



ANNUAL REPORT 2017

Mater Misericordiae University Hospital

Working in partnership with



Contents

About Us.....5

Our Care at a Glance7

Chairman’s Letter.....9

Board of Directors.....11

Highlights 201713

CEO Introduction.....17

Patient Centred Approach19

Clinical Services.....34



YOU ARE NOW ON
LEVEL 1
HOSPITAL STREET



Whitty Wing

Clinicí n-Othar
Seachtrach
Outpatient
Clinics



About Us

Mater Misericordiae University Hospital

The Mater Misericordiae University Hospital is a level 4 teaching hospital based in Dublin's north inner city. The hospital was opened in 1861 by the Sisters of Mercy. The Mater operates within the Ireland East Hospital Group and provides a range of frontline and specialist services on a regional and national level.

The Mater is a major cardiac centre, cancer centre and is home to a range of quaternary services listed opposite. While the hospital has been synonymous with cardiology it also is a major centre for ophthalmology, spinal injuries, gynaecological cancer and is the national heart and lung transplantation centre.

As a major academic hospital the Mater has a strong track record of producing high quality research that delivers real and meaningful results to patients.

Through our partnerships with our academic partner, University College Dublin (UCD), and other academic institutions, the Mater prioritises research that translates rapidly into patient benefits.

The strong partnership with UCD also enables us to deliver undergraduate and postgraduate education to hundreds of healthcare professionals including nurses, doctors, clinical therapists, radiographers and many more.

Specialist Services

Quaternary Care Services

- Cardio-thoracic Surgery
- National Centre for Peritoneal Malignancies
- Intensive Care Medicine
- National Centre for Inherited Metabolic Disorders
- National Centre for Rare Diseases
- National Centre for Congenital Heart Diseases
- National Centre for Extra Corporeal Life Support
- National Heart and Lung Transplantation Programme
- National Isolation Unit
- National Spinal Injuries Unit
- Adult Scoliosis Unit
- National Centre for Pulmonary Hypertension
- Deep Brain Stimulation

Cardiology

- 24/7 PPCI Centre
- National Centre for Adult Congenital Heart including Maternal Congenital Heart services
- Major Structural Heart Disease Centre
- Family Heart Screening
- National Heart and Lung Transplantation Programme

Cancer

- Operates with St Vincent's University Hospital as a single Cancer Academic Directorate
- One of the Eight Nationally Designated Cancer Centres.
- One of 4 Nationally Designated Lung Cancer Surgery Centres.
- National Centre for Peritoneal Malignancies.
- BreastCheck located on the Mater Campus.
- HIPEC
- Advanced Cancer Care

Ireland East Hospital Group

The Mater operates within the Ireland East Hospital Group (IEHG) which is the largest and most diverse of the seven hospital groups. The IEHG consists of 11 hospitals and our academic partner University College Dublin and serves a catchment area of over 1.2 million people.

The development of the IEHG presents a unique opportunity within the Irish healthcare system to build on the excellence of our hospitals, combine with the innovation, research and educational excellence provided by UCD to deliver consistent high quality and safe outcomes for our patients.

The hospitals within the Ireland East Hospital Group are

- Cappagh National Orthopaedic Hospital
- Mater Misericordiae University Hospital
- Midland Regional Hospital Mullingar
- National Maternity Hospital
- Our Lady's Hospital, Navan
- Royal Victoria Eye and Ear Hospital
- St Columcille's Hospital
- St Luke's General Hospital, Kilkenny
- St Michael's Hospital, Dun Laoghaire
- St Vincent's University Hospital
- Wexford General Hospital



Our Care at a Glance



76,132

emergency department attendances



18%

increase in emergency department attendances (from 2016)



51,213

day cases performed



2,500+

cancer diagnosis (excluding skin)



365

emergency Cath Lab procedures



52

transplants performed



221,501

outpatient attendances



207,361

radiology investigations/procedures



79%

elective surgery patients admitted on day of surgery



Chairman's Letter

The publication of the Oireachtas Report on the Future of Healthcare aimed to create a parliamentary consensus on a ten year vision for the delivery of healthcare. Ireland has to deal with a growing population with changing demographics where many more citizens will be aged 70 and over by 2030. The Irish system has been over-reliant on its acute hospital system to compensate for an under-resourced primary care system. As can be seen from the pressures on Emergency Departments and the increasing numbers waiting for admission to a ward, this is not sustainable and as the bed capacity review, published by the Department of Health in January 2018, demonstrates it is simply not feasible to build, staff and fund the numbers of hospitals that would be required.

Control of the patient journey, integration within the hospital system and with primary care will be critical. A key component of this must be a major investment in both rehabilitation, re-ablement and care packages. With respect to the acute hospital system, a major investment will be required to both new capacity and renew existing hospital estates. It seems extraordinary that the last major hospital opened was 21 years ago in 1997 (Tallaght Hospital). In the case of the Mater, two innovative capital projects have been initiated. An Energy Performance contract will see a major investment in the renovation of the McGivney wing of the hospital. This 450 bed facility opened in [1992] and the renovation will see a refurbishment of the

ward areas with upgraded facilities paid from projected savings in future energy consumption. The second major investment is in a waste and water treatment system which recognises our corporate responsibility to ensure the hospital is compliant with the highest international standards. These combined projects represent an investment of €16 million. In the longer term we are reviewing our capital programme (in close consultation with the Ireland East Hospital Group). The Mater has the busiest adult emergency department in Ireland. We expect in excess of 80,000 presentations in 2018 compared with just under 55,000 presentations in 2013. This impacts on scheduled care and on waiting lists for treatment. If these trends continue, even with the greater efficiency and productivity we have seen over the past ten years, the impact on delivery of scheduled care will be severe. We are reviewing options with respect to our 7.2 hectare campus where less than 50% of the site is in use for medical purposes.

The Mater is a constituent member of the Ireland East Hospital Group an administrative grouping of six voluntary and five statutory hospitals. We are working with our colleagues in IEHG to build an Academic Health System which independent benchmarking has shown produces the best outcomes for patients, teaching and research. IEHG is working on an ambitious capital and strategic development plan and we are participating fully in those plans. It is

anticipated that this strategy will be published mid-year. A new Mater strategic plan is also in development.

The Minister for Health has established a Review Group to examine the role of voluntary institutions in the delivery of healthcare and social protection. The Mater is proud of its 157 year history of service to the citizens of Ireland. The Mater was founded by the Religious Sisters of Mercy to give effect to the vision of its foundress, the Venerable Catherine McAuley. As a leading Catholic healthcare institution we give practical effect to the vision of both our foundress and Pope Francis. We are located in the North Inner City of Dublin and serve a very challenged community. It is an extraordinary statistic to note that a patient who presents at the Mater aged 50 has the co-morbidities of a patient presenting at our sister hospital St. Vincent's University Hospital aged 75, a distance of less than 3 miles.

It has been a very busy year in the Mater as the information in this Annual Report sets out. I want to thank all our staff for their extraordinary efforts through the two major storms when, with much of the country closed, the Hospital operated at full capacity. Many staff members slept on floors in the Hospital or walked from and to the Hospital, regardless of the weather.

I would like to extend my thanks to Professor Tim Lynch who stepped down on completion of his term as Chair of the Medical Board. Professor Yvonne O'Meara has been appointed as Professor of Medicine and with Professor Ronan Cahill (Surgery) provide

critical academic leadership on the campus. After many years of highly effective leadership, Declan McCourt stepped down as Chair of the Mater Foundation. Declan made a very significant contribution over this thirty year involvement with the Foundation. Professor Des Fitzgerald who served as a member of the Mater board representing our academic partner, UCD. He resigned from the board following his appointment as President of the University of Limerick. We will miss his contribution to our deliberations.

Laura Gallagher, a partner in KPMG, joined the Mater board in 2017 and her financial and public sector experience were invaluable. Laura sadly passed away following a short illness in March 2018. She is much missed by her board colleagues. Ar dheis Dé go raibh a hanam dílis.

I would like to record my appreciation of my colleagues on the board of the Mater and our management team ably led by Gordon Dunne (CEO), Dr Brendan Kinsley (Clinical Director), Tanya King (Director of Nursing) and Caroline Pigott (Finance Director). The staff of the Mater are drawn from 56 nationalities working in harmony to serve our patients. They are truly representative of the Ireland of 2018 yet are grounded in the vision and ethos of Catherine McAuley.

Thomas Lynch, Chairman of the Board



Board of Directors

Chairman



Thomas Lynch
Chairman

Executive Members



Prof Tim Lynch
Chairman Medical Executive



Prof Brendan Kinsley
Executive Clinical Director



Caroline Pigott
Director of Finance



Tanya King
Director of Nursing

Non-Executive Members



Dr Mary Carmel Burke
General Practice Representative



Sr Margherita Rock
Sister of Mercy



Sr Eugene Nolan
Sister of Mercy



Prof Mary Day
Chief Executive IEHG



Mr Kevin O'Malley
Joint Clinical Director IEHG



Tony Garry
Company Director



Rod Ensor
Solicitor



Laura Gallagher
Partner KPMG



Dr Mary McMenamin
Departmental Lecturer, Oxford



Prof Cecily Kelleher
College Principal



Eilis O'Brien
Comms/Marketing Director UCD



Michelle Gibbons
Psychologist

Highlights 2017

- Trauma Care Conference
- Culture Night
- Next Generation Sequencing Laboratory Opening
- Trauma: Ireland's Medical Emergencies
- Compassion Awards
- 50th Anniversary of Heart Transplantation
- European Stroke Organisation Certification
- Irish Healthcare Centre Awards

Trauma Care Conference On the 13th June a Trauma Care Conference was held in the Catherine McAuley Postgraduate Education Centre entitled *Reducing mortality and morbidity in major trauma - the international experience*. The comprehensive agenda included international speakers and covered a diverse range of topics and was attended by over 100 delegates.



Culture Night The Mater Hospital was one of 270 venues across Dublin that participated in the 13th Culture Night Dublin on Friday 22nd September 2017. Venues and public spaces across Dublin opened their doors to host a programme of free late-night entertainment, as part of an all-island celebration of arts, heritage and culture.



The Culture Night at the Mater Hospital saw the opening of the original front entrance and provided the public for a rare chance to visit the magnificent Pillar Room, learn about the past, present and future of medicine and surgery.

Over 700 people attended the night and got to see an old surgical theatre, learn about medical and surgical innovation, view some of the Mater's archival records,

historic photos and fascinating medical devices open to the public for the first time.



Next Generation Sequencing Laboratory Opening In September 2017 the Mater opened their new state-of-the-art Next Generation Sequencing (NGS) Laboratory. The new Gene Sequencing Equipment was donated to the Mater Hospital by Shabra Charity keeping the promise of the late Oliver Brady, co-founder of the charity and popular businessman and horse trainer.



This NGS Laboratory will house gene sequence equipment enabling germline testing for the Irish population. Patients and families suffering from heart disease, blindness and cancer, specifically BRCA 1 and BRCA 2 cancer patients, will benefit from genetic testing provided by the NGS Laboratory. It is estimated that there are 250 young people under the age of 35 suffering from and dying of Sudden Adult Death Syndrome (SADS) in Ireland every year. This facility can now help identify genetic changes

underlying this syndrome and enables clinicians to help patients and their relatives to diagnosis and treat many of these patients with inherited conditions sooner.

Trauma: Ireland's Medical Emergencies

Trauma was an ambitious four-part documentary series on RTÉ2 giving viewers an unprecedented insight into the high pressured, outstanding and skilful work carried out in the intense world of trauma and medical emergency in Ireland. From Emergency Department staff to surgeons, nurses and intensive care specialists – a chain of people who deal with cardiac arrests, head injuries, road traffic accidents and workplace incidents.



The series focused on four hospitals and the incredible work carried out by the medical staff: cardiac and spinal trauma in *The Mater Hospital*, neuro-trauma in Beaumont Hospital; emergency care in St. Vincent's Hospital and orthopaedic trauma and emergency in the Adelaide and Meath (Tallaght) Hospital. We also see staff from the National Ambulance Service and the Dublin Fire Brigade as they operate the 999 emergency call centres, the very first port of call in the chain of the teams dealing with these specialised cases. *Trauma* told both the emotive and dramatic story of the patient as well as highlighting the

collaborative, high risk and exceptionally skillful work carried out by the medical teams.

Compassion Awards At the Mater Hospital, we believe that every staff member is key to providing a kind, compassionate and caring service to all patients and their families. The Compassion Awards were set up to recognise and acknowledge the great work and outstanding care provided by our staff every day in the hospital and to recognise staff members who demonstrate the following

- Dedication and effort above and beyond the call of duty
- Going the extra mile in helping patients, visitors and colleagues
- Displaying a positive, friendly, caring, courteous, and professional attitude when dealing patients, visitors and colleagues
- Honouring the Mater Hospital's motto "Maintain an attitude of tenderness, empathy and respect"



In 2017 a total of 121 nominations were received from across all disciplines within the hospital. The award ceremony took place on 1st December 2017 and the winning nominees were

- 1st Place Ken A. Byrne, Hospital Porter
- 2nd Place Caroline Smyth, CNMII, Oncology Unit
- 3rd Place Prof Leo Lawler, Consultant Radiologist

- 4th Place Lean Callan, Staff Nurse, St. Vincent's Ward
- 5th Place Joan White, Staff Nurse, Radiology Department

50th Anniversary of Heart Transplantation On 3rd December, 1967, Dr. Christiaan Barnard, performed the world's first human to human heart transplant at the Groote Schuur Hospital, Cape Town, South Africa. As part of the Irish –led global commemorative events,



on Thursday 30th November in the Circle of Life National Organ Donor Commemorative Garden in Salthill, Galway carved plaques of appreciation were presented to the three Irish Transplant Hospitals.



To commemorate the 50th Anniversary of this major milestone in medical history, Mass was offered by Fr. Vincent Xavier in the Mater Hospital Chapel.

Presented on the altar was the plaque presented by the Irish Heart and Lung Transplant Association, accepted on behalf of the Mater Hospital by Lars Nölke, Director of Professor Eoin O' Malley Centre for Cardiothoracic Surgery, Mater Hospital. The candle logo on the plaque is formed from a piece of surplus stone received from the Groote Schuur Hospital in Cape Town, to represent the continent of Africa in the Circle of Life Garden.

European Stroke Organisation Certification The Mater Stroke Service received European Stroke Organisation Certification (ESO) as a ESO Stroke Unit in 2017. The Mater is first such approval in these islands and the 4th such certified unit in Europe since ESO began offering this certification last year. A lengthy submission process was undertaken, chaired by Consultant Neurologist Dr Sean Murphy, and supported by a large range of disciplines in the Mater, St Mary's Hospital, the Royal Hospital in Donnybrook, Cappagh Hospital with the support of Dublin Fire Brigade Ambulance Service and the National Ambulance Service.

Irish Healthcare Centre Awards On 10th March the lung transplant team were chosen from a shortlist of nine as "Small Clinical Team of the Year" at the Irish Healthcare Centre Awards. These awards, chosen by a respected panel of clinicians and academics, aim to shine a spotlight on the best in Irish Healthcare, highlighting achievements, hard work and commitment to excellence.

Accepting the award on behalf of the team, Professor Jim Egan noted that all of the team members are acknowledged leaders in their areas of expertise. The hard work of the team has brought Ireland up to number three in Europe in terms of the number of lung transplants per million of population. He also paid tribute to the generosity of donor families, 266 people have received the gift of life through transplant surgery in Ireland in 2015. Put simply, organ donation saves lives.



CEO Introduction

We are driven, every day, by our vision to deliver exceptional patient care and this vision is only attainable because of each and every staff member. I am inspired, day after day, by the competence, resourcefulness and hard work of our employees. It is my belief that everyone at the Mater contributes equally to achieving this vision. This contribution is formally recognised through our annual compassion awards, which had 121 nominations from all disciplines across the hospital in 2017.

As a major tertiary and quaternary hospital, quality and safety of care are our key priorities and an excellent example of this is our Mater Stroke service. In 2017, the Stroke service received European Stroke Organisation Certification (ESO) as a Stroke Unit. The hospital's accreditation is the first such approval in Ireland and the fourth such certified unit in Europe since ESO began offering this certification.

As an organisation committed to best practice, we have taken a significant step on our journey to personalised medicine by opening our Next Generation Sequencing (NGS) laboratory. This new Gene Sequencing Equipment was donated to the Mater Hospital by Rita Shah and the Shabra Charity, keeping the promise of the late Oliver Brady, co-founder of the charity, popular businessman and horse trainer.

This emerging approach for disease treatment and prevention takes into account individual variability in genes, lifestyle and environment, allowing clinicians and researchers to predict more accurately which treatment and prevention strategies for a particular disease will work in which groups of people. Patients and families suffering from heart disease, blindness and cancer will be the initial beneficiaries of the genetic testing by the NGS laboratory.

Partnerships have become an important part of healthcare, with a shift toward more integrated service delivery. The Mater is a prominent member of the Ireland East Hospital Group (IEHG) which is moving toward an Academic Health Sciences Centre model that has at its heart a focus on clinical care and research that rapidly translates research into patient benefits. The journey began in 2016 with the creation of a Cancer Academic Directorate, and a Cardiovascular Academic Directorate, Genomics Directorate and Research Directorate will be rolled out in 2018. You will hear more about these developments in the coming months.

