Audit of smoking cessation	Nursing/Midwifery	First Audit
Audit of Pre Op assessment clinic for gynaecology patients	Nursing/Midwifery	First Audit
PPH at Vaginal delivery of 500-999mls	Nursing/Midwifery	First Audit
Midwifery Booking visit and referral process for subsequent care	Nursing/Midwifery	First Audit
Red Cell Transfusion: Why recommend 1 instead of 2?	Nursing/Midwifery	Continuous
Is blood culture the gold standard for neonatal infection? If not what is?	Nursing/Midwifery	First Audit
Pre-Intervention and Post-Intervention Audit of Midwife Led Inductions using Propess for postdates, Normal -risk women	Nursing/Midwifery	First Audit
Auditing theatre nursing/midwifery in urinary catheterization practice	Nursing/Midwifery	First Audit
Adherence to CTG guideline regarding admission CTGs of low risk women attending ER > 37weeks, presenting in labour, documentation of care, review, upward referral & outcomes	Nursing/Midwifery	First Audit
PICO dressing use, duration in situ and outcomes	Nursing/Midwifery	First Audit
Audit of referrals to Rotunda Hospital recurrent miscarriage clinic	Obstetrics	First Audit
Audit of Subsequent visits in the AOPD following introduction of Midwife only Booking Visits	Obstetrics	First Audit
Analysis and review of attendance for RAADP administration during antenatal visits	Obstetrics	Re-audit
Re-audit of 1st Trimester Management of Miscarriages	Obstetrics	Re-audit
A re-audit of the use of methotrexate in the management of ectopic pregnancy	Obstetrics	Re-audit
Hb levels at booking - 28 weeks delivery	Obstetrics	First Audit
An audit the management of breech presentation at term in the antenatal clinic	Obstetrics	First Audit
Classification documented for Emergency LSCS & accuracy of use of bleep system for emergencies	Obstetrics	Re-audit
Classification of LSCS, time to delivery interval and correct bleep category	Obstetrics	Re-audit

Appendix 6

Clinical Audits Performed during 2017

Perinatal outcomes after laser treatment in Twin to Twin Transfusion Syndrome (TTTS)	Obstetrics	First Audit
Audit on uptake of outpatient medical management of miscarriage 1st trimester	Obstetrics	Re-audit
Re-Audit of Post-Operative Pain Management	Obstetrics	Re-audit
Booking Visit Dating Scan – An Audit of dating pregnancies at the booking visit	Obstetrics	First Audit
Clinical management of late fetal loss and Intrauterine death	Obstetrics	Re-audit
RE AUDIT of compliance with glucose tolerance testing among pregnant HIV positive women	Obstetrics	Re-audit
An Audit of the Quality of Perinatal and Neonatal Autopsies Reported in the Rotunda Hospital in 2016	Pathology	Re-audit
An Audit of the Hyperemesis and Nausea/Vomiting in Pregnancy Guidelines	Pharmacy	First Audit
To measure compliance with medication documentation and reconciliation on admission	Pharmacy	First Audit
Drug Chart Compliance with Medication Management Guidelines on the NICU	Pharmacy	First Audit
Postnatal analgesia	Pharmacy	Re-audit
DNA (did not attend) rate for Hip Screening Ultrasound Appointments	Radiology	First Audit
The percentage of cases who had a legal report completed within 8 weeks of a forensic clinical examination being carried out.	SATU	First Audit

Appendix 7

Staff Research Publications 2017

Alqayoudhi, A., Nielsen, M., O Sullivan, N., Corcoran, M., Gavin, P.J., Butler, K.M., Cunnery, R., Drew, R.J. 2017. Clinical utility of polymerase chain reaction testing for streptococcus pnuemoniae in Pediatric Cerebrospinal fluid samples: a diagnostic accuracy study of more than 2000 samples from 2004 to 2015. *Pediatric Infectious Disease 36, 833-836.*

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Appendix 8

Staff List

Master
Prof. Fergal Malone

Clinical Director
Dr. John Loughrey

Secretary/General Manager
Ms. Pauline Treanor

Director of Midwifery/Nursing
Ms. Margaret Philbin

Consultant Obstetrician & Gynaecologist
Dr. Sahar Ahmed
Dr. Carole Barry
Dr. William Boyd
Prof. Fionnuala Breathnach
Dr. Naomi Burke
Prof. Paul Byrne
Dr. Kushal Chummun
Dr. Gerdaline Connolly
Dr. Sharon Cooley
Dr. Sam Coulter-Smith
Dr. Jennifer Donnelly
Dr. Maeve Eogan
Dr. Karen Flood
Dr. Eve Gaughan
Prof. Michael Geary
Dr. Ronan Gleeson
Dr. Conor Harrity
Dr. Mary Holohan
Dr. Richard Horgan
Dr. Yahya Kamal
Dr. Etaoin Kent
Prof. Fergal Malone
Dr. Peter McKenna
Dr. Edgar Mocanu
Dr. Rishi Roopnarinesingh
Dr. Hassan Rajab
Dr. Tom Walsh

