



**Mater University
Hospital**

**Advancing Healthcare
in Ireland for Over 160 Years**

Annual Report 2023



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1

Introduction

The Mater Hospital has positioned itself as a leader in advancing healthcare in Ireland. We understand that to deliver the very best to our patients, we must ensure that the hospital and our staff are always moving forward.

Established over 160 years ago, the Mater Misericordiae University Hospital is a leading level 4 Acute teaching hospital with 4,221 staff, 997 beds and 15 operating theatres.

The hospital is the **national centre for 17 specialties and supra specialties**



It has a **distinctive track record in whole system transformation**



It is one of the eight **designated cancer centres**



It has been chosen to be **one of the two Major Trauma Centres in Ireland** as part of the National Trauma Network



It is a **major centre for Intensive Care Medicine**



The Mater is the National Centre for the following specialties and supra specialties

- > Heart Surgery
- > Heart and Lung Transplant
- > Adult Congenital Heart Disease (ACHD) Service
- > Pulmonary Hypertension
- > Adult Extracorporeal Membrane Oxygenation (ECMO)
- > Hyperthermic Intraperitoneal Chemotherapy (HIPEC)
- > Spinal Injuries
- > Adult Scoliosis
- > National Isolation Unit for High Consequences Infectious Disease (HCID)
- > Inherited Metabolic Disorders
- > Rare Diseases
- > Forensic and Postmortem Imaging
- > Bone Anchored Hearing Aid
- > Deep Brain Stimulation
- > Advanced Heart Failure and Ventricular Assist Device (VAD)
- > Brachial Plexus Service
- > Clinical and Laboratory Cardiac Genomics/Genetics

Providing patients with access to high quality timely care remained a primary focus for the Hospital in 2023.

96,095

patient presentations to Mater Emergency Department



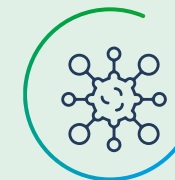
27,026

discharged inpatients



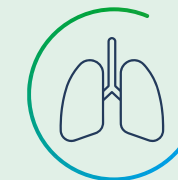
2,562

approx. new cancers diagnosed



19

lung transplants



230,794

bed days consumed



266,152

outpatient attendances



14

patients received extracorporeal membrane oxygenation (ECMO) treatment



€61.1m

expenditure on drugs



76,853

day case procedures



76%

elective patients admitted on day of surgery



181,968

total number of HSCP attendances



318

robotic assisted surgeries



221,462

completed procedures in Radiology



44

HIPEC surgeries



In 2023 the Hospital continued to implement its strategy - 'Leading innovation to transform patient care'.

Our Vision

To build on excellence and enhance our role as an international leader in the provision of complex care and specialist services with a strong academic and translational research agenda, empowering our people to deliver excellence in care to our patients while shaping the medicine of tomorrow.

Our Mission

To care for the sick with compassion and professionalism at all times, to respect the dignity of human life and to promote excellence, quality and accountability through all our activities.

Our Values

- Always inclusive, compassionate, respectful, dignified and patient focused
- Demonstrating leadership, accountability, flexibility and professionalism
- Being innovative, collaborative and future focused
- Striving to continually improve and be the best in everything we do
- Mindful and supportive of our colleagues