We now look to the future in refining the organisation's strategic direction. To ensure a fully informed outcome, a broad range of stakeholders is being engaged as part of this process and we look forward to developing a plan that will not only be

based in our core values, but reflective of the organisation we want to be in the future.

Health care will always be challenging because of its complexity, but built on a tradition of excellence, we will continue to serve our community with innovation, expertise and compassion to ensure we continue to rise to the challenge.

Gordon Dunne, Chief Executive



Patient Centred Approach

Quality and Patient Safety

The Mater Hospital's ambition is to be the safest hospital in Ireland. Quality and patient safety are the number one priority for everyone who works at the hospital and our updated board reporting system has given greater transparency to the quality of care delivered and has enabled the board to hold the management accountable for that care.

The Hospital's Board spends over 50% of each meeting reviewing every aspect of the patient experience, with the Board's quality dashboard evolving as new measures, both nationally and internationally are incorporated.

The Mater Hospital participates in several national clinical audits including

- National Audit of Hospital Mortality
- National Cancer Control Programme, Rapid Access Clinic Reviews
- Irish Hip Fracture Database
- National Stroke Register
- Major Trauma Audit
- National ICU Audit
- National Quality Improvement Programmes (Endoscopy, Histology and Radiology)

However, the hospital's committed to ongoing improvements in patient care, goes beyond

compliance with regulatory requirements and focuses on improving continuously through constant re-evaluation of our performance. This is reflected in our commitment to

- Eliminate preventable harm
- Learn from mistakes
- Support full disclosure of quality and safety performance

National Audit of Hospital Mortality

The Mater Hospital is one of 44 publicly funded hospitals that participate in the National Audit of Hospital Mortality. The audit uses a standardised mortality ratio (SMR) to calculate mortality trends. The SMR is the actual number of patients who die in hospital versus the number expected to die when the factors (outlined on next page) are taken into account.

Key Diagnoses for Audit	SMR Factors
<ul style="list-style-type: none"> Acute Myocardial Infarction (AMI) Heart Failure Ischaemic Stroke Haemorrhagic Stroke Chronic Obstructive Pulmonary Disease (COPD) Pneumonia 	<ul style="list-style-type: none"> Age Gender Co-morbidities (other existing conditions) Type of admission (emergency or elective) Source of admission (home, nursing home etc) Number of Emergency Admissions (last 12 months) Proxy level of deprivation (medical card). Palliative Care

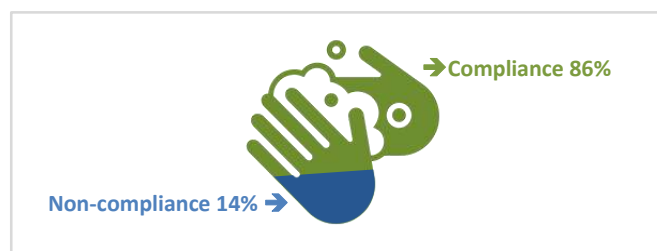
The National Audit found that the Mater Hospital was within the expected range for Standardised Mortality Ratio for all six diagnoses areas. While this reflects the quality of care at the Mater, the hospital is using the NAHM data to continuously identify areas for quality improvement in the care we provide to patients.

NAHM Admissions Mater Hospital 2016

AMI	450
Heart Failure	268
Ischaemic Stroke	308
Haemorrhagic Stroke	207
COPD	793
Pneumonia	617

Hygiene

Local Hand Hygiene Observation Compliance



National Patient Experience

Partnership between HIQA, the HSE and the Department of Health

The National Patient Experience Survey (NPES) is the largest Irish healthcare survey. 40 hospitals across Ireland took part. 27,077 patients were invited to participate in 2017. 592 Mater patients participated in the NPES which translates into a 50% response rate, a response rate that reflects the significant role that staff played in encouraging patients to respond to the survey.

Out of 48 questions asked that were scored and themed, the Mater achieved over a 90% positive result in 25 of these questions including

No of patients who said they have confidence and trust in the staff treating them	No of patients who said they were treated with respect and dignity in the ED	No of patients who said that the staff treating them introduced themselves
96%	95%	97%
No of patients who said they were given enough privacy when being examined or treated	No of patients who said that the hospital room they were accommodate in was clean	No of patients who were happy they were offered a choice of food
98%	94%	95%

Areas for improvement were also identified through the survey and a quality improvement plan has been developed to address those areas.

The Mater Hospital has always been about people and compassion. We strive to ensure that these values are reflected in our daily activities and that we maintain an attitude of tenderness, empathy and respect to everyone who comes to the hospital - patients, students, visitors and colleagues.

Access to Care

Emergency Department The Mater Hospital has the busiest emergency departments in the country. Open 24 hours a day the service cares for patients with a wide variety of complex health problems including acute myocardial infarction and stroke.

2017 was a challenging year for the emergency service at the Mater Hospital. Attendances across the combined main Emergency Department, the Acute Medical Unit and the Smithfield Rapid Injury Clinic increased by over 20% compared to 2016.

Approximately 30% of those attending were triaged as very urgent, an absolute increase of approximately 4,500 patients compared to the previous year.

Emergency Department Attendances 2013-2017

2013	54,461
2014	58,286
2015	58,900
2016	61,278
2017	76,132

Acute Myocardial Infarction The Mater Hospital is the designated primary PCI (percutaneous coronary intervention) centre for north Dublin and the North East of the country. All major myocardial infarctions (heart attacks) out of hours from this catchment area

are treated in the Mater. In 2017 over 350 emergency cases were treated in our cardiac catheterisation labs.

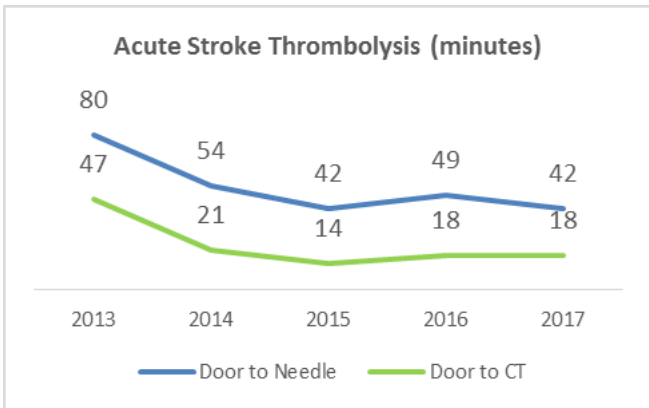
Current guidelines for the treatment of ST-segment elevation myocardial infarction (STEMI) recommend a door-to-balloon time of 90 minutes or less for patients undergoing primary PCI. Door-to-balloon time has become a performance measure and is the focus of national and international quality improvement initiatives.



Note Mater Patients only (walk-ins to ED or brought straight by ambulance to CV Lab and staying in the Mater)

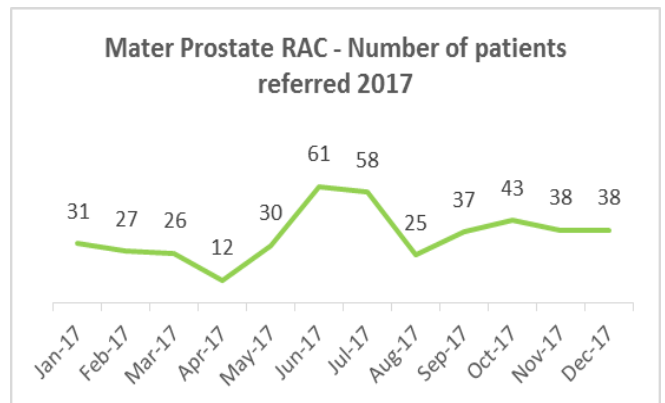
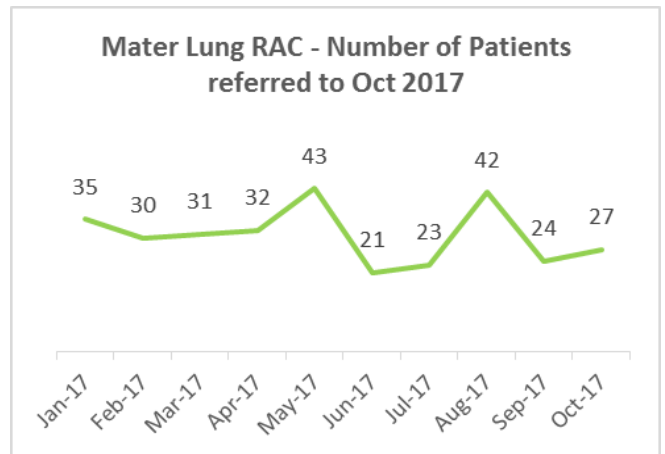
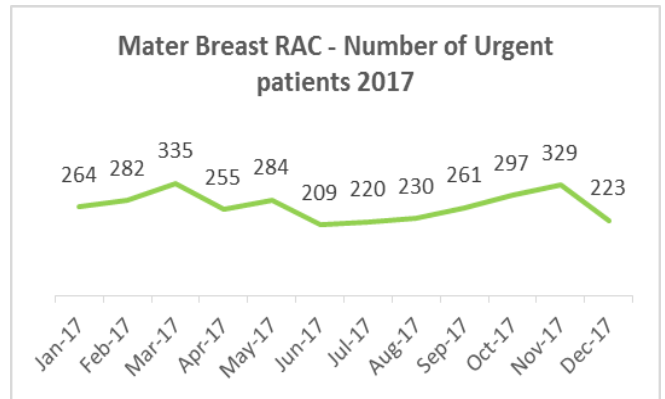
Stroke National and international quality improvement projects have focused on improving acute ischaemic stroke care by reducing door-to-needle times for patients being treated with tPA (tissue plasminogen activator) to breakdown their clot.

The benefits of tPA in patients with acute ischaemic stroke are time-dependant and guidelines recommend a door-to-needle time of 60 minutes or less. There were over 300 admissions for ischaemic stroke in 2017.



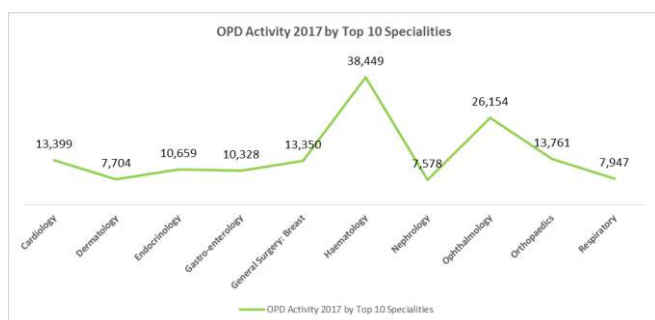
Technology Improving Stroke Care The Mater is the first hospital in Ireland to have CT Perfusion imaging using RAPID software that enables the stroke team to use the very latest evidence (DAWN and DEFUSE-3 Trials, both published in the New England Journal of Medicine in recent months), to carefully select stroke patients who are suitable for clot removal up to 24 hours post stroke onset. The procedure is carried out by Interventional Neuroradiology in Beaumont, currently the only 24/7 centre for same in Ireland. CT perfusion has been available in the Mater since late 2017. Funding for CT Perfusion software was provided by a grant from the Mater Trust and strongly supported by the Mater CEO Gordon Dunne.

Cancer Rapid Access Clinics The Mater Misericordiae University Hospital (MMUH) is one of the eight nationally designated cancer centres. Under the auspices of the National Cancer Control Programme (NCCP) the hospital provides Rapid Access Service for patients with suspected breast, lung and prostate cancer. In 2017 over 6,000 patients were referred to one of the Rapid Access Clinics (RACs) at the hospital. The significant volume of breast cancer referrals are triaged into urgent (patients that need to be seen within 2 weeks) and non-urgent (patients who need to be seen within 12 weeks). The Health Information and Quality Authority (HIQA) sets these standards for all cancer hospitals and they are reported to the NCCP on a monthly basis.



Outpatient Department





Personalised Medicine

Genomic Medicine is transforming how we prevent, diagnose, treat and predict many diseases. Many patients with cancer or rare diseases can now benefit from sequencing of their genomes. Sequencing that delivers more personalised diagnosis and treatment. Significant progress has already been made with common diseases and the next decade will see an expansion to cover clinically validated indications, with direct patient benefits of improved care. Over the last few years the Mater Hospital has invested in the development of personalised medicine through the areas outlined below. In 2017, we launched a new Next Generation Sequencing Laboratory in the hospital. The lab will work closely with the various clinical areas that are leading the way in personalised medicine with the goal of providing improved personalised care and prevention strategies to the population we serve. While the integration of genetic sequencing into research is essential if we are to more rapidly translate research benefits to patient benefits.

Cancer Genetic Service The Cancer Genetics Service offers individuals and families the opportunity to make informed decisions with regard to cancer risk, early detection, prevention and treatment. Individuals assessed to have a higher than average risk of cancer can discuss potential options, like having screening to detect any signs of cancer as early as possible thereby ensuring prompt treatment and more successful outcomes. The service offers

- Familial cancer risk assessment

- Diagnostic genetic testing
- Predictive genetic testing
- Advice for cancer screening
- Discussion of cancer risk-reducing management options
- Assistance with decisions on cancer treatment options

Colorectal Cancer Family Screening Clinic Colorectal cancer can run in families, and about 5-10 % of colorectal cancer is thought to be hereditary. The team at the Mater offer family screening programmes for Hereditary Non-Polyposis Colorectal Cancer (Lynch Syndrome) and Familial Adenomatous Polyposis (FAP) to determine an individual's risk for colorectal cancer. The team follows patients who have an increased risk for polyps, colorectal cancers, gastrointestinal cancers, pancreatic cancer and related cancers. In excess of 90 families are referred annually to the screening service to evaluate cancer risk and implement a screening and cancer prevention strategy.

Genomics Lab In 2017 the Mater Misericordiae University Hospital opened a new state-of-the-art Next Generation Sequencing (NGS) Laboratory. The laboratory houses gene sequence equipment enabling germline testing for the Irish population. Patients and families suffering from heart disease, blindness and cancer, specifically BRCA 1 and BRCA 2 cancer patients will benefit from genetic testing provided by this equipment and NGS Laboratory. The applications for genomic sequencing, whether targeted, whole exome or whole genome are extensive, and they bring immediate patient and systemic benefits including

- Improved diagnostic rates
- Treatment of patients with the right drug first time
- Lengthened progression free survival
- Correct selection of patients (based on likely benefit) for clinical trials
- Identification of family members at increased risk of developing disease

- Guide clinical management decision – timing of surgery, surveillance, invasive procedures

Hereditary Cardiac Syndromes The Mater Hospital provides a national service for people with known or suspected inherited cardiovascular disease. The team delivers a comprehensive evaluation for patients to understand their diagnosis and the potential genetic findings associated with the condition and provides a comprehensive education and a treatment plan based on their clinical diagnosis and specific needs. Experts in multiple disciplines including electrophysiology, cardiomyopathy, congenital heart disease, medical imaging, psychiatry and genetic counselling are brought together to provide the full spectrum of evaluation, clinical and genetic diagnostics and treatment modalities for adults and children.

National Centre for Rare Diseases Following the publication of Ireland's National Rare Disease Plan in 2014, the National Rare Disease Office was officially opened in the Mater Hospital in June 2015. The mandate of the Office is to

- Development of national rare disease care pathways and development of rare disease registries
- Centralisation of up-to-date Irish rare disease information through Orphanet Ireland (www.orpha.net)
- Establishment of a rare disease information help line to provide patients, families and health care providers with information and support relating to rare diseases
- A website with information and links to relevant rare disease services and organisations around Ireland and Europe

National Centre for Inherited Metabolic Disorders

The National Centre for Inherited Metabolic Disease (NCIMD) is a referral centre for people who are diagnosed with or suspected of having a metabolic genetic disorder. The paediatric service is based in the Children's University Hospital, Temple Street with the adult service based at the Mater Misericordiae

University Hospital. The Adult Unit in the Mater provides multidisciplinary care for patients with known or suspected metabolic disorders. The team at the hospital help patients to manage their conditions with optimal diets that match their metabolic needs. The management of metabolic disorders is complex and demands dedicated input from the multi-disciplinary team led by a Metabolic Consultant. A holistic and family centred approach is used, with input from medical, nursing, dietetic, psychology, administration, social work, physiotherapy, laboratory staff and specialist. Suspected cases of metabolic disorder are referred from hospitals across the country.

Transformation Office

The Transformation Office, incorporating the Mater Lean Academy, was established over three years ago. In January 2017, the office undertook a critical review of its initial three-year strategy and presented its new strategy for 2017- 2019 to the hospital executive. The priorities for the Transformation Office are

- Continuation of un-scheduled care lean transformation programme
- Transformation of Cardio-Thoracic Service
- Established process for choosing process improvement lean projects i.e. green belt and black belt projects
- Embedding lean at directorate or corporate function level
- Consolidation of office staff

Ms Aileen Igoe was appointed as the new Mater Lean Academy Manager when Sean Paul Teeling commenced as Assistant Professor (joint role between Mater Hospital and UCD) in February 2017. Mr Teeling has oversight of the academic programmes, symposia and publications and contributes to the ongoing Transformation Programme.

System-Wide Lean Projects *GIM Takeover of care process* The General Internal Medicine (GIM) takeover

of care process, initially went live in October 2016 project and involves a daily morning report meeting with representatives from all medical specialties. At the Daily Report meetings, co-chaired by the Consultant post call and the Acute Medicine Consultant rostered for that day, patients from the post call ward round are taken over by the most appropriate specialty.