Consultant Neonatologist
Dr. Karina Butler
Dr. David Corcoran
Dr. Afif El-Khuffash
Dr. Adrienne Foran
Dr. Jan Franta
Dr. Hana Fucikova
Dr. Breda Hayes
Dr. Mary King
Prof. Naomi McCallion

Consultant Pathologist
Dr. Ingrid Borovickova
Dr. Deirdre Devaney
Dr. Emma Doyle
Dr. Noel McEntaggart
Dr. Eibhlis O'Donovan

Consultant Anaesthetist
Dr. Mary Bowen
Dr. Anne Doherty
Dr. Niamh Hayes
Dr. John Loughrey
Dr. Conan McCaul
Dr. Caitriona Murphy
Dr. Ciara Jean Murphy
Dr. Róisín Ní Mhuircheartaigh
Dr. Patrick Thornton

Consultant Cardiologist
Dr. Niall Mahon

Consultant Haematologist
Dr. Fionnuala Ní Áinle

Consultant Paediatric Haematologist
Dr. Melanie Cotter

Consultant Microbiologist
Dr. Richard Drew

Consultant Medical Pathologist
Dr. Philip Mayne

Consultant in Infectious Diseases
Dr. Wendy Ferguson
Dr. Patrick Gavin
Dr. Jack Lambert

Consultant Paediatric Cardiologist
Dr. Orla Franklin

Consultant Endocrinologist
Dr. Maria Byrne
Dr. Brendan Kinsley

Consultant Radiologist
Dr. Neil Hickey
Dr. Áilbhe Tarrant

Consultant Paediatric Radiologist
Dr. Stephanie Ryan

Consultant Psychiatrist
Prof. John Sheehan

Occupational Health Consultant
Dr. Dominick Natin

Consultant General Surgeon
Ms. Ann Brannigan

Consultant Nephrologist
Dr. Colm Magee
Dr. Conall O'Seaghdha

Consultant Gastroenterologist
Dr. Barry Kelleher
Dr. Padraic MacMathuna

Consultant Orthopaedic Surgeon
Dr. Paul Connolly

Consultant Ophthalmologist
Dr. Michael O'Keeffe

Occasional Consultant
Mr. Tom Creagh
Dr. Tony Geoghegan
Prof. Tom Gorey
Dr. Leo Lawlor
Dr. Hugh McCann
Mr. Kevin O'Malley
Dr. Declan Sugrue

Specialist Registrar/Registrar in Obstetrics and Gynaecology
Dr. Mona Abdelrahman
Dr. Nor Azil Abdul Wahab
Dr. Sahar Ahmed
Dr. Aliyah Al-Sudani
Dr. Sandhya Babu
Dr. Anthony Breen
Dr. Niamh Daly
Dr. Nikita Deegan
Dr. Dylan Deleau
Dr. Andrew Downey
Dr. Mohamed El Shaikh
Dr. Rachel Elebert
Dr. Lucia Hartigan
Dr. Eibhlin Healy
Dr. Mark Hehir **Assistant Master**
Dr. Amina Javaid
Dr. Tamara Kalisse
Dr. Niamh Keating
Dr. Sarwat Khan
Dr. Patrick Maguire
Dr. Nicola Maher **Assistant Master**
Dr. Claire McCarthy
Dr. Aoife McTiernan
Dr. Cathy Monteith
Dr. Claire O'Reilly
Dr. Catherine O'Gorman
Dr. Chris Philip
Dr. Fiona Reidy
Dr. Marie Rochford
Dr. Yulia Shahabuddin
Dr. Yegappan Shanmugam
Dr. Hala Abu Subeih
Dr. Workineh Tadesse **Assistant Master**
Dr. Catalina Ursache
Dr. Davor Zibar

Registrar Tutor/Lecturer in Obstetrics and Gynaecology
Dr. Siobhan Corcoran
Dr. Catherine Finnegan
Dr. Ann McHugh
Dr. Niamh Murphy

Fellow in Maternal Fetal Medicine
Dr. Hala Abu Subeih

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Dr. Mohamed Abdelrahman
Dr. Reham Alkhalil
Dr. Emily Bredin
Dr. Ciara Carroll
Dr. Justin Chamberlain
Dr. Keara Clarke
Dr. Alice Cummins
Dr. Orla Delaney
Dr. Sarah Dennison
Dr. Kenneth Fitzpatrick
Dr. Vanessa Flack
Dr. Niamh Gordon
Dr. Claire Keaveney
Dr. Cillian Keogh
Dr. Yvonne Lillis
Dr. John Maher
Dr. Ceire McGuane
Dr. Alan McIntyre
Dr. Ciara Nolan
Dr. Susan O'Connor
Dr. Aodhnait O'Neill
Dr. Dheena Segar
Dr. Ita Shanahan
Dr. Ronan Sharkey
Dr. Jennifer Stokes
Dr. Valentina Sucic
Dr. Ronan Sugrue