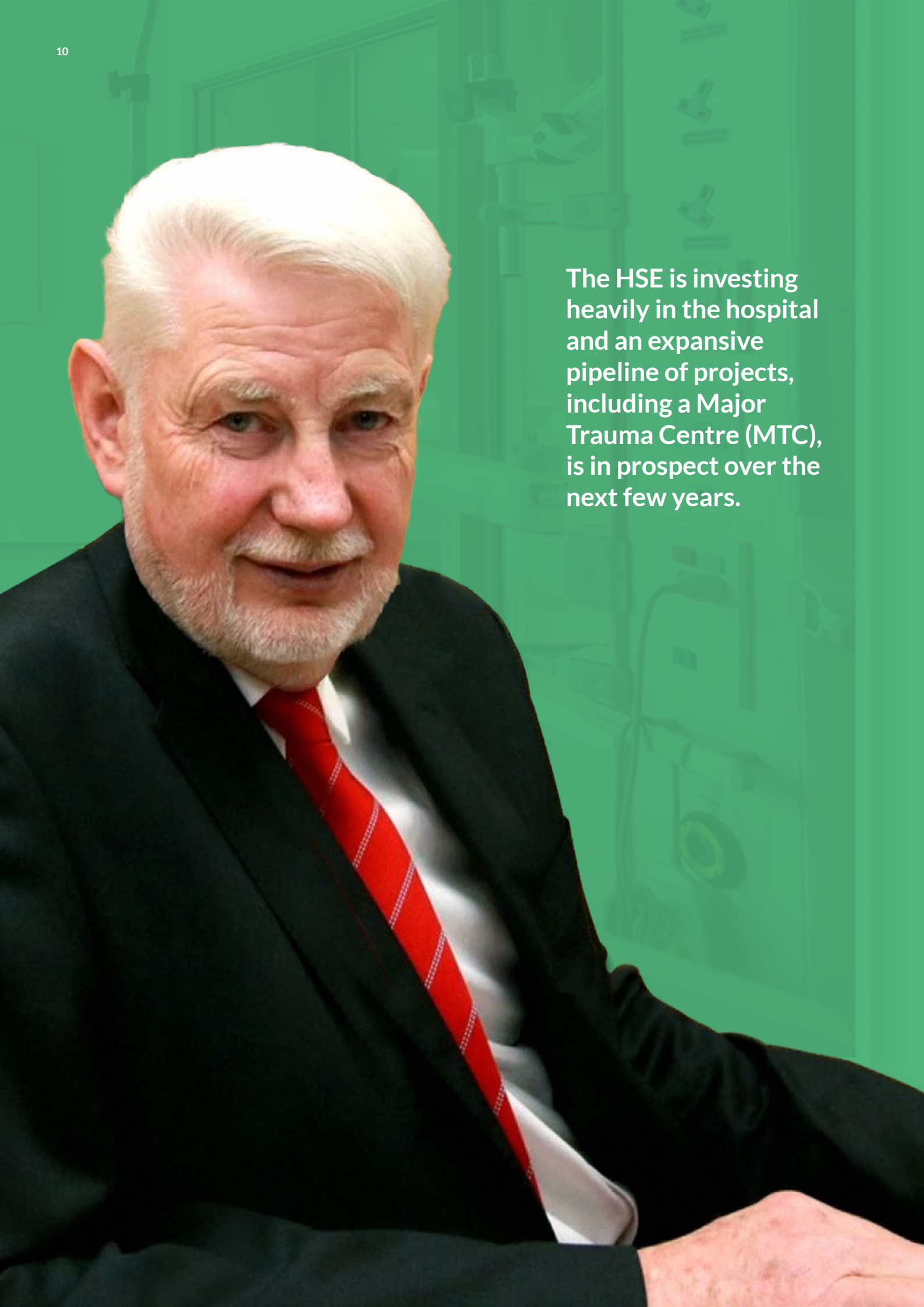
Our 15 Strategic Initiatives

1. Development of the Rock-Wing (RW)
2. Establishment of the Major Trauma Centre (MTC)
3. Establishment of People, Culture and Organisation Development Programmes
4. Hospital Digitisation and an Electronic Health Record (EHR)
5. A Quality and Patient Safety Programme for the Hospital
6. Key Waiting List Initiatives
7. Development of Gene Therapy and Precision Medicine within the Mater Hospital
8. Enhanced Cancer Services within the Mater Hospital
9. A new State-of-the-Art Laboratory within the Mater Hospital
10. Critical Care, Heart Lung Services and Robotic Surgery
11. New Integrated Care Models
12. Establishment of a New Adult Psychiatry Centre within the Mater Hospital
13. Development of the Pillar Centre For Transformative Healthcare
14. Enhancement of training opportunities for undergraduates
15. Sustainability and Corporate Social Responsibility Programmes

Our Strategic Priorities



Chairman Review of 2023



The HSE is investing heavily in the hospital and an expansive pipeline of projects, including a Major Trauma Centre (MTC), is in prospect over the next few years.