This project resulted in significant behavioural change using the Define, Measure, Analyse, Improve and Control (DMAIC) phases of lean methodology coupled with co-design of a new process allowed a new process to be brought in and sustained by the Division. The daily process is extremely efficient usually lasting up to 12 minutes only.

The Transformation office monitors KPIs on a monthly basis and has demonstrated improvement across all parameters

- Specialty Discharge by principle diagnosis improved across all specialties
 - Pre-project GI discharge: 29% vs Q3 2017: 49%
 - Pre-project Respiratory discharge: 14 % vs Q3 2017: 59%.
- Length of stay
 - Reduced across all specialties e.g. Neurology LOS was reduced by 50%
- 7-day re-admissions did not increase despite reduction in length of stay.
 - Requirement for specialty consults: decreased by up to 50% for some specialties as patients were taken over from the point of entry.

This project closed out in October 2017 and following feedback from Consultants, NCHDs, Nursing and Health and Social Care Professionals (HSCP) staff, all agreed that the process is now firmly embedded in the hospital daily routine. A sustainability plan was agreed with control data being discussed at Division of Medicine meeting on a quarterly basis.

The office together with the Executive Clinical Director and a respiratory and stroke consultant has also submitted a Health Research Board proposal to explore the need to re-design the traditional medical ward round together with UCD health systems and patient representatives.

A business case was made to the IEHG to support sustainability of this process and 7 new NCHDs commenced in post on July 8th. These posts involved a combination of re-configuration of Navan NCHD posts and new IEHG funded posts.

OMEGA project The work on implementation of appropriate pathways to rehabilitation centres off-site was completed in 2017 and the project moved into control phase. Project Goals were as follows:

- The creation of a seamless integrated patient journey with reduced delays and reduced length of Acute Hospital stay for the patient
- Consistent access and improved pathway for patients to the appropriate rehabilitation service.
- More structured, robust and efficient processes with reduced variation for staff

Through detailed analysis using the Lean Six Sigma DMAIC framework, the project team were able to understand the major blocks in the process and implement whole system improvements in processes and communication systems.

The full suite of interventions were implemented in July 2017 with the following results from sample data:

- Average Length of stay for this patient group for this time has reduced from 21 days to 14 days (median), equivalent to a saving of over 4,600 bed days per annum.
- Use of new rehab referral form is at 100% for referrals (from 6%).
- Assessed/Acceptance ratio has increased from 17% to 53% in one of the rehab sites indicating improved use of consultant time.

The team continues to monitor the new processes and work with the members in the off-site centres to continue to improve this pathway.

Based on findings from the National Patient Experience Survey, a black-belt project examining the pathway for patients being discharged home and home with primary care intervention was initiated. The OMEga team will provide the team structure support for this project in 2018. A significant part of this project will focus on the communication processes with patients around discharge.

Acute Floor and Specialty Ward Projects Together with the Chief Operating Officer and Executive Clinical Director, the transformation office completed a project initiation document and established an Executive Steering Group for these two projects in Q4 2017.

Respective data-sets relating to specialty specific throughput and demand and capacity requirements were analysed. Detailed implementation plans will be developed in Q1, 2018 and the office will build on the success of the GIM project group to engage clinical leadership in both projects. The capacity of the 161 green belts already trained in the Mater will also be used for project implementation which will be underpinned by a strong message of collective leadership to enable project success.

An options appraisal for specialty ward cohorting and development of the acute floor has been presented for consideration by key stakeholders

Mater Lean Academy

The influence of the Mater Lean Academy in healthcare is significant with 22 hospitals now benefiting from its programmes.

White Belt Programmes In 2017 the Academy continued to deliver the Fundamentals of Lean to Mater, Ireland East Hospital Group (IEHG) and other

external staff. White Belts were scheduled for the entirety of 2017 to allow the Academy to clear the internal waiting list and to facilitate further income generation from the external and IEHG attendees. In the final quarter of 2017, the Academy facilitated 5 White Belts in the Mater and offsite White Belt training sessions in the UCD Beacon Academy, St Luke's Hospital Kilkenny, Sligo University Hospital and University Hospital Waterford.

Professional Certificate in Lean Six Sigma for healthcare (Green Belt) In total, 60 Graduates from 15 hospitals graduated with their Lean Six Sigma for Healthcare Certificates in 2017. In December 22 students from 8 organisations began the programme with projects currently in the Define phase. The programme is now a UCD Professional Certificate that facilitates students in pursuing their further education in Process Improvement, Innovation, Strategy and Leadership with UCD to Masters level.

Graduate Diploma in Lean Six Sigma for Health Care (Black Belt) 6 students from the Mater, IEHG, Crumlin Hospital and Sligo General Hospital reported out to the UCD exam panel in December 2017 to complete their Graduate Diploma in Lean Six Sigma for Health Care. Two of these are functioning as Service Improvement Leads in the IEHG. Seven additional students from the Mater, Beacon, RCSI, IEHG and UCD commenced the 2017/2018 Programme in December with their projects currently within the Define Phase.

Innovation and Design Week Innovation and Design week took place from 23rd – 27th January in collaboration with the National College of Art and Design (NCAD). Building on last year's success, the scale of the project was doubled this year and its scope expanded to include students from the MA Interaction Design as well as the MSc Medical Device Design.

The 28 students and their course leaders set up a studio in the old ICU space and spent the week working alongside hospital staff to develop and test

solutions to the various design challenges. On Friday 27th they presented their final solutions to hospital staff at an open forum in the Catherine McAuley Centre. Plans are now underway to implement a number of the solutions proposed.

The varied skillset set of the master's students enabled us to take on a very broad range of projects this year. These included

- medical device design projects (in urology theatre and in clinical photography),
- environment design (a redesign of the hydrotherapy pool and a project looking at ways of using the hospital environment to promote physical and mental wellbeing for staff)
- visual communications and digital interactions (appointment reminder systems; online information for psychiatry services and discharge planning information).

The NCAD courses place strong emphasis on human-centred design. They actively look at the design problem from the patient's viewpoint and develop solutions that are practical and meaningful for patients. The fresh, creative perspective of the students compliments the expertise of the hospital staff and enables them both to learn from each other while coming up with innovative solutions to design challenges.

The hope is to continue to grow this project annually, to foster a culture of human-centred innovation among staff and support the development of creative and meaningful solutions for patients.

Lean Symposium 162 delegates from the Ireland East Hospital Group (IEHG), other hospital groups, private hospitals and industry attended the 5th Annual Lean Symposium at the UCD Catherine McAuley Centre on the 23rd November 2017. The Symposium theme was Person-Centred Care with the keynote address given by Professor Brendan McCormack, Queen Margaret University, Edinburgh. Professor McCormack gave an

inspiring speech to the packed audience. The day celebrated the work of Lean Academy graduates from 15 hospitals on the island of Ireland, with presentations on scheduled, unscheduled and case specific process improvements.

The Symposium was once again launched by the Minister for Health, Simon Harris, who acknowledged the work of the Mater Lean Academy graduates for their dedication to Process Improvement, and the achievements of the Academy in the last number of years. IEHG CEO Mary Day told a packed audience that the IEHG promotes a culture of process and process improvers. Lean Graduates, presented scientific posters with the winning poster going to a group comprised of Green Belts from the Mater Misericordiae University Hospital, who worked on a project to increase the uptake of remote cardiac monitoring.

Masterclass in Person Centred Cultures of Care On 26th July, Professor Jan Dewing, and Professor Brendan McCormack, international experts in Person-Centred Cultures, delivered a Masterclass to an audience of over 150 healthcare professionals from across the health system. The Masterclass was titled *From Clinical Pathways to Person Pathways* and discussed process improvement in the context of Person-Centred Cultures. The Masterclass also featured some of the PhD work of Sean Paul Teeling, who is an affiliate of the Centre for Person-Centred Practice Research, Edinburgh.

Lean Leadership Programme The Mater Lean Academy was delighted to host two days of the Irish Medtech Association (IBEC) Skillnet "Driving Operational Excellence through Lean Leadership" programme in May 2017. Delegates from various companies including Abbott Ireland Diagnostics Division, Boston Scientific and Wellman International were in attendance to learn about the Mater Hospital's Lean Six Sigma programme and undertake an observational study of our Emergency Department Door to Needle Stroke Pathway. Mr Gordon Dunne,

CEO and Seán Paul Teeling, Assistant Professor in Health Systems UCD/Mater Lean Academy welcomed the delegates and gave an introduction to the Lean Programme in the Mater Hospital while Caroline Deegan (Emergency Stroke Nurse) gave a fascinating and informative presentation on the causes of stroke and the time-critical nature of treatment. The delegates then walked the stroke pathway and were challenged to Value Stream Map the process and find areas where time could potentially be saved. Findings were then presented to members of the Mater Lean Academy.

Feedback from the delegates was overwhelmingly positive. Hosting this programme further strengthens the links between the Mater Hospital and our industry colleagues in the Irish Medtech Association (IBEC).

Mission Awareness

Following the retirement of Sr. Margherita Rock in December 2016, Nuala King was appointed in January 2017 as the new Director of Mission. This position is integral to ensuring that the Mission, Vision and Values of Catherine McAuley and the Sisters of Mercy continues to be integral to how the Hospital and its staff deliver world class patient care and endures as the bedrock of our organisations culture. There were a number of highlights in the Mission calendar 2017.

Mission Awareness Conference The Mission Awareness Conference was held on 17th May entitled “Culture and its influence on improving the Quality of Patient Care” was well attended. The keynote speaker was Mr. Frank Daly, Chairman of the National Asset Management Agency who spoke of the fundamental values of a public service culture. Other speakers included Prof. Eilish McAuliffe, Professor of Health Systems UCD, Karen Egan, Patient Advocate, Prof. Ronan Cahill, Professor of Surgery, UCD, Dr. Philip Crowley, National Director of Quality Improvement, HSE, Diarmuid O’Coimin, End-of-Life Care Co-ordinator, Mater Hospital, Kirsten Connolly, Deputy

Director of Communications, HSE and Tanya King, Director of Nursing Mater Hospital.



L-R Frank Daly, Gordon Dunne, Nuala King, Karen Egan, Mary Day, Tanya King, Diarmuid O’Coimin, Prof. Ronan Cahill, Prof. Eilish McAuliffe, Kirsten Connolly.

Sr. John of the Cross Award The Annual Award is presented to a team who demonstrate the introduction of a quality initiative or project which enhances the delivery of service and bears the hallmarks of excellence in patient care and commitment to the hospitals mission which so characterised Sister John’s life.

This year the award was shared by two multi-disciplinary teams



Microbiology / Infection Control and Emergency Department (Influenza Screening Project Health)



Social Care Professional and Nursing (Falls Working Group)

Service Achievement Awards 135 staff attended a Long Service Achievement Award Ceremony held in the Pillar Room on the 13th October. All staff who attended had achieved more than 25 years of dedicated service to the Mater. A crystal award specifically designed for the occasion was presented to each staff member. This event was an opportunity to acknowledge their dedication and commitment to the organisation. This was a truly memorable occasion which was much appreciated by the staff concerned.



Compassion Awards The Compassion Awards were set up several years ago by the CEO and the Director of Mission Effectiveness to recognise and acknowledge the great work and outstanding care provided by our staff every day in the hospital. See page 12 for the full story.



L-R Nuala King, Director of Mission, Ken A. Byrne, Porterage Services, Siobhan Brady, (External Adjudicator) Member of the Board of Governor's, MMCUH and Board of Directors Children's University Hospital, Temple Street

Mission Awareness Week A full week of events took place which were well attended with participation from staff across the entire organisation.

Unveiling of the Mater Crest Cast in Bronze and mounted on the exterior wall of the Whitty Building on the North Circular Road side of the building. We were delighted to welcome Sr. Helena O'Donoghue, Provincial Leader, Sisters of Mercy who spoke so inspirationally before the formal unveiling of the crest by Mr. Tom Lynch, Chairman of the Board of Directors



L-R Fr. Prince, Sr. Margherita Rock, Sr. Helena O'Donoghue, Tom Lynch

Launch of Poster Project One Campus, 56 Nationalities, Working Together, Common Goal, Excellent Patient Care, Teamwork



Good Cup of Tea In honouring the memory of Catherine McAuley and her tradition for offering a good cup of tea to all who visited Baggot Street, the annual good cup of tea was held on Whitty Street. Staff gathered together and enjoyed a brief moment over a cup of tea and listened to the Mater Choir who sang for all in attendance. Voluntary contributions collected in support the varied Ministries undertaken by the Sisters of Mercy International Association in the most vulnerable and needy parts of the world.

Visiting Delegation from Mercy St. Louis, Missouri, USA A delegation of 50 members of the St. Louis Board of Directors and Executive Management Team and their spouses (100 in total) were welcomed to the Pillar Room over two evenings 10th and 11th October 2017. Presentations were made by Helen Madden, Archivist, supported by Kevin Finnan and Caroline Pigott, Director of Finance on how healthcare in Ireland is financed. Following the presentations the group visited the Hospital Chapel where Sr. Margherita Rock and Sr. Eugene Nolan spoke of the history of the chapel and the Sisters. The group were then escorted through the campus and viewed the Whitty Wing. Feedback from Brian O'Toole, Vice President of Ethics and Mission, St. Louis was very

positive, and they thanked the Mater for the warm welcome.

Christmas Tree Illumination Ceremony

8th December at 5pm saw local residents, staff and their children convene in the park at the top of Eccles Street for the Illumination of the Christmas Tree.



This year we welcomed Minister Pascal Donohoe, Minister for Public Expenditure and Reform and RTE presenter Marty Whelan who kindly agreed to switch the lights on this year.



L-R Prof. Brendan Kinsley, Unknown, Marty Whelan, Gordon Dunne, Minister Pascal Donohoe, Tom Lynch, Tanya King, Nuala King

The Irish Prison Service Pipe Band was also in attendance and provided live music which added to the atmosphere of the occasion.

Following the switch on of the lights the Pipe Band played Jingle Bells before leading the crowd back to the Pillar Room for mince pies, mulled wine and a visit from Santa Claus for the younger attendees.



Irish Prison Service Pipe Band

Annual Visit to Mercy International The annual visit to the Mercy International Centre in Baggot Street took place on 15th December 2017. A total of 43 staff attended. This year the focus was on homelessness, the many dimensions and contributing factors. How we as individuals and as representatives of Mercy can help to address the homeless crisis through our compassionate work with the poor.

Youth Volunteer Visit to the Mater Localise is a community organisation that enables young people aged 11-18 to make a difference in their community by answering The Call to help others. Through various programmes young people experience the power of giving back as they directly benefit those in need. On the 21st December a group of localise volunteers from the Cabra area gathered on Whitty Street to present 300 handmade Christmas Cards for distribution to in-patients and staff on Christmas day. The young people recognised that loneliness and isolation can be a real issue for the elderly who are in hospital, especially around the Christmas period, so they set out to see what they could do to help.

Thinking of you this Christmas is a message of Peace, Love and Joy from the young people of Cabra Localise to the Senior Citizens and staff of the Mater Hospital. Localise National Youth Volunteers is a registered charity supported by the Department of Children and youth affairs and works in partnership with schools nationwide.

Rituals

- Mass of Thanksgiving held on the 25th September 2017 in the hospital chapel to celebrate Foundation Day which fell on 24th September 2017.
- Annual ED Ecumenical Service – 4th November 2017
- Staff Bereavement Mass – 13th November 2017
- 15th Annual ICU/HDU Ecumenical Service – 25th November 2017

Information and Communications Technology

2017 saw many developments within the hospital's information systems and services that support the delivery of optimum patient care. The ICT department continues to offer a broad range of functionality over that available with many healthcare institutions of comparable size. During the year, it was proposed to optimise the benefits of its integrated clinical information systems by positioning our primary patient system onto a next generation service-orientated architecture technology platform.

MedLIS (National Medical Laboratory Information System) Engagement commenced between ICT and the National MedLIS Project Board on the implementation of an integration nation-wide hospital information system over the coming years. This is in keeping with the strategic goal for the hospital to deliver diagnostic laboratory medicine, healthcare quality, efficiency and outcomes for patients in the Irish Healthcare System. The project will replace the existing laboratory system in the hospital.

EHR (Electronic Health Record) The Mater Hospital as part of Ireland East Hospital Group, will remain aligned to National Projects, National Service Plans as well as the eHealth Strategy for Ireland and the principles of standardisation of systems and technologies.

Continued development of our EHR saw its extension across the hospital in the following areas

- Physiotherapy Module for Tracking Patients from Referral to Discharge
- Integration of Clinical Photography Images into the Patient's Record
- Implementation of Electronic Prescription which are also created and stored against the Patient's Electronic Health Record

eRostering and Workforce Optimisation In collaboration with Ireland East Hospital Group Management Team, the Mater has identified a requirement for a Workforce Optimisation solution to support and facilitate the management of staff in the effective utilisation of rostered workforce resources throughout the organisation. All members of the Group may potentially benefit from this exciting highly mobile end-to-end solution and its complementary components, optimising our most valuable assets, our staff, in enabling them deliver excellent care for patients.

Nursing

#endpjparalysis On Wednesday the 29th November 2017 the Mater Hospital launched #endpjparalysis, an awareness campaign to encourage patients to Get up, Get dressed, Get moving, Get Well and Get Home. The campaign focused on providing high quality patient care and empowering patients.