Specialist Registrar/Registrar in Paediatrics
Dr. Mihaela Alim
Dr. Sean Armstrong
Dr. Naomi Bergin
Dr. Alina Deliu
Dr. Aine Fox
Dr. Angharad Griffiths
Dr. Susan Harvey
Dr. Peter O'Reilly
Dr. Jurate Panaviene
Dr. Birendra Rai
Dr. Muhammad Riazat
Dr. Phani Sannerappa
Dr. Danielle Vincent
Dr. Lyudmyla Zakharchenko

Research Tutor/Lecturer in Paediatrics
Dr. Nurul Aminudin
Dr. Colm Breathnach

Dr. Neidin Bussman
Dr. Adam Reynolds
Dr. Aisling Smith

Senior House Officer in Paediatrics
Dr. Qurat Ahmed
Dr. Navdeep Brar
Dr. Kathryn Byrne
Dr. Irene Ekundayo
Dr. Sara El Badri
Dr. Shiraz Elbashier
Dr. Nuha Elmamoun
Dr. Ross Foley
Dr. Jennifer Hayden
Dr. Tina Johansson
Dr. Cillian Lineen
Dr. Eamon O'Ceallaigh
Dr. Shona O'Connor
Dr. Ciara Terry
Dr. Muller Theubo

Specialist Registrar/Registrar in Anaesthesia
Dr. Thomas Drew
Dr. Stephen Duff
Dr. Alain Fennessy
Dr. Janna Eve Finlay
Dr. Sheeba Hakak
Dr. Syed Hussain Danial
Dr. Keith Kennedy
Dr. Waqas Khan
Dr. Doireann O'Flaherty
Dr. Marcel Rujan
Dr. Dana Teodorescu
Dr. Vanitha Zutshi

Senior House Officer in Anaesthesia
Dr. Danielle Courtney
Dr. Kieran Crowley
Dr. Bryan Reidy
Dr. Amit Velagapudi

Fellow in Obstetric Anaesthesia
Dr. David Cosgrave
Dr. Tomasz Iwan
Dr. Richard Katz

Specialist Registrar/ Registrar in Pathology
Dr. Safa Eltom
Dr. Kevane Barry
Dr. Mullins Sarah

Midwifery – Assistant Director
Ms. Marian Brennan
Ms. Catherine Halloran
Ms. Fiona Hanrahan
Ms. Marie Keane
Ms. Janice MacFarlane
Ms. Anne O'Byrne
Ms. Mary O'Reilly
Ms. Mary Whelan
Ms. Patricia Williamson

Advanced Neonatal Nurse Practitioner
Mr. Mark Hollywood
Ms. Christine McDermott
Ms. Edna Woolhead

Advanced Midwife Practitioner
Ms. Bernadette Gregg

Clinical Midwife Manager III
Ms. Catriona Cannon
Ms. Mary Deering
Ms. Jane Hickey
Ms. Aideen Keenan
Ms. Orla O'Byrne

Clinical Skills Facilitator
Mr. Trevor Barrett
Ms. Linda Chiles
Ms. Niamh Hegarty
Ms. Felicity Kalu
Ms. Charmaine Scallan

Clinical Practice Co-Ordinator
Ms. Sinead Landy
Ms. Marie Longworth
Ms. Jean Rooney

Clinical Midwife Manager II
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Ms. Marian Barron
Ms. Anu Binu
Ms. Mary Brady
Ms. Patricia Butler
Ms. Hazel Cooke
Ms. Sinead Corbett
Ms. Marina Cullen
Ms. Liz Doran
Ms. Rhona Drummond
Ms. Jackie Edwards
Ms. Debra England
Ms. Helen Enyinnaya
Ms. Noelle Farrell
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Ms. Marguerite Fitzgibbon
Ms. Alva Fitzgibbon
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Ms. Geraldine Gannon
Ms. Anu Garg
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Ms. Claire Kearney
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Ms. Helen Lonergan
Ms. Jeanne Masterson
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Ms. Ajita Rajendra Raman
Ms. Ciara Roche
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Ms. Jeyanthi Sukumaran
Ms. Elizabeth Tobin
Ms. Norena Walsh
Ms. Deirdre Ward

Clinical Nurse Manager II
Ms. Bernice Breslin
Ms. Deirdre Coghlan
Ms. Rasamma Joseph
Ms. Jennifer O'Neill
Ms. Derval Toomey Dickson

Colposcopy Nurse Co-ordinator
Ms. Selena Igoe
Ms. Carol O'Rourke
Ms. Rose Thorne

Clinical Midwife Specialist
Ms. Aisling Bhreathnach
Ms. Deborah Browne
Ms. Heather Cruise
Ms. Jane Dalrymple
Ms. Anne Gallagher
Ms. Maura Lavery
Ms. Alison Lawless
Ms. Lizbeth Lehane
Ms. Deirdre Nolan
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Ms. Gemma Owens
Ms. Deirdra Richardson
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Clinical Nurse Specialist
Ms. Siobhan Mulvany

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