The high point of 2023 was undoubtedly the opening by the Taoiseach and Minister for Health of the new Rock-Wing of the Hospital in April 2023.

This added 98 extra state-of-the-art beds, all in single rooms, to our capacity as well as expanding our intensive care and high dependency care facilities. The new wing is a fitting memorial to the late Sr Margherita Rock who was for many years a mainstay of the hospital. Indeed, the Taoiseach paid a very warm tribute in his address to the Sisters of Mercy and the legacy that they have bequeathed to us.

The fact that the project was completed on budget and on time is a great tribute to the Chief Executive and his team. I wish to also acknowledge the support of my colleagues on the board of the hospital and of our parent board. There were some external factors which made life difficult, and without the steadfast determination to push ahead, and their approach to the critical evaluation of risk by both boards, we would not have accomplished the project.

The hospital through the new wing and other capacity improvements have added approximately 150 additional beds over the last three years. However, an increasing population and an ageing cohort mean that demand for acute hospital care is increasing all the time. The Central Statistics Office (CSO) estimated in 2019 – accurately as it turns out – that the population 65 years and older would rise by 17% by the end of 2023. In 2019 the hospital admitted 10,154 patients 65 years and older, accounting for 41% of all admissions and consuming 59% of all in-patient bed days. By the end of 2023, in line with CSO projections, the admission rate of the cohort had increased by 17.5%. Given the historical accuracy of CSO projections, we can confidently project that the bed demand will continue to rise by 16-20 beds each year.

Fortunately, the HSE is investing heavily in the hospital and an expansive pipeline of projects, including a Major Trauma Centre (MTC), is in prospect over the next few years. We are very appreciative of the confidence placed in the Mater by the HSE on behalf of the government.

Yet there are many challenges ahead. Health care is, by its nature, very labour intensive and recruitment and retention of high calibre people is becoming ever more difficult, not least because of the cost of living and availability of accommodation in the centre of Dublin. This is not unique to our hospital; a recent report in The Economist estimates that the world could lack 10 million health care workers by 2030, around 15% of today's global workforce.

It is imperative for both efficiency and improving patient care that we embrace technological innovation. I am pleased, therefore, to report that the Mater in 2023 became the first hospital in Ireland to use Artificial Intelligence (AI) across the Radiology Department. This has resulted in faster detections of anomalies, enhanced patient care and is freeing up valuable time for staff in the department. The possibilities for improved patient care and economic efficiency to be achieved through AI are considerable and we intend, working with our UCD academic partners, to be in the vanguard of progress in this area.

Finally, I wish to record my appreciation and thanks to the whole community of people who are the Mater Hospital for their excellent work and their care and compassion for our patients.

Dr David Begg
Chair



The Mater Hospital has positioned itself as a leader in advancing healthcare in Ireland.

CEO Review of 2023

2023 was a very positive year for the Hospital. It was a year when not only did we open our award-winning Rock-Wing, bringing much needed capacity to the health system, but it was also a record year in relation to the number of patients that we cared for.

The additional capacity that the Rock-Wing brings will enable the Mater to deliver improved care and access to specialist services for the country's sickest patients, ultimately delivering better outcomes for over 5,000 inpatients a year. This level of growth would not have been possible without the hard work and dedication of all our staff; they truly demonstrate an exceptional level of commitment and excellence in delivery of care and live through our values of empathy, care and compassion every day.

The Mater Hospital has positioned itself as a leader in advancing healthcare in Ireland. We understand that to deliver the very best to our patients, we must ensure that the hospital and our staff are always moving forward - seeking out better ways of doing things. This year we celebrated 10 years of the Mater Transformation, whose work over the years embodies this message.