Opening of the Fairview Garden With the support of the 1st Dublin Fairview Scout Group, the new Fairview garden was opened on the 29th August 2017. The garden was named Tom's Garden after Mr Tom Keane who was a patient of Fairview.



Culture Night The Nursing Team of the Mater Hospital welcomed all to Culture Night on Friday the 22nd September as part of Mission Awareness Week. The public were invited to come and view nursing uniforms from Past to Present, observe the variety of instruments in use through the ages, receive a demonstration in CPR and practice life-saving resuscitation skills. Nursing in the Mater – Where Teamwork Matters!

Launch of the VOICES Majam report On the 16th June 2017 the Mater and St. James's Hospital, in conjunction with their academic partners University College Dublin and Trinity College Dublin, launched the key findings and recommendations from their report on end-of-life care, VOICES MaJam. The results of the VOICES MaJam report show that 87% of bereaved relatives rated the overall quality of care from the Mater Misericordiae University Hospital and St. James's Hospital as high.

Care Bundles A care bundle is a collection of interventions used to manage a particular condition. The elements in the bundle are best practices based on evidence. The care bundle ensures that the application of all interventions is consistent for all patients at all times, thereby improving outcomes. In 2017 the Mater Urethral (Urinary) Catheter (UC) Care Plan/ Care Bundle was finalised and introduced.

Advanced Nurse Practitioners In 2017 three ANPs were registered to the Mater Hospital; (Thoracic Surgery) Rachel Browne, (ANP Rheumatology) Patricia Kavanagh and (ED) Aidan Foley.

The Department of Health Advanced Nurse Practice Initiative commenced in October 2017 with the Minister for Health, Simon Harris TD formally launching the initiative at a ceremony at UCD on the 21st November. The HEI Consortium invited the Mater Hospital Director of Nursing recognition of the Hospital's involvement in the initiative and ongoing support for the students. In October 2017, four ANP candidates (ANPCs) were successfully appointed in the Mater Hospital; three for care of the Older person and a fourth in Unscheduled Care.

Falls Multifactorial Assessment Tool The rollout of the new Mater Falls Multifactorial Assessment tool continued in 2017 as part of the Fall Prevention Programme. The rollout was supported through a campaign of awareness and maintained with over 100 on-site Falls Champions, each contributing to the education and roll out of the Falls Multifactorial Assessment tool. In June 2017 the Falls Working Group were awarded the Sr John of the Cross Award for the Fall Prevention Programme. Due to its significant contribution to falls prevention, the Fall Prevention programme was also nominated for the Irish Healthcare Awards. The launch of a Fight Falls Guide to Reducing Falls will be launched in 2018.



Clinical Services

Cancer and Surgery Directorate

The Mater Misericordiae University Hospital is one of the eight nationally designated cancer centres and is

- a designated specialist centre for breast disease services
- one of four nationally designated lung cancer surgery centres
- one of six nationally designated prostate surgery centres
- one of eight nationally designated colorectal cancer centres
- the location for BreastCheck (the national breast screening service for north Dublin / north east)
- the national centre for peritoneal malignancies
- the largest provider of gynaecological cancer services in the state

Diagnosed cancers at the Mater 2016

Breast	672
Colorectal	246
Gynaecological	343
Head and Neck (including Thyroid)	112
Hepatic and Bile	345
Lung	255
Pancreatic	79
Prostate	242
Upper GI	79
Urological (excluding Prostate)	196

Highlights in 2017

Academic Health Science Centre The Ireland East Hospital Group, with its academic partner UCD, is evolving into an Academic Health Science Centre (AHSC). This significant change reflects international experience that shows that the integration of education and research in an Academic Health Science Centre model improves patient care, research and drives the knowledge economy.

Clinical academic directorates are the cornerstone of an AHSC. They must have a national and international perspective on their capability and potential and should provide tertiary and/ or quaternary services and be internationally recognised excellence in research and clinical practice. In 2016 the Ireland East Hospital Group (IEHG) launched the Cancer Clinical Academic Directorate. The directorate brings together two nationally designated cancer centres Mater Misericordiae University Hospital and St Vincent's University Hospital into a single cancer function operating across two sites and will embed academic research into the care system.

The Cancer Clinical Academic Directorate's objective is to become an internationally recognised comprehensive cancer centre. A single service that covers the full spectrum of a patient's journey from prevention to survivorship. We are building on the internationally recognised work on prevention from the UCD School of Public Health, Physiotherapy and Sports Science, leveraging the fact that more cancer patients are treated in our Cancer Clinical Academic Directorate than in any other hospital group and making the Cancer Directorate an internationally competitive cancer research centre based on the Clinical Research Centre and utilising our emerging strength in genomics.

Tertiary referrals as % of total referrals 2016

Colorectal	30%
Gynaecological	36%
Head and Neck (including thyroid)	11%
Hepatic and Bile	31%
Lung	39%
National Peritoneal Service	59%
Pancreatic	52%
Upper GI	16%

Ophthalmology *Inherited Retinal Degeneration Clinic*

The Inherited Retinal Degeneration clinic was established to provide world class standard in IRD care at clinical phenotyping, genotyping, support and counselling level. For the past three years the service has been supported by grant aid from Fighting Blindness and “in clinic” patient support via the Sight Loss Advisors (in partnership with National Council for the Blind).

Ophthalmology In 2017 the service (in conjunction with Temple Street Children’s University Hospital) was awarded Orphanet Centre of Expertise status.

Orphanet provides information on centres of expertise or networks of centres of expertise dedicated to the management and/or genetic counselling for rare diseases or groups of rare diseases. This is a key first step to joining the European Reference Network for Rare Eye Disease (ERN-EYE) as a full member. The ERN-EYE is a virtual network involving healthcare providers across Europe who aim to tackle complex or rare diseases and

conditions that require highly specialised treatment and concentrated knowledge or resources.

Ophthalmology *Cross Linking* Corneal cross linking is used to treat keratoconus, which changes the shape of the eye from a round shape to one where the cornea bulges forward. The cornea becomes thin and weak, causing poor vision. The corneal cross-linking technology provides a non-surgical treatment of Keratoconus, that aims to arrest progression of the disease.

Patient Centred Care

National Spinal Injuries Unit The National Spinal Injuries Unit at the Mater Misericordiae University Hospital are responsible for all patients, in Ireland who have a traumatic injury to the spinal cord. Approximately 700 patients are referred to the service annually from hospitals around the country. The unit provides specialised, coordinated, interdisciplinary, medical and surgical care to patients with spinal cord injuries. This specialist team includes surgeons, nursing staff, physiotherapists, occupational therapists, speech and language therapists, dieticians, pharmacists and more. The surgeons make use of advanced technology and clinical expertise to treat a variety of conditions of the spine including

- Spinal trauma
- Spinal tumours
- Deformities
- Infections
- Degenerative spinal conditions

Service improvement and innovation

National Spinal Injuries Unit *Scoliosis* The Mater has taken over the transitional care service for patients with scoliosis moving from paediatric to adult services. The National Spinal Unit sought and received approval for the first official post for occupational therapy under the Scoliosis Programme. The role is now reviewing the overall service to create optimum

pathways for the onward referral to rehab sites and/or discharge home. This will involve further investment in the unit including the acquisition of advance spinal navigation equipment to make surgery safer.

Ophthalmology *Diabetic Retinal Treatment Centre*

The National Diabetic Retinal Screening Programme was introduced in 2013 to provide free regular diabetic retinopathy screen to people with diabetes. The Mater University Hospital is the country's largest Diabetic Retinal Treatment Centre. The service continues to grow as more and more patients with diabetic retinopathy attending facilitated by an overhaul of appointment scheduling.

Patient centred care

Ophthalmology *Same Day Injection Service*

The Medical Retina Service treat conditions at the back of the eye. Patients with these conditions are usually managed medically using drugs, eye drops or lasers. In 2017, the team at the Medical Retina Service has instituted a same day injection service for patients presenting with macular degeneration. This ensures appropriate commencement of injections and maintenance of vision.

Ophthalmology *Cataracts*

In a joint initiative with the Royal Victoria Eye and Ear Hospital the Ophthalmology team at the Mater Hospital have undertaken a focused programme to reduce the waiting list for cataract surgery. In 2017 extra theatre space was secure which will deliver significant improvements in patient waiting times over the next few years.

Cardiovascular, Respiratory, Renal, Diabetes and Endocrine Directorate

The Mater Misericordiae University Hospital is synonymous with cardiovascular care. The hospital is the National Referral Centre for Adult Congenital Heart Disease, Sudden Adult Death Syndrome, the National Cardio-thoracic Surgery Centre and is the National Transplant Centre for Heart and Lung. In addition, the hospital is a tertiary referral centre for interventional cardiology, electrophysiology and heart failure.

Highlights in 2017

National Centre for Inherited Cardiac Conditions In 2017 the Inherited Cardiac Conditions Clinics at the Mater, Tallaght and Crumlin hospitals reached an agreement to form a collaborative National Centre for Inherited Cardiac Conditions. Part of the agreement involves the creation of a National Registry of Inherited Cardiac Conditions. The registry will initially facilitate the day-to-day needs of the clinic, but will in the medium term will help develop better diagnostic criteria, produce meaningful research into treatment options and give insight on service delivery and patient and family experiences.

Inaugural Heart Failure Preceptorship The Mater Heart Failure team ran an in-depth hands-on study day for GPs covering the whole spectrum of heart failure services provided by the hospital. Ranging from outpatient disease management clinics at one end through implantable cardiac devices, ventricular assist devices (VADs), transplantation to end of life care at the other. The study day included hands on training with a newly acquired hand-held scanner for identification of reduced ejection fraction in the community. The programme received exceptionally good feedback from the GPs who attended.

Pulmonary Hypertension - National Hub and Spoke Clinics The National Pulmonary Hypertension Unit recruited an additional Clinical Nurse Specialist to

cope with increasing demands and expansion of activity to include National Hub and Spoke Clinics. These clinics will be rolled out, during 2018, in Cork, Galway and Limerick and will coordinate patient services and improve access to therapy.

Also in 2017, the Pulmonary Hypertension Association, the Irish patient support organisation, were awarded first prize in Europe for their innovative disease awareness campaign.

Service improvement and innovation

ECMO supported VT Ablations Patients with recurrent ventricular tachycardia (VT) uncontrolled by medications, in which the clinical VT is accompanied with hemodynamic compromise are a very high risk population with limited therapeutic options. Extracorporeal membrane oxygenation (ECMO) provides the required hemodynamic support need for completion of this complex ablation in selected high risk patients. In 2017 the team at the Mater performed the first 3 ECMO-supported VT ablations in the country.

Adult Congenital Heart Disease - Coagucheck is a service for ACHD patients, who require life-long warfarin, and now have the option to self-test their blood at home. 75 adults with congenital heart disease are now linked in with the coagucheck service. This initiative has enhanced therapeutic compliance in their anti-coagulation regime by promoting ownership and autonomy in their therapeutic regimes

Cardio-thoracic Surgery Transformation project During the Summer 2017, the national cardio-thoracic service and the transformation office began an ambitious project, reviewing the cardiothoracic service pathways in their totality- across the patient journey from point of entry to discharge.

The project seeks to optimise the service to

- Improve access and wait times for patients through improved scheduling, planning and distribution systems.

- Improve flow through the cardiothoracic ward and associated critical care pathways through co-ordinated access to theatres and improved communication systems.
- Improve overall experience for patients from the perspective of reduced delays and cancellations of surgeries.

Through these enablers, the overall project seeks to increase capacity and activity in the system and reduce costs due to overtime and failure demand.

As part of the project methodology, a very successful *analysis of data* workshop was facilitated by the transformation office in November and was attended by 52 members of the cardio-thoracic service and executive leadership team where the project team agreed on an implementation plan which is now underway.

Meetings are on-going with key stakeholders to develop project solutions and implement process changes with the project steering group meeting on a monthly basis. Work-streams include: Smooth Access, Free Flow and Smart Finance. Piloting of initial solutions is planned for Q2 2018.

Minimally Invasive Procedures The Mater is the only adult centre with a percutaneous pulmonary valve programme. In 2017 the team implanted the first 'leadless' pacemaker which avoids surgical scars reduces length of stay in hospital and speeds up recovery time.

New Heart Failure Clinic Database In 2017, the Mater began migration to a new Heart Failure Clinic database. The new database will enhance delivery of care to patients and will also facilitate research and audit. This database will be identical to that used by our sister hospital St Vincent's University Hospital/St Michael's and thus will enable greater collaboration across the sites both for enhanced service delivery and research purposes.

Patient centred care

Adult Congenital Heart Disease - Complex Patient Care ACHD patients have multi-faceted issues requiring integrated and coordinated care across specialities - electrophysiology team, national pulmonary hypertension unit, national transplant programme and the Rotunda obstetric team. The development of multidisciplinary team (MDT) meeting allows prompt co-ordinated access for treatment for this complex patient group. These multi sub-speciality experts ensure clinical consensus and streamlined care management planning.

ACHD Individualised Patient Care The service provides same day diagnostic testing on their clinic review day. Every patient at clinic has a review with a nurse specialist and a consultant. Each member of the team has a clear defined role so patients are provided with education to understand their condition, recognise signs of deterioration and when to make contact with the service, particularly the emergency contact line. The nurse led clinics reduce inappropriate admissions to GP or emergency department while the fast track reviews allow prompt access to appropriate specialist care and treatment.

Cardiac Rehabilitation The Mater began collaboration with MedEx in Dublin City University to provide long term rehabilitation services for heart failure patients. MedEx is a community based chronic illness rehabilitation programme that offers medically supervised exercise classes and educational workshops to patients with chronic illnesses.

Pulmonary Hypertension – Advanced Nurse Practitioner Advanced nurse practice is carried out by trained, experienced practitioners who work with an agreed advanced scope of practice within established criteria. Training of the first Pulmonary Hypertension Advanced Nurse Practitioner in Ireland was commenced in 2017 with training completion and implementation over the next 18 months.

Critical Care, Anaesthesia, Theatres and Elective Surgery Directorate

The Mater Hospital's critical care service includes the Intensive Care Unit (ICU) and the High Dependency Unit (HDU) and is one of Ireland's leading intensive care services, providing treatment to approximately 2,800 patients each year.

Highlights in 2017

Personnel During 2017 progress was made in nurse recruitment for specialist areas within the directorate; specifically, in critical care and theatres. Two of our senior nurses in these areas received special recognition during the year

- Ms Mary Rose Curran, CNM3 in Critical Care received the Margaret Harold Award for steadfast contribution to excellence and innovation in nursing
- Ms Teresa Herrity, CNM2 in Theatre received the Mother McAuley award for demonstrating steadfast dedication to perioperative nursing.

A number of new Consultants commenced working in the Directorate during the year:

- Dr Viera Husarova, a joint appointment with Cappagh Orthopaedic Hospital, who has a special interest in Regional Anaesthesia;
- Dr Katie Padfield who has a special interest in planning for major incidents and managing patient care in adverse environments and
- Dr Jennifer Hastings, Consultant Intensivist.

Consultant posts expected to be advertised in the near future include

- Joint Navan-Mater Consultant Anaesthetist post
- Consultant Anaesthetist post to support the structural heart programme and pre-operative assessment
- Consultant Anaesthetist post to support the Hepatobiliary, Urology and Gynaecology services

- Consultant Intensivist post in conjunction with the National Rehabilitation unit.

Critical Care Successful recruitment has improved bed availability, but occupancy remained in excess of 100% (Intensive Care Unit 111% and High Dependency Unit 102%). The Critical Care Department were one of the leaders in adopting the extended MICAS (Mobile Intensive Care Ambulance Service) hours. In 2017 there was a change that saw Mater Hospital moving to supporting a 7-day MICAS roster versus the previous 5-day and extending the MICAS service day to 20:00hrs. Weekend rota is shared with Beaumont Hospital.

18 nurses completed the ICU Foundation Course, nine nurses commenced the Graduate Diploma course and two nurses commenced the Masters in Critical Care.

Theatre Theatre commenced a morning teleconference to enhance the communication among the multidisciplinary team for scheduling the emergency theatre, which has assisted in improving start times in Operating Theatre 6. A CNM1 was appointed to the Procedure Room to oversee minor theatre patients and improve efficiency. Mobile computer carts were introduced to PACU to assist with post-operative electronic data capture. Two students completed the Graduate Diploma in 2017. Three nurses commenced the Peri-Operative course in 2017. Nine students completed the CPD Course.

Pain Medicine The Department of Pain Medicine has continued to extend its clinical services with the expansion of the ultrasound interventional pain practice and increased patient numbers in 2017. In addition, the formalisation of the nurse led phone clinic has increased patient's satisfaction and improved efficiencies.

The acute pain service has seen a growth in the number of patients receiving patient-controlled analgesic devices and epidurals. This has been a consistent year-on-year increase. Much work has been done to facilitate the expansion of the local

anaesthetic wound infiltration service and improved safety in terms of epidural and paravertebral anaesthesia.

	2016	2017
Total Number of New Patients	4,348	5,311
Total Number of Reviews	11,694	13,699

Service improvement and innovation

Electronic Patient Strategy To further enhance our electronic patient documentation strategy throughout the directorate the Critical Care system ICIP was upgraded to ICCA with a concurrent hardware refresh. This has further embedded the electronic culture within Critical Care whilst ensuring a more stable and supported technical platform in line with technological advancement.

Anaesthetic Information Management System

(AIMS) An AIMS funded pre-dominantly through charitable donations was also rolled out. This system allows patients' anaesthesia record to be captured electronically at all stages of their surgical journey. The ICCA, AIMS and Theatre Management system all interface with the main hospital information system (PatientCentre). The next stage in the Directorate Electronic Patient Record (EPR) development includes automation of the referrals to the Pre-Operative Assessment clinic; design has been completed and development is planned for 2018. Incorporation of preoperative assessment seamlessly into the AIMS has been progressed and will be running in 2018.

Robotic Surgery In keeping with a strategy of leveraging maximum benefit from technological advancements, the CCAEST directorate co-ordinated a business case for Robotic Surgery development at the Mater; an initiative supported by a high number of surgical specialities and providing an opportunity for the hospital to benefit from the expertise already onsite due to the relationship with Mater Private Hospital, who have already established a robotic surgery programme.

Major Trauma Services The CCAEST Directorate has completed a high-level analysis of potential resource requirement to inform the current Mater Hospital contribution to the national discussions concerning major trauma management.

Elective Surgery Striving for service improvement for patients and maximising efficiency led the CCAEST Directorate to draft a process improvement document focusing on process flow / patient pathway for elective surgery patients. One of the key recommendations, to relocate the elective surgery wards proximal to theatres, is planned for 2018. The Productive Operating Theatre Steering Group continues to meet to review data on performance within theatres and related process flow. Having data from the electronic systems allows meaningful measurement and quantifiable evaluation of actions taken.

Cardiac Patients One cross- directorate initiative, in 2017, to improve processes involved working with Cardiovascular Respiratory Renal and Endocrine Directorate and the Transformation Office to improve the process flow for cardiothoracic patients. This initiative enhanced patient flow and numbers for structural heart procedures. In keeping with advances in heart failure care, two patients had implantable Heartmate VAD and two patients Centrimag Ventricular Assist Devices implanted this year. It is the vision of the Division of Anaesthesia and Intensive Care within the CCAEST Directorate to work with the CVRRE to further develop this programme

Hygiene Award The Critical Care Department was successful in achieving a Hygiene award.

Patient Centred Care / Patient Safety Initiatives

Capacity As part of the National Estimates Submission the directorate received funding to commence the expansion of Critical Care capacity in 2018. Since relocating to the modern Critical Care Facility in February 2014 we have had the infrastructure to support seven additional beds and are delighted to

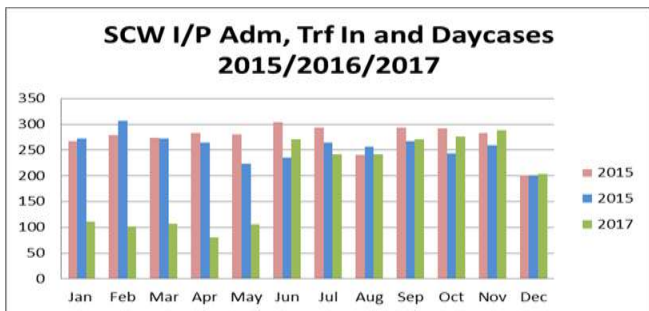
now have funding to commence staffing and equipping those beds. With an occupancy in excess of 100% this additional capacity is very welcome.

During 2017 we further expanded theatre capacity facilitating an additional operating day every fortnight for Gynaecology in addition to hepatobiliary and urology which commenced in December 2016. Funding through other avenues has been utilised to open capacity on a short-term basis to improve patient access and reduce waiting times. 2017 saw particular emphasis on ophthalmology and scoliosis surgery patients.

High Dependency Unit (HDU) In 2017 we commenced an initiative to develop a wet room facility for ambulant HDU patients. Over half the funding has come from voluntary donations and we plan to have this facility available to our HDU patients in 2018.

Key Statistics / Metrics

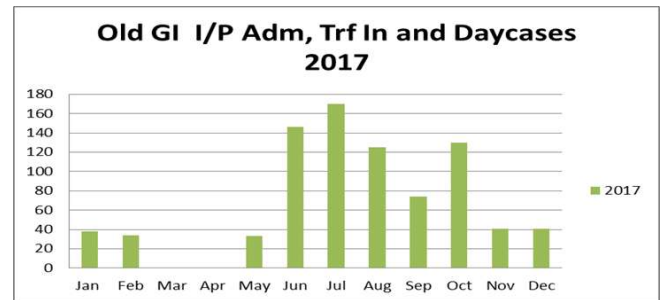
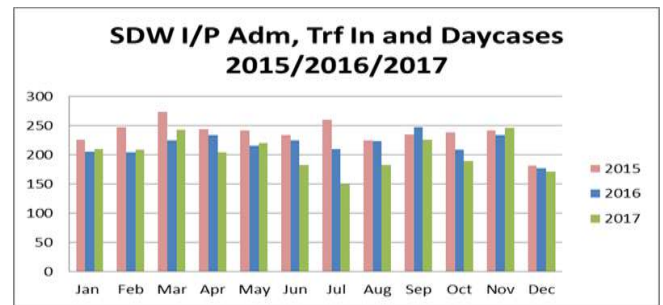
Scheduled Care Ward The Scheduled Care Ward admissions increased marginally in 2017 when compared to previous year. The average non-elective patient occupancy in this elective surgery ward was 56% during 2017 due to pressures with unscheduled care.



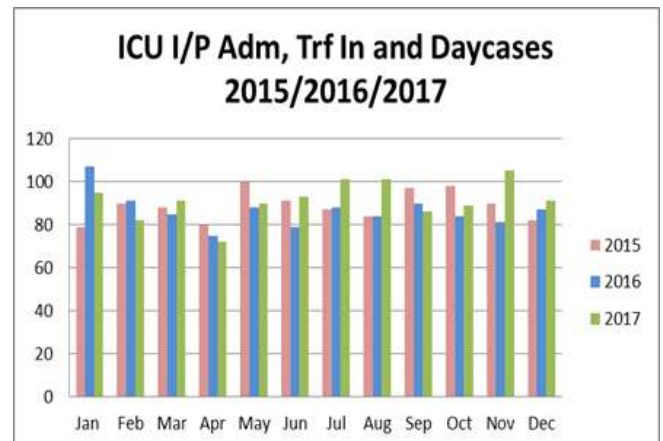
Scheduled Day Ward (SDW) admissions have decreased however; due to pressures in Unscheduled Care during 2017, SDW was converted to an overnight ward during times of escalation. The Old Gastrointestinal Unit was converted into an alternative ward for daycase activity. The combined totals between SDW and Old GI unit together exceed

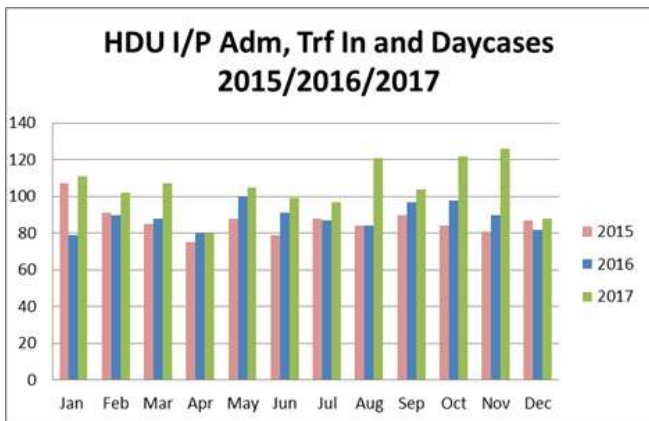
activity in 2016 in SDW. Activity from both areas is captured below:

It is recommended in the National Programmes for Elective Surgery and Theatre Quality Improvement Programme (TQIP) that elective surgery beds are protected.

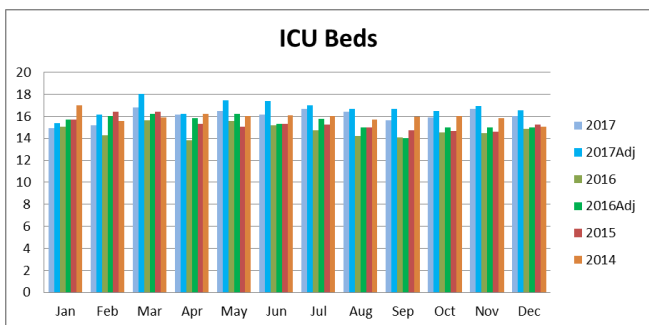


Critical Care The overall annual trend as depicted below illustrates annual growth in Critical Care admissions.

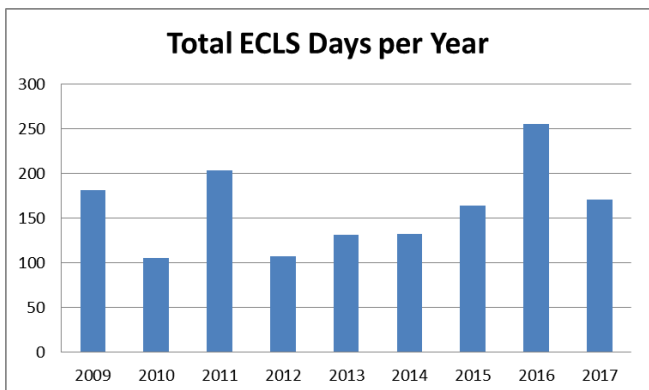




Extra-Corporeal Life Support (ECLS) admissions also decreases capacity available for other critical care admissions due to significant manpower resource implications as depicted below



Capacity above illustrates average number of beds available in ICU each month; the 2017 adj column depicts where this has been adjusted to reflect ECLS activity. Furthermore, the graph below illustrates ECLS activity



There were 171 ECLS days and a further 83 Ventricular Assist Device (VAD) days in 2017.

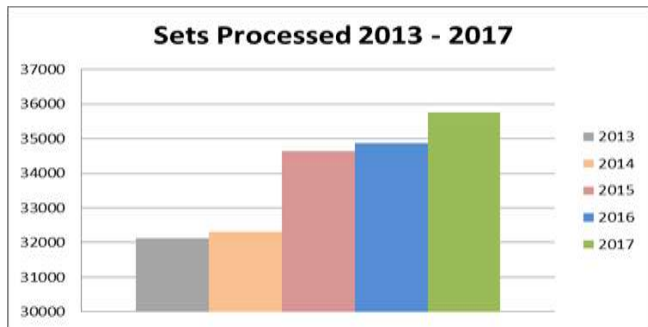
Intensive Care Unit Date of admission from 01/01/2017 to 31/12/2017

Age (Mean)	59.1
Age in Deciles	
Age (Range)	Number of Admissions
0-9	0
10-19	15
20-29	38
30-39	98
40-49	128
50-59	194
60-69	295
70-79	243
80-89	67
90-99	3
100-109	0

High Dependency Unit Date of admission from 01/01/2017 to 31/12/2017

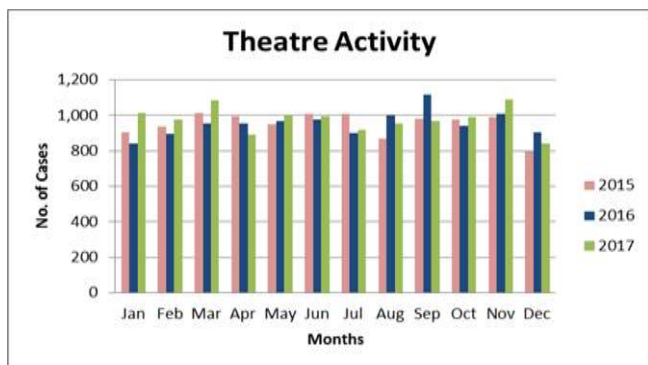
Age (Mean)	61.5
Age in Deciles	
Age (Range)	Number of Admissions
0-9	0
10-19	17
20-29	34
30-39	97
40-49	124
50-59	197
60-69	303
70-79	269
80-89	150
90-99	13
100-109	0

Central Sterile Services Department (CSSD) Activity
Reprocessing of instrumentation

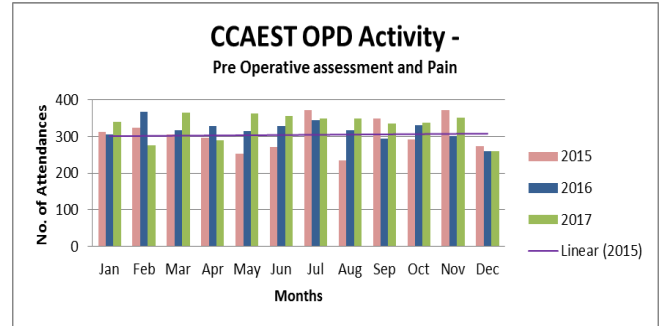


With the exception of increase due to additional sessions in Theatre 2; activity has remained consistent throughout the other CSSD service users. Sterile stores relocated from CSSD to Main Stores during 2017.

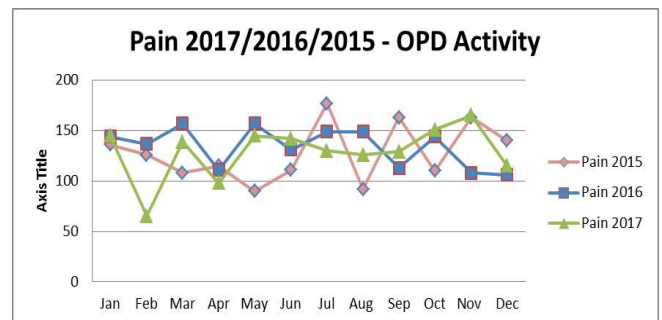
Theatre Activity Following on from opening Operating Theatre 11 for spinal activity and Operating Theatre 2 for hepatobiliary and urology surgery in 2016; Operating Theatre 2 further expanded to accommodate gynaecology surgery in 2017. Overall activity is depicted below.



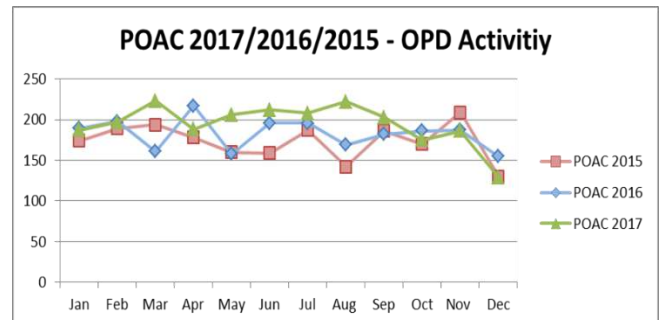
Outpatient Activity Overall outpatient activity continued to increase in 2017 (3,969 attendances compared to 3,810 in 2016). Analysis by area outlined below.



Pain Medicine Pain Medicine outpatient attendances decreased in 2017 (1,550 compared to 1,606 attendances in 2016).



Pre-operative Assessment Clinic Pre-Operative Assessment Clinic attendances continued to increase in 2017 (2,419 compared to 2,204 in 2016).



Emergency & Specialty Medicine Directorate

The Emergency Department of the Mater Hospital is comprised of a Rapid Injury Clinic In Smithfield, an Acute Medical Unit, an Eye Emergency Department as well as the main Emergency Department. It is the busiest emergency service in the state and cares for some of the most acutely unwell patients including Acute Myocardial Infarction (heart attack), Stroke and major Trauma.

Highlights in 2017

In addition to the emergency care services the directorate also provides a range of specialities including

- Dermatology
- Gastroenterology
- Infectious Diseases
- Medicine of the Elderly
- Metabolics
- Neurology
- Psychiatry
- Rehabilitation
- Rheumatology

Care of the Elderly Alternative Home-Based Model of Interim Care. In 2016 the team at the Mater undertook a study looking at an alternative to interim care (IC) in an acute hospital, an offsite rehabilitation unit, or transitional care as proposed for older people in the National Clinical Programme for Older People. The alternative model of IC, delivered directly into a patient's own home and supported by use of remote monitoring equipment supervised by a specialist geriatric team. Following the publication of their findings, which appears to be an acceptable alternative to traditional IC, the team were awarded funding by the Health Service Executive (HSE) to support a larger trial.

Service Improvement and Innovation

National Clinical Programme for Neurology This proposal was originally developed in 2015 following a Joint Committee on Health Care (JCHC) meeting where information was sought from the clinical programme in relation to exploring the feasibility of an all-island Deep Brain Stimulation (DBS) service.

The Neurology Programme has continued to advocate for the development of an all-island DBS services, and were delighted to receive confirmation on 25.1.18 that funding was to be made available to support the development of this much needed initiative over 2018.

Deep Brain Stimulation (DBS) DBS is a long term treatment option for adult patients with selected movement disorders including Parkinson's Disease (PD), essential tremor and dystonia. Patients with PD account for a significant proportion of the referrals for DBS, which is a surgical procedure aimed at providing relief of motor function symptoms that are no longer controlled by drug therapy. It is referenced within the PD pathway in the Model of Care of the National Clinical Programme for Neurology. DBS is a neurosurgical intervention whereby a surgically implanted neuro-stimulator delivers controlled electrical stimulation to precisely targeted areas in the brain.

DBS is not currently available as a treatment option within Ireland at present, following the recommendations of a Health Information and Quality Authority's (HIQA) Health Technology Assessment (HTA) in 2012. Treatment is available through the Treatment Abroad Scheme (TAS).