Key milestones in the development of the Major Trauma Centre at the Mater Hospital were in May and December of 2023, when the hospital opened St Peter's Ward in the new Rock-Wing to facilitate Major Trauma patients, a state-of-the-art ward with a skilled nursing and multidisciplinary team, and also opened a new nine bedded Acute Trauma Rehabilitation Ward (St Gemma's) located in the Misericordiae Wing of the hospital.

However, the year wasn't without its challenges. Despite 2023 being a record year for recruitment with 728 new hires, the highest number of new hires recruited to the hospital to date, recruitment continued to be very demanding. Two other key challenges relate to our IT systems and the hospital's laboratory infrastructure. The hospital eagerly awaits funding to implement an Electronic Health Record which is required to address considerable risk for the hospital and is essential for continuity of service, and our substandard laboratory infrastructure continues to pose significant risk to service provision particularly as activity levels increase with added demand for our services.

I would like to thank the Mater Hospital Foundation who contributed circa €2.5m to the hospital in 2023, much of which was spent on upgrading and purchasing new state-of-the-art equipment, improving our infrastructure and supporting essential hospital projects, all directly benefiting our patients.

I am so proud of what we all have achieved in 2023 and how we have delivered so many of our strategic imperatives working towards realising our strategy 2022-2025 'Leading innovation to transform patient care'.

We are committed to advancing healthcare into the future and will continue to innovate, teach, learn and develop to ensure our patients receive the very best of care and quality outcomes.

During 2024, we will continue to work on the delivery of many more initiatives across the breadth of our services and we will endeavour to rise to the ongoing challenges we face with the ageing population, growth in chronic diseases and in cancer worldwide.

In closing I would like to thank our people, both on and off campus, who demonstrate such compassion to everyone we care for. They step up to the many challenges we face in healthcare today and are constantly innovating, working together to develop a Mater Healthcare System for the future.

Mr Alan Sharp
Chief Executive

Mater Hospital Foundation

In 2023, thanks to the Mater Hospital Foundation, almost €2.5m was invested in the Hospital; advancing state-of-the-art medical equipment, introducing new services, developing infrastructure and supporting research and innovation initiatives - all working towards improving patient care.

“The Foundation is only as good as the people who support it and each year we continue to be astounded by the volume of grateful patients, families and communities and businesses all around the country who answer our call for urgent funding.”

Mary Moorhead, Chief Executive, The Mater Hospital Foundation.

In 2023 almost €2.5m was invested in upgrading and purchasing new medical equipment and in essential hospital projects, thanks to the generosity of the Mater Hospital Foundation and its supporters.

More than €961k was allocated to upgrading medical equipment, including €226k on new mobile X-Ray machines, €61k on a Biometry machine for cataract surgery, €74k on Continuous Renal Replacement Therapy machines (CRRT) and €123k on processes and equipment to deliver Vasopressors in the Spinal Injuries Unit.

Having the ability to administer Vasopressors in the Spinal Injuries Unit has had a transformative effect on patient care. Following a serious spinal injury it is vital to keep a patient's blood pressure up for at least 7 days to improve spinal and neurological outcomes, which in turn impacts a patient's recovery journey. Prior to having this capability in the Spinal Injuries Unit, this treatment was only available in the High Dependency Unit and the Intensive Care Unit. Thanks to the Foundation's investment in this vital piece of equipment patients can now remain in the Spinal Injuries Unit, which in turn has freed up 306 critical care beds each year.

An additional €211k was allocated to fund a new state-of-the-art Mammogram for the Breast Health Symptomatic Unit to ensure equity of care for all patients attending - prior to this only two of the three machines in situ had 3D imaging. As a direct result of fundraising, all patients now have access to the highest level of imaging possible, improving healthcare outcomes for all.

“I'm cancer-free a year now. That I'm still here today, able to write to you - I put that down to early detection. That's why we do fundraising... to fund equipment like the latest, gold-standard mammogram machines for the Mater Breast Health unit.”

Kathleen Galvin, Mater Hospital Patient

A further €169k was invested in new services and hospital redevelopment throughout the year. This included €30k to provide a new Cardiology Multi-Disciplinary Team conferencing facility. This advancement