To date, patients deemed eligible for DBS are referred by their Neurologist for consideration for treatment through the TAS. On approval, a referral is made for treatment overseas, generally in the UK. Full assessment of suitability is carried out by the center

providing the DBS. On meeting the criteria, the patient would be scheduled for the surgical procedure followed by a series of follow up/review appointments in the UK – each such appointment requiring TAS applications.

Patients receiving DBS through the TAS remain under the clinical management of their Consultant Neurologist in Ireland, and regular reviews with this consultant are also scheduled in tandem with reviews in the UK, a significant duplication of services.

It is acknowledged that the current system is less than ideal for the patient their families and physicians. The difficulty associated with travel, particularly given that individuals who require this treatment have significant difficulties with their movement and function; means that for some patient's access to this treatment is limited and as such the current system is not equitable. Proper management of this cohort of patients is essential, with the need to focus on keeping those effected as functionally independent and mobile as possible.

All-island DBS Proposal The National Clinical Programme has as one of its key objectives equitable access to services. The current model of service delivery for DBS did not support this objective as often elderly patients or disabled patients are unable to travel abroad for treatment and follow up. Therefore DBS surgery, although efficacious and cost effective for movement disorders, has not been available to many Irish patients.

The proposed coordinated approach to DBS using the existing DBS service at the Dublin Neurological Institute (DNI) to assess patients for suitability using standardised protocols before referral to Belfast for surgery will make this treatment approach accessible to many Irish patients. It will also avoid unnecessary duplication of services.

This new approach will support a Multidisciplinary dual-management system for patients where their

treating neurologist and DBS nurse specialist can manage follow up care and liaise directly with Neurosurgeon performing the procedure in Belfast. A multidisciplinary team approach is best for patient care including direct discussion between the surgeon and neurologist and nurse specialist for the correct adjustment and management of the DBS post surgery.

To provide the best outcome for patients in Ireland pre and post-operative care will be provided by the DBS service at the Dublin Neurological Institute (DBS Clinical Nurse Specialist and consultant neurologists with expertise in DBS care) and the surgery performed by the Department of Neurosurgery at the Royal Victoria Hospital Belfast.

The new system will see peri and post-operative care provided through a new National DBS Centre to be hosted at the Dublin Neurological Institute and the Mater Hospital Dublin. Travel will only be required for surgical procedures i.e. implantation of Stimulator and replacement of batteries of stimulator.

Next Steps The National Clinical Programme for Neurology is now charged with

- Further development of clinical care pathways with supporting policies and procedures
- Development of Job Descriptions for support posts, including Consultant Neurologist, Clinical Nurse Specialists, Speech & Language Therapy, Psychology, Physiotherapy and administrative support
- Recruitment of personnel
- While it is likely that this piece of work will take a number of months, the Neurology Programme is hopeful that the new pathway will be implemented mid-2018 with immediate benefits in patient access, experience and outcomes anticipated.

Patient centred care

Infectious Diseases The team at the Mater Misericordiae University Hospital also looks after a

large number of patients with other infections including

- Hepatitis B and C
- Meningitis
- MRSA
- Tuberculosis
- Malaria
- HIV
- Malaria

The Mater's Infectious Disease Specialists run weekly clinics with urgent patients are seen within 72 hours. There is an established a national network relationship where GPs and the hospital provides the lead in post exposure prophylaxis, which is commonly linked to HIV, where prophylactic treatment is started immediately after exposure to a pathogen to prevent infection and the development of a disease.

Homeless and Prison Hepatitis Check The Mater Hospital's Hepatitis Check programme was expanded to include over 200 inmates in Mountjoy Prison. Under a large-scale screening programme between the team at the Mater and the prisons doctor and addiction specialist has shown a significant number of those tested to have Hepatitis C. Previously the programme completed a study on hepatitis C in homeless people, which showed that 38% of the over 500 tested positive for Hepatitis C.

Health and Social Care Professions Directorate

The Health and Social Care Directorate was created in late 2013 as part of the wider hospital reorganisation into a clinical directorate structure. The directorate is comprised of the following specialities

- Audiology
- Clinical Nutrition & Dietetics
- Occupational Therapy
- Physiotherapy
- Podiatry
- Clinical Psychology
- Medical Social Work
- Speech & Language Therapy

Highlights in 2017

Dietetics A new dietetic service commenced in the Oncology Day Unit in February 2017. Nutritional Risk Screening, a simple method of identifying malnutrition, was introduced and 220 new dietetic consultations and 413 review consultations were carried out in the first 6 months. 77% of patients were found to be cachectic (physical wasting with loss of weight and muscle mass due to disease) on initial assessment and within 6 weeks this figure had decreased to 46% of oncology patients. This highlights the role of malnutrition screening and dietetic intervention in the early identification of malnutrition. Approximately 69% of patients were able to maintain or gain weight with dietary intervention with the dietitian.

Dietetics The dietetic department were delighted to be involved in the HSCP led Frailty Intervention Therapy Team. The dietitian presented the findings of the 3-month pilot 'A Frailty Intervention Therapy Team (FITT) Pilot Led by the Health and Social Care Professionals (HSCP) in a Teaching Hospital' at the

European Union Geriatric Medicine Society (EUGMS) annual congress in Nice in September 2017.

Mater Lean Academy Leadership Programme In May 2017 the Mater Lean Academy hosted two days of the Irish Medtech Association (IBEC) Skillnet "Driving Operational Excellence through Lean Leadership" programme. Delegates from various companies including Abbott Ireland Diagnostics Division, Boston Scientific and Wellman International were in attendance to learn about the Mater Hospital's Lean Six Sigma programme and undertake an observational study of our Emergency Department Door to Needle Stroke Pathway. Gordon Dunne, CEO and Seán Paul Teeling, Assistant Professor in Health Systems UCD/Mater Lean Academy welcomed the delegates and gave an introduction to the Lean Programme in the Mater Hospital while Caroline Deegan (Emergency Stroke Nurse) gave a fascinating and informative presentation on the causes of stroke and the time-critical nature of treatment. The delegates then walked the stroke pathway and were challenged to Value Stream Map the process and find areas where time could potentially be saved. Findings were then presented to members of the Mater Lean Academy.

Medical Social Work In 2017, the department made significant policy submissions as part of our role in influencing and advocating for social justice and human rights. As professionals working at the interface between the acute hospital and the community we are acutely aware of the impact policy and legislation. Submissions on the Statutory Homecare Review, the Mental Capacity (Assisted Decision Making) Act and the National Safeguarding Vulnerable Adults policy review were supplemented by the department's involvement in the development of a protocol to support homeless patients being discharged from hospital.

Pharmacy *European Antibiotic Awareness Week* was held in November. This is part of an annual initiative by the European Centre for Disease Control (ECDC)

and the World Health Organisation (WHO) to help protect antibiotics and improve awareness of antimicrobial resistance. An information campaign was run by our Clinical Microbiologists and Antimicrobial Pharmacists. The central theme of the campaign was titled “Meropenem Matters” examining our increasing use of meropenem at the Mater and the associated consequences of broad spectrum antibiotic use. Other topics of interest such as prescribing tips and management of common infections were circulated on Maternet during the week. To further promote awareness a quiz on antibiotic use was offered at the Information stand.

Pharmacy Lean Green Belt Publication Maríosa Kieran, Clinical Pharmacy Service Manager published the findings of the Lean Green Belt Project, Supply and Demand - Application of Lean Six Sigma Methods to Improve Drug Round Efficiency and Release Nursing Time in the International Journal for Quality and Safety in Healthcare. The paper details a multifactorial approach to improving the efficiency of oral drug rounds that included changes to drug trolley organisation and drug supply planning. Following application of Lean Six Sigma methods, the average drug round time decreased by 51 min with a 75% reduction in drug supply interruptions. The paper can be accessed at; <https://doi.org/10.1093/intqhc/mzx106>.

Pharmacy Recognition of CATO® Implementation and Research Brid Ryan, Aseptic Compounding Service Manager, was invited to present at the UK Hospital Pharmacy Europe Live Conference on November 21, 2017 in London. Brid presented at the Safety in Oncology forum on "Managing Chemotherapy Electronically from Prescription to Patient". Brid demonstrated the Mater experience of introducing CATO for prescribing, manufacture and administration of chemotherapy to showcase what can be done electronically in this setting. The implementation of CATO was also one of the Mater shortlisted projects for the 2017 HSE Excellence Awards. Over 400

submissions were received with 60 projects shortlisted to attend and present their work to a selection panel in October.

Pharmacy DOAC Therapy Booklet & Hospital Professional News Awards 2017 Mater Winners: Direct Oral Anticoagulants (DOACs), like all anticoagulants, are recognised as high risk medicines that bear a heightened risk of causing significant patient harm when used in error. Some of the safety issues which were identified with these medicines in the hospital involved a lack of continuity between the hospital and the community in terms of the on-going management of these medicines. Under the guidance of Professor Sean Murphy, Consultant Physician in General Medicine, Medicine for the Older Person and Stroke and Dr Fionnuala Ní Áinle, Consultant Haematologist, the Mater Drug Safety Committee developed a DOAC Therapy Record. The purpose of this Therapy Record is to provide all the necessary information about DOAC therapy to the Prescriber and the Patient in an accessible manner. It is intended for use on an on-going basis by the patient in conjunction with their Hospital Specialist or General Practitioner and will promote the safe use of these high-risk medicines. The booklet was awarded the ‘Excellence in Patient Safety Award’ at the Hospital Professional Awards on Saturday, September 16, 2017. The booklet was made available throughout the 11 hospitals in the Ireland East Hospital Group (IEHG) in August 2017 and has been extremely well received by patients and prescribers alike.



Pharmacy Culture Night The Pharmacy Department were delighted to be involved in the first Mater Culture Night on 22nd September 2017. The team showcased the pharmacy department's achievements and put this in the context of the history of pharmacy. Pharmacy were inundated with visitors who wanted to meet our special guest stars, the leeches. Several hundred children, and some adults, made their own special "Culture Night Cream" using their own secret recipe, taking their creation home afterwards. This is in the great tradition of Irish cosmetics; after all, Sudocrem® was invented by a Dublin pharmacist!

Pharmacy HIV Patient Research An MSc study entitled "Medication Characteristics, Polypharmacy and Potential Drug-Drug Interactions in an Older (≥ 50 years) and Younger (< 50 years) HIV Positive Population and an Older (≥ 50 years) HIV Negative Population" was carried out in by Marie O'Halloran, Senior Clinical Pharmacist, in 2017. This study was selected for presentation at The European Aids Clinical Society (EACS) Annual Conference

Pharmacy TOP 100 hospital professionals Eleven Mater pharmacy department staff were recognised in the Hospital Professional News Top 100 Professional List, 2017

- Jennifer Brown Pharmacy Head of Operations
- Mairead Casserly Deputy Clinical Pharmacy Service Manager/Pharmacy Education and Training Co-Ordinator
- Maria Creed Dispensary Services Manager
- Garreth Dooley Deputy Aseptic Compounding Manager & Oncology/Haematology Clinical Trials Pharmacist
- Patricia Ging Heart Lung Transplant/Pulmonary Hypertension Pharmacist
- Mariosa Kieran Clinical Pharmacy Services Manager
- Deirdre Lenehan Drug Safety Facilitator
- Laura Lyons Senior Pharmacy Technician
- Eimear McManus Aseptic Compounding Services Pharmacist

- Ciarán Meegan Head of Pharmacy Services
- Brid Ryan Aseptic Compounding services Manager

Pharmacy MSc Graduations A number of clinical pharmacists successfully graduated in post-graduate qualifications in 2017. These include

- Susan Potter, Senior Clinical Pharmacist, Antimicrobials, and Dearbhla Murphy, Senior Clinical Pharmacist, successfully completed their MSc in Clinical Pharmacy Practice with Robert Gordon University of Edinburgh. Marie O'Halloran, Senior Clinical Pharmacist and Grainne Johnston, Aseptic Compounding Unit Pharmacist successfully completed their MSc in Hospital Pharmacy with Trinity College Dublin.
- The 2016/ 2017 pharmacy interns, Sean Fitzgerald, Dearbhla Moore and Jayne Tuthill, successfully completed their Masters in Pharmacy programme graduating with RCSI, Dublin. Jennifer Brown, Pharmacy Head of Operations, graduated from RCSI with an MSc in Leadership.

Pharmacy Professorship and Fellowship Recognition Patricia Ging, Heart Lung Transplant/Pulmonary Hypertension Pharmacist and Honorary Clinical Senior Lecturer, Royal College of Surgeons in Ireland, was promoted to Honorary Clinical Associate Professor by the RCSI. This promotion is in recognition of Patricia's current post and academic attainments and her sustained and valued contribution to RCSI. Patricia was also made a faculty fellow by the Royal Pharmaceutical Society. Faculty fellows are nationally/internationally recognised leaders in an area of expertise, with a breadth of experience and expertise. Patricia is the first pharmacist practicing in Ireland to have achieved this award which is in recognition of her expertise in patient care and research in transplantation and in education.

Pharmacy LEAN Six Sigma Green Belt Professional Certificate Mairéad Casserly, Deputy Clinical Pharmacy Service Manager carried out an interdisciplinary

project as part of the UCD Green Belt Professional Certificate in Lean Six Sigma for Healthcare. The project involved improving the surveillance of patients with Low-Grade Appendiceal Mucinous Neoplasms in the National Peritoneal Malignancy Service in the Mater

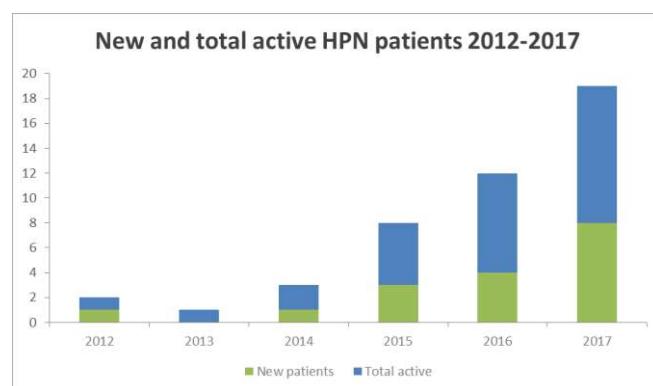
Speech and Language Therapy Excellence in patient care necessitates parallel healthcare professional development. In 2017, 2 members of the SLT Department undertook in post-graduate studies; one completing a MSc in Acquired Communication Disorders and the other embarking on a Higher Diploma in Counselling and Psychotherapy. The department supervised 23 students in 2017 from the National University of Ireland, Galway, Trinity College Dublin, and University of Limerick and contributed significantly to the profession at a national level with 3 members of staff on the Irish Association of Speech & Language Therapists (IASLT) Council in 2017 and another member of staff representing IASLT on the International Communication Project.

Speech and Language Therapy Disability Awareness Day The SLT Department actively supported and contributed to the hospital's Disability Awareness Day in November 2017. SLTs and SLT students engaged staff and visitors in activities to simulate the experience and raise awareness of communication disability.

Service Improvement and Innovation

Audiology 2017 saw the commencement of weekly vestibular physiotherapy clinics. The vestibular system, in addition to the sense of touch/position and vision, contributes to a person's ability to maintain balance. The service is provided by senior physiotherapists who have undergone specialist training in this area.

Dietetics In 2017 there was a significant increase in new Home Parenteral Nutrition (HPN) referrals. HPN is indicated for patients with prolonged gastrointestinal tract failure that prevents the absorption of adequate nutrients and/or fluids to sustain life. The increase is driven by the changing profile and complexity of patients, especially through cancer survivorship, and is in line with international trends.



Dietetics The renal dietitians have moved to electronic patient records for dialysis patients. They are now using a national recording system called EMED which allows for clinicians and healthcare professionals to access the patient's medical and dietetic records across sites. The roll-out of the system has streamlined the national renal dietetic service, which is characterised by frequent transfers of patients between sites.

Medical Social Work The Mater Hospital is actively involved in providing student placements for students and participate in Multi-Disciplinary Team education on safeguarding, children first, capacity and carer support. To engage and educate our colleagues and students an education DVD was developed to mark World Social Work day in March 2017. The video is now being used as a teaching support in universities for undergraduate training.

Occupational Therapy In 2017 the OT team commenced a cross rotation initiative with St. Mary's Hospital, Phoenix Park. This was the Mater's first

cross rotation with this site and clearly identified the differences of work required in the sites and produced significant efficiencies in reducing duplication and more streamlined decision making.

Occupational Therapy A new spinal post was created in 2017 under the Scoliosis Programme focusing on the development of pathways for onward referral to rehab sites or discharge home for patients from around the country.

Pharmacy *Pharmacy HIQA Medication Safety Inspection Report* Following their Medication Safety Inspection, the Health Information and Quality Authority (HIQA) in their 2017 report, commended the hospital on its comprehensive approach to Medication Safety, with particular focus on the positive reporting culture in the hospital. HIQA also identified the benefit of analysing the variances received to target areas for improvement, referring to this approach as ‘best practice.’ The large number of variances reported in recent years in the Mater reflects the very positive safety culture in the hospital, it indicates commitment to the strong focus the hospital places on improving the safety of medication in the hospital.

Pharmacy *Drug Safety Medication Variance Database Updated* The Medication Variance Database that is used to record and analyse medication variances reported was updated in 2017 to incorporate a new system for grading variances, i.e. the National Co-ordinating Council for Medication Error Reporting and Prevention (NCC MERP) Index. Historically, Mater variances were graded using a locally assigned ‘High - Low’ risk rating scale. The NCC MERP tool is a well-established international tool used by the majority of Drug Safety Services in Ireland.

Pharmacy The State Claims Agency also introduced new categories for analysing medication incidents in the National Incident Management System (NIMS) during 2017. It was necessary for the Drug Safety

Service to incorporate these new categories into the Medication Variance Database while still maintaining all the categories in the Mater system for data analysis. Continued use of this local system is essential for the provision of quality data that can be used to identify trends and opportunities for improvements in the hospital in the short, medium or long-term.

Pharmacy *Development of a New General Drug Chart* The Drug Safety Committee (DSC) and Drugs and Therapeutics Committee (DTC) recognised the need to review and update the General Drug Chart in light of the increasing complexity of drug therapy in recent years, with particular focus on Anticoagulant and Antimicrobial drugs. Following a comprehensive review of other Drug Charts in use in Irish hospitals and the HSE Record Templates, a sub-group of the DSC developed an updated Mater Drug Chart during 2017 which was approved by the DTC. A pilot of the new Drug Chart will be undertaken in 2018 coordinated by a Drug Chart Implementation Team. Education, audit and feedback will be considered key aspects of this pilot and are on-going throughout the pilot.

Pharmacy *Generation of Printable Discharge Prescriptions on Patient Centre* The Pharmacy Department and the IMS department developed a new method to provide printed Discharge Prescriptions to patients on Patient Centre for all prescribers. The functionality generates a legible, printed prescription and leaves a permanent and retrievable record of the prescription, date and time in the patients Patient Centre record. The prescription continues to be available to view on ‘Patient Document / Scanned Viewer’ on Patient Centre.

Pharmacy *Drug Approval Applications Policy Meeting* new drug costs are identified as a risk to the delivery of the HSE National Service Plan 2018. Processes for drug funding and reimbursement by the HSE continue to develop. More patients have gained access to new

and high-cost drugs in recent years. A new Drug Approval Applications Policy, Mater Hospital was developed by the Drug Expenditure Monitoring Review Committee (DEMRC) & the Drugs and Therapeutics Committee (DTC). The policy provides one, common application form replacing the drug formulary and drug expenditure application methods. The policy details Mater drug approval and application procedures including

- The information required for Drug Approval Applications.
- The procedures for the processing and review of Drug Approval Applications, including applications requiring urgent review.
- The appeals process for unsuccessful applications.
- The post implementation review process for approved drugs.

Pharmacy Medicines Shortages & Discontinuations 97 shortages and discontinuations of critical medicines were handled by the Dispensary Services in 2017, an increase of 35% on 2016. The impact of global drug shortages and discontinuations arising from the merger of multinational pharma companies and a reduction in the number of manufacturing plants. This has put increased demands on the drug supply chain and subsequently pharmacy services. Increased time is now spent on sourcing alternative products, informing and consulting with internal and external stakeholders and reviewing the logistics surrounding product change in the clinical setting. In 2017, the Mater Pharmacy arranged a meeting with HSE representatives to discuss opportunities to improve current drug shortage processes. This led to improved communication processes nationally and has led to the hospital liaising directly with the Health Products Regulatory Authority (HPRA) who are working on a European wide project on drug shortages.

Pharmacy Pharmaceutical Society of Ireland (PSI) Pharmacy Assessment System A PSI bi-annual Pharmacy Assessment System process commenced in

January 2017. This took the form of 2 audits over the course of 2017 on all aspects of the Pharmacy Department supply service. Both were completed to deadline by the Dispensary team and demonstrated the highest level of compliance attainable. Reports were made available to and signed off by the CEO. These are now available to the PSI for review.

Pharmacy Psychiatry Service Review The Mater Hospital's Clinical Pharmacy team and Psychiatry Service reviewed current practices to assess the hospital's compliance with the Mental Health Act 2001 in relation to use, storage, supply and review of medicines. Improvements to standard practice were implemented. The collaborative work was undertaken to ensure compliance with Mental Health Commission inspection requirements, and ultimately to improve holistic psychiatric services for patients. This review was supervised by the Mater Psychiatry Governance Group. Actions identified and implemented include

- On-going review of medication variances reporting from the Mater Psychiatry ward
- Liaison with the Psychiatry Clinical Director in relation to prescribing standards on inpatient drug charts
- Clinical pharmacist involvement in therapeutic services provided to Mater psychiatry inpatients
- Review of compliance with mental health act legislation
- Review of the Psychiatry Ward Medication Management Policy

Pharmacy Primary Care Pharmacist Hepatitis C Training The Mater Hospital was selected as the lead site for the HepCare European wide project, launched in 2017. The project focuses on providing an 'integrated care' model for Hepatitis C treatment based on the joint participation of primary and speciality care practitioners to allow for more efficient use of limited specialist resources. This project is being undertaken in Dublin, London, Bristol,

Bucharest and Seville. The Mater Hepatitis C Pharmacists have been the pharmacy point of contact for this project to date and have participated in multiple educational sessions and planning meetings for the scale up of this project.

Pharmacy The Mater Hepatitis C Pharmacists were also involved in training of Community Pharmacists working in Drug Treatment Centres on the treatment of Hepatitis C using Direct Acting Antivirals to allow the transition of this care to primary care. Mairead O Connor, Acting Pharmacy Lead – Infectious Diseases, contributed to a Masterclass series entitled “Integrating primary and secondary care to optimise Hepatitis C”. The masterclass was presented at multiple national and international conferences and was been selected for both oral and poster presentations at these conferences.

Pharmacy Antimicrobial Pharmacist Research The Antimicrobial Pharmacists have undertaken research into anti-infective use that has contributed to innovative and new prescribing practices

- An audit of antifungal use in Cystic Fibrosis patients was started in 2015 by Nuala Scanlon, Antimicrobial Pharmacist. In conjunction with the transplantation physicians, follow-up work by Dr Breda Lynch Consultant Microbiologist, has led to the use of antifungal prophylaxis against fungal infection following lung transplant, in applicable patients, to reduce morbidity and mortality associated with invasive aspergillosis.
- Ms Susan Potter, Antimicrobial Pharmacist, conducted research on Mater Meropenem prescribing practice. There was an absolute increase of 22% of meropenem prescriptions considered appropriate compared to the 2015 meropenem point prevalence study. It was identified that a pharmacist coordinated audit and feedback intervention is a successful way of intervening on inappropriate meropenem prescribing. The research

has directed the focus for an antimicrobial stewardship rounds in relation to meropenem use.

Pharmacy Cardiothoracic Transplant Master Class for Pharmacists Patricia Ging, Transplant / Pulmonary Hypertension Pharmacist, hosted a master class for pharmacists working in cardiothoracic transplant. Ten pharmacists from across the UK and Spain were in attendance at the Mater Hospital. The delegates enjoyed educational presentations from the Mater clinical faculty including Mr Jonathan McGuinness, Consultant Cardiothoracic Surgeon, Dr Kate O Reilly, Consultant Respiratory Physician, Dr Oisin O’Connell, Consultant Respiratory and Transplant Physician and Dr Lisa Mellon, RCSI.

Physiotherapy An initiative was undertaken last year to reduce the waiting list for routine musculoskeletal (MSK) outpatients with a resulting reduction in both the number of patients waiting and the length of time these patients were waiting to access our OPD MSK service.

Physiotherapy The department began a pilot programme in 2017 for an Integrated Care Team in line with the National Clinical and Integrated Care Programme for Older People and the National Policy-Future Health (2012). The pilot aims to identify suitable frail elderly patients who are medically optimised for discharge and would benefit from rapid therapy assessment and/or intervention in their own home. The team comprises of 0.5 WTE Senior Physiotherapist, along with a Multi-Disciplinary Team of Occupational Therapy, Consultant Geriatrician, Clinical Case Manager and an Advanced Nurse Practitioner.

Physiotherapy A Vestibular Rehabilitation outpatient clinic commenced in April 2017 to serve public ENT outpatients. A second clinic subsequently commenced in November for vestibular patients under the care of the Neurology and Acute Medicine specialities.

Physiotherapy The Physiotherapy Department went live, in November 2017, following a migration over the previous 18 months, to Patient Centre for physiotherapy referral management, work list management and waiting list management. The department now no longer routinely prints referrals and patient stickers and removes the risk of lost referrals. The system allows for ease of access to information relating to physiotherapy referrals, including tracking of referrals and their status. This simplifies the recording and use of activity data including the number of physiotherapy contacts received by a patient during an episode of care, the level of both direct and indirect physiotherapy input delivered, the number and grade of physiotherapists involved in the delivery of each contact and the outcome of each intervention. This valuable data will inform future service planning and service developments.

Physiotherapy A health promotion initiative was rolled out in the MSK outpatient department in 2017, entitled 'Implementation of the Health Behaviour Change Framework in the Outpatient Service'. The project aimed to develop a resource to support physical activity in the health and wellbeing of both staff and patients and to build capacity to implement health and wellbeing activity amongst staff. The project also facilitated the hospital being awarded the winner in the bronze category of the Irish Heart Foundations' Active@Work award 2017.

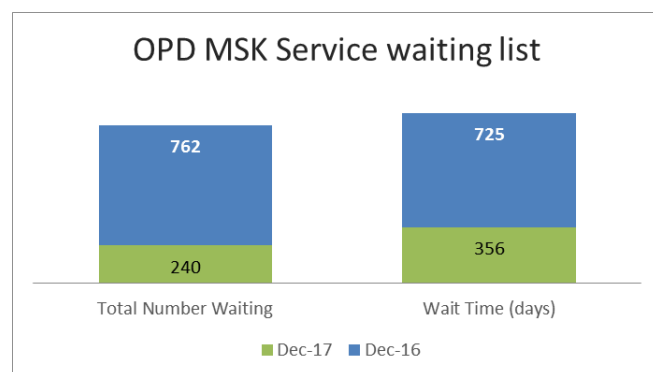
Psychology The role of psychology in Heart Lung Transplant increased significantly in both referral numbers and consultation time in 2017. Team members supporting more complex patients, such as young Cystic Fibrosis (CF) patients with poor/ non-adherence are led by Dr Katie O'Brien to manage the significant risk in this population. A monthly transplant support group has been established to support these patients. In addition, Dr O'Brien is developing a book and video 'T is for Transplant' for

CF transplant patients to help overcome the common challenges people with CF face.

Psychology Dr Damien Lowry has developed a Chronic Disease Self-Management Programme for patients with chronic pain and disease to enable greater self-management of distress and pain and to reduce avoidable engagement with the out-patient department. Two 6-week groups (27 patients) were successfully run in 2017, with the aim of promoting independence in patient's management of chronic disease and becoming less reliant on hospital services.

Speech and Language Therapy The increased demand for the Fiberoptic Endoscopic Examination of Swallowing (FEES) service nationally has led to increased requirements for trained therapists. Dr Patricia Gillivan-Murphy, Clinical Specialist SLT ran the second National FEES Training Programme, a 2-day course which facilitated training of therapists from around the country and reflects the department's status as a leader in FEES.

Speech and Language Therapy Close liaison with Severn Healthcare and Atos Medical facilitated improved patient access to a range of voice prostheses, and an increase in the number of patients post-laryngectomy self-changing their valve and using free hands speech. Training days and workshops were organised to facilitate service development including advanced training in laryngectomy.



Patient Centred Care

Pharmacy Medicines Reconciliation Service Measures

The Mater Medicines Reconciliation Service uses World Health Organisation (WHO) recommended measures for ongoing monitoring of the service. The WHO has three core Medicines Reconciliation measures, one for service capacity and two for service quality. In May 2017, the quality measures reached their targets over 3 consecutive months, meaning the measurement period was extended to every 6 months. This was a milestone for the MR service as it demonstrated the high-quality service being provided. The capacity measure did not meet the service target in 2017, due to staffing constraints. A Medicines Reconciliation service review is underway due to the capacity issues identified, and a recommendation by HIQA for the Mater Medicines Reconciliation service to be extended to include discharge.

Pharmacy Patient Education The HIQA Medication Safety Monitoring Programme in Public Acute Hospitals recommended that 'Patients and/or carers are informed about the benefits and associated risks of prescribed medicines in a way that is accessible and understandable'. To support patient medicines knowledge, the Pharmacy expanded the range of patient information leaflets (PILs) to support the provision of patient education in relation to medication use. New PILs were developed for use with patients receiving treatment for Hepatitis C. The newly developed PILs, and other patient related medicines information for specialities such as cardiology, endocrinology, gastroenterology, HIV, oncology/ haematology, surgery, transplantation and the use of anticoagulants, are available in a printable format on the Maternet.

Pharmacy Clinical pharmacists also expanded their formal patient education services, in addition to provision of education for patients on oral anticoagulants and transplant medicines, to

- Women of child bearing potential on the association of valproate with abnormal pregnancy outcomes. This is in line with recommendation from the Pharmaceutical Society of Ireland (PSI) and the Health Products Regulatory Authority (HPRA).
- Patients with tuberculosis, including information on how to take tuberculosis medicines, important side effects and drug supply.

Pharmacy Infectious Diseases (ID) A fourth Infectious Diseases Clinic commenced in January 2017, necessitating expansion of pharmacy services provision to the clinics. A LEAN review of the ID pharmacy clinic, in conjunction with Maria Creed, Lean Six Sigma (Black Belt), resulted in better utilisation of staff resources, a more streamlined approach to dispensing and improved service delivery for patients.

Pharmacy The ID pharmacists, in collaboration with ID clinicians, the Drug Expenditure Monitoring Review Committee and the HSE undertook significant work on the reimbursement process for antiretrovirals in 2017. Changes are to be implemented to the process in 2018 and this national development is on-going.

Pharmacy Pharmacist Participation on Consultant Ward Rounds Prof Dermot Power, Consultant for Care of the Elderly, requested pharmacist participation on ward rounds in the Post-Acute Care Service. The Pharmacy Department proceeded with this patient care improvement but undertook departmental research with the practice change. An RCSI research protocol student prepared the research protocol for the study which commenced in early March 2017. The study has been completed and data is now being analysed. Prof Power has stated that the presence of a pharmacist on ward rounds is invaluable, reducing the potential for error and prompting informed discussion and education opportunities on every occasion.

Pharmacy Implementation of new MDA regulations

New Misuse of Drugs Act (MDA) regulations were brought into effect in May 2017. The new regulations introduced changes to prescribing requirements of all MDAs. Most benzodiazepines and “z-drugs” (zopiclone, zolpidem and zaleplon) were rescheduled impacting their prescribing requirements. The Pharmacy Department communicated the new prescribing requirements and followed up with clinical pharmacist interventions with clinicians to implement these changes

Pharmacy National Point Prevalence Audit on Healthcare-associated Infections and Antimicrobial Use

The Mater took part for the first time in a National Point Prevalence Audit on healthcare-associated infections and antimicrobial use over one week in May 2017. The majority of antibiotic use in the hospital are targeted towards respiratory tract infection and 94% of antibiotic use was considered appropriate.

Pharmacy Faecal Microbiota Transplant (FMT) FMT was successfully used in 3 patients following its introduction into the Mater for recurrent clostridium difficile disease. This innovative new treatment modality was implemented following multidisciplinary collaboration by the Pharmacy and the Gastroenterology and Microbiology Consultants, thus expanding treatment options for patient care for this debilitating condition.

Pharmacy Managed Access Programmes The Aseptic Compounding Service, Pharmacy Management and the Drug Expenditure Monitoring Review Committee, recognised the need to develop new hospital processes for the use of novel medicines under managed access programmes. The result was the implementation, of the Policy for Participation in Compassionate Use Programmes (CUP), Compassionate Access Programmes (CAP), Early Access Programmes (EAP) & Named Patient Programmes (NPP), Mater Misericordiae University

Hospital. The purpose of the policy was to establish a formal review process to assess potential clinical risk and governance issues, identify the necessary manpower and ensure this is in place, commitment of the drug company supply drug for patients until reimbursement or treatment discontinuation and ensure the Mater is not subject to any undue financial liability.

Pharmacy The hospital had a 67% increase in the number of haematology /oncology patients on managed access programmes in 2017, largely due to the 1100% increase in patients receiving oral compassionate use medications. Through the formalisation of the Compassionate Use Process the number of patients enrolled to these programmes is continuously reviewed to ensure that the required resources are in place to safely manage each programme. Identifying the need for a formal system rather than an ad hoc method of introducing a new type of patient care in a clinical setting has been key to ensuring that our patients have access to the most effective treatments in a safe and standardised manner.

Pharmacy Clinical Enquiry Answering A fundamental roles of the Medicines Information (MI) service is to answer clinical enquiries from Mater healthcare staff, therefore having a direct impact on the delivery of patient care. The service provides important information on specialist areas such as neurology (121 enquiries), palliative care (120 enquiries), cardiology (111 enquiries) psychiatry (64 enquiries), pregnancy (61 enquiries) and breastfeeding (25 enquiries) and dermatology (31 enquiries). Enquiries include choice of therapy, drug interactions, adverse effects, contraindications. The Mater Medicines Information (MI) service processed 1,373 enquiries in 2017 over a total time of 1,657 hours.

Total number of enquiries received	1373
Total time taken (hours)	11657

Average time per enquiry (mins)	72
Enquiry level	
Level 1 (Simple enquiries or data)	739 (54%)
Level 2 (Complex enquiries – multiple sources)	540 (39%)
Level 3 (Complex enquiries- professional judgement required)	94 (7%)

Medicines Information – Enquiry Statistics Summary

Pharmacy Policies, Procedures and Guidelines

Development The Medicines Information (MI) service is actively involved in drafting and updating protocols, prescribing guidelines and content for the Mater Hospital Prescribers' Guide. In 2017, the MI service developed or was involved in the development, review or update of 136 prescribing guidelines, protocols and interdepartmental policies governing the clinical use of drugs in the hospital. Of these, 21 were new protocols or guidelines. This compares with 80 guidelines/policies/protocols in 2016, an increase of 70%.

Pharmacy Important guidelines developed in 2017 by the MI service in consultation with medical and nursing colleagues include

- Guidelines for the Management of Acute Pain in Opioid-Naïve Patients- in collaboration with Dr C. Hearty, Consultant in Pain Medicine
- Protocol for the Management of Acute Seizures and Status Epilepticus- in collaboration with Dr S. Smyth, Consultant Neurologist and Ms N. Dempsey on behalf of the Mater Neurology service; the Department of Emergency Medicine and Department of Anaesthesia.

- Protocols for Intranasal Fentanyl and Intranasal Midazolam for the Emergency Department- in collaboration with Dr V. Ramiah, Consultant in Emergency Medicine
- Guideline for the Management of 'Nil Per Oral' Parkinson's Disease patients- in collaboration with Mr B. Magennis and the Mater Hospital Neurology service.

Pathology Directorate

The pathology laboratory provides local, regional and national diagnostic services in all laboratory medicine disciplines. Laboratory investigations are performed and the results of laboratory tests are made available to patients through their clinicians or GPs.

The Mater Hospital pathology laboratory is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the scope of tests listed on the INAB website (Registration Number 232MT) in compliance with International Standard ISO 15189 and the EU blood Directive 2002/98/EC.

Highlights in 2017

Lean Project In response to the increasing workload in pathology and the pressure on turn around times the department undertook a lean project in 2017. An 18% increase in the volume of cases over a 3-year period and a 5% drop in the turn-around-times in histology as monitored by the Histopathology National Quality Improvement Programme (NQIP) were the main concerns.

A series of improvements were identified as part of the process including changes in work practices and a refurbishment of the cut-up room. The changes an increase in grossing time of 93% from 7.5 hours to 14.5 hours and drove an impressive decrease in turn-around-times across all specimen groupings. The impact on the main NQIP KPI Turn-Around-Times for Histopathology for 2017 is outlined below

- Total Histology 85.24% reported final within 5 days, (81.43% in 2016=↑3.81%)
- Small Biopsy 90.58% (Target 80%) reported final within 5 days, (86.36% in 2016=↑4.22%)
- GI Biopsy 96.07% (Target 80%) reported final within 5 days, (92.06% in 2016=↑4.01%)
- Cancer Resection 92.12 % (Target 80%) reported final within 7 days, (86.52 % in 2016=↑5.6%)
- Non-Cancer Resections 85.59% (Target 80%) reported final within 7 days, (85.78% in 2016=↓0.19%)
- FS <= 20 mins 75.86% (Target 85%) (71.01% in 2016=↑4.85%)

Tests	2016	2017	Diff.
Total Cellular Pathology Cases	17,161	17,463	+1.76%
Immunohistochemistry total requests	24,902	29,772	+19.55%
DDISH	464	500	+6.38%
Cytology tests	4,323	4,477	+3.56%
PM Requests	166	136	-18.07%
Molecular Pathology Requests	306	356	+16.34%
Outside cases received	900	1109	+23.22%

Workload changes between 2016 and 2017

Quality and Patient Safety Directorate

The Mater Misericordiae University Hospital's ambition is to be the safest hospital in Ireland. Quality and patient safety are the hospital's number one priority and we are committed to continually improving the quality of care we provide to patients. Our commitment is to

- Eliminate preventable harm.
- Learn from mistakes.
- Support full disclosure of quality and safety performance.
- Go beyond compliance with regulatory requirements to improve continuously through constant re-evaluation of our performance.

To deliver on our commitments the hospital continually manages the challenges of a greater demand for our services, an aging population, technological changes and changes in disease type and frequency.

As a consequence of the advances in medicine and healthcare life expectancy has increased significantly with a corresponding increase in the size of our elderly, often frail, population. This increase, when combined with the impact of a number of risk factors, such as obesity and physical inactivity, has multiplied the number of patients living with two or more chronic morbidities.

These patients require more care: studies have found that elderly individuals with multi-morbidity require over three times as many specialist consultations per year compared with elderly individuals without multi-morbidity and are nearly six times more likely to be admitted to hospital. If hospitalised, patients with multi-morbidity stay in hospital longer due to the complexity of their care.

Continuous improvement cycle

The Mater Hospital has in place a programme of quality improvement activities that includes healthcare professionals participating in regular clinical audit. Clinical audit is the governance vehicle in relation to clinical practice and is integral to the core business of the hospital.

Clinical audit forms an integral part of the clinical governance framework through which the Mater Misericordiae University Hospital is accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish. Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic measurement against explicit criteria and the implementation of any necessary change. In addition to the hundreds of internal audits that are carried out annually, the hospital participates in several national clinical audits including

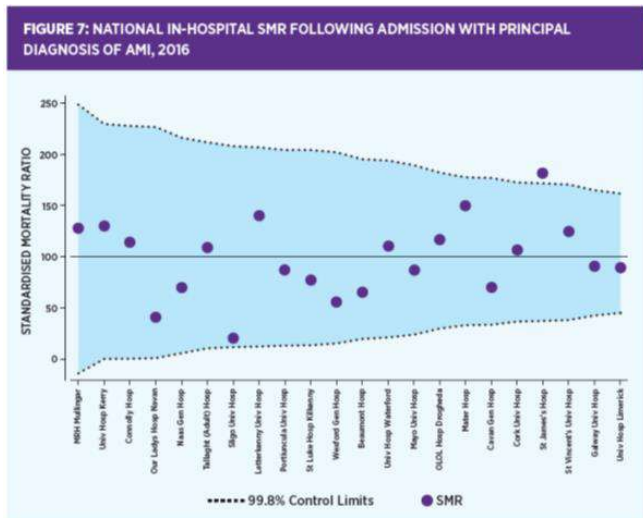
- National Audit of Hospital Mortality.
- National Cancer Control Programme, Rapid Access Clinic Reviews
- Irish Hip Fracture Database
- National Stroke Register
- Major Trauma Audit
- National ICU Audit
- National Quality Improvement Programmes – Endoscopy, Histology and Radiology

National Audit of Hospital Mortality This National Audit of Hospital Mortality (NAHM) Report from the National Office of Clinical Audit (NOCA) presents hospital mortality from 44 publicly funded acute hospitals. The National Audit of Hospital Mortality report is a significant step to further understanding and, most importantly, promoting the continuous improvement of the quality and safety of care provided in the country's acute hospitals. The public

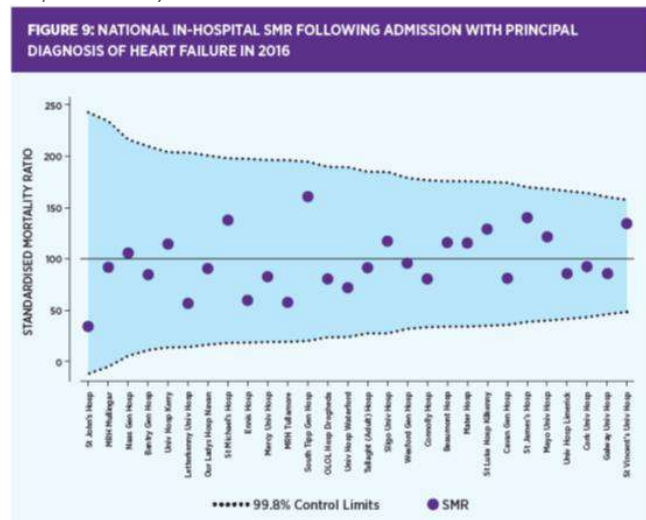
reporting of patient outcomes ensures patients, the public and hospitals can make improved health care decisions. This fosters openness and transparency while also being an important catalyst to quality improvement in health care. Individual hospitals receive quarterly NAHM updates that they use on an on-going basis to monitor their expected mortality ranges and to trigger prompt investigation regarding areas of concern. This report presents an analysis of hospital mortality across six key diagnoses

- acute myocardial infarction (AMI)
- heart failure
- ischaemic stroke
- haemorrhagic stroke
- chronic obstructive pulmonary disease (COPD) and bronchiectasis
- Pneumonia

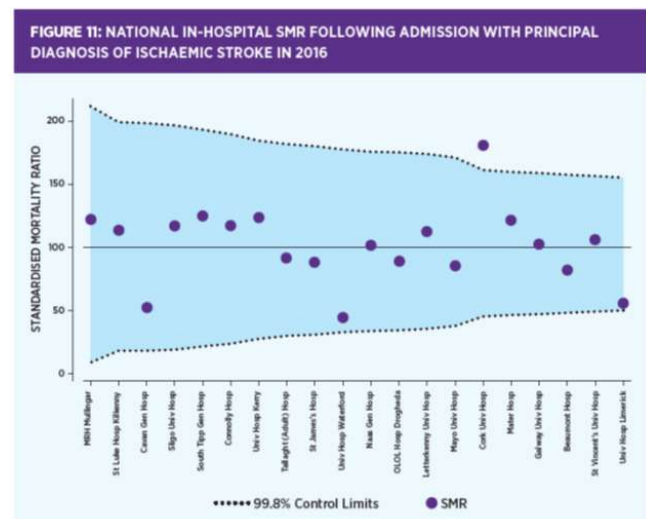
Over the last two decades, in-hospital mortality patterns have been used internationally as one indicator of the quality of care. Several broadly similar methods have evolved, and the standardised mortality ratio (SMR) is the most commonly used approach for exploring hospital mortality patterns within a country. The SMR is a metric that compares the observed number of deaths to the expected number of deaths within diagnostic groups within the hospital setting.



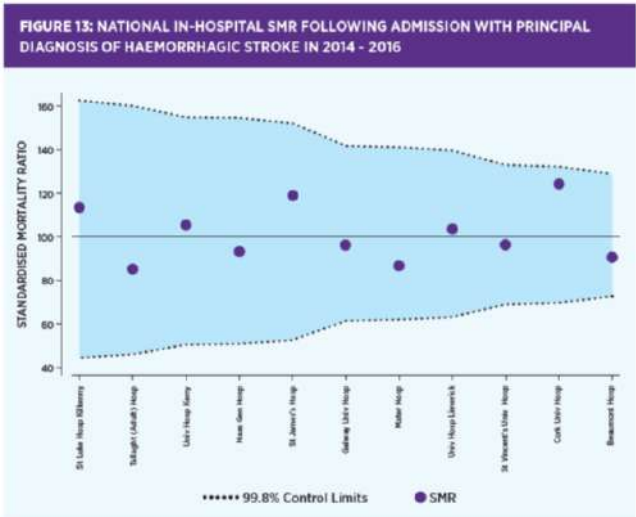
In-Hospital SMR – Acute Myocardial Infarction. Source: National Audit of Hospital Mortality 2016



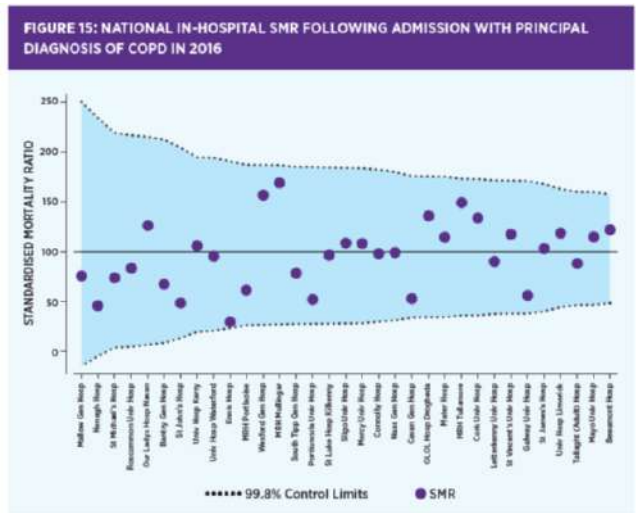
In-Hospital SMR – Heart Failure. Source: National Audit of Hospital Mortality 2016



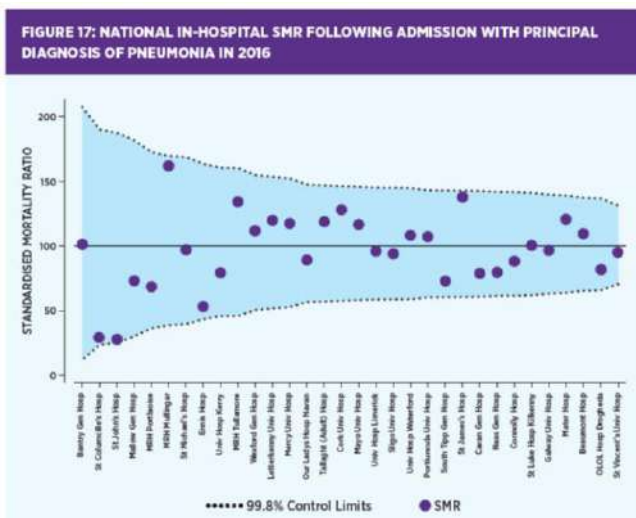
In-Hospital SMR – Ischaemic Stroke. Source: National Audit of Hospital Mortality 2016



In-Hospital SMR – Haemorrhagic Stroke. Source: National Audit of Hospital Mortality 2016



In-Hospital SMR – COPD. Source: National Audit of Hospital Mortality 2016



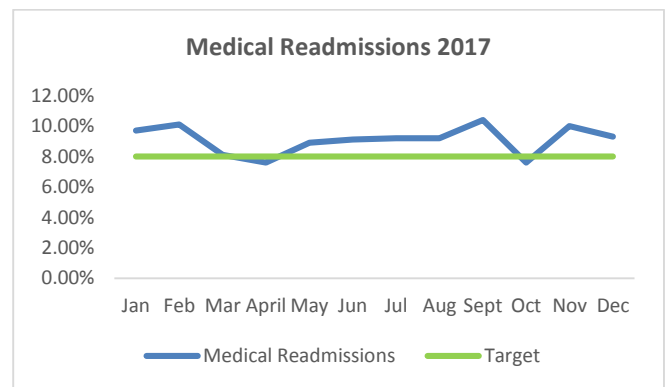
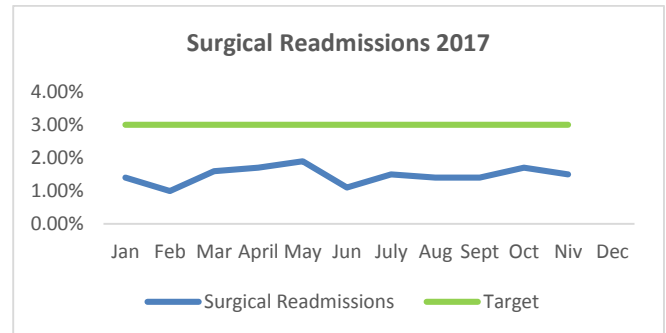
In-Hospital SMR – Pneumonia. Source: National Audit of Hospital Mortality 2016

The National Audit found that the Mater Hospital was within the expected range for Standardised Mortality Ratio for all six diagnoses areas. While this reflects the quality of care at the Mater, the hospital is using the NAHM data to continuously identify areas for quality improvement in the care we provide to patients.

Hospital Readmissions

Research studies and quality-reporting initiatives have shown that 15-25% of people who are discharged from the hospital will be readmitted to the hospital within 30 days or less, and that many of these readmissions are preventable. The Mater Hospital has set targets for readmissions

- 3% for Surgical Readmissions
- 8.3% for Medical Readmissions



Reducing readmissions is a win-win for both cost and quality. The patient benefits from not requiring further hospitalised care, while the hospital benefits from not having to incur the cost of treating the patient again.

Radiology Directorate

The Radiology Department provides advanced imaging services to the patients and clinicians within the hospital. A service is offered to GPs in the catchment area, and we also offer tertiary care to hospitals within and beyond the Ireland East Hospital Group.

Service improvement and innovation

Electronic Triage of Radiology Imaging Requests In 2017 work commenced on developing an electronic triaging system for in-patient MRI requests on Patient Centre (the Mater's patient administrative system). An additional electronic note system was developed that allows radiology staff notes on the patients status be read by the referring teams.

E-triage goals are

- To assign a triage status to each MRI scan request using standardised triage categories.
- To provide electronic feedback to referring teams regarding the status of their request.
- To decrease the time spent by NCHDs discussing scans with MRI radiographers and radiologists.
- To use the electronic note function to increase efficiency of communication between MRI radiographers/radiologists and referring physicians.
- To ensure that patients with similar triage categories have similar waiting times for scan completion, thus facilitating hospital throughput.

E-triage for in-patient MRI request will commence in the hospital in March 2018. A successful roll-out will enable E-triage to be applied to CT later on in 2018 and possibly to other imaging modalities in the future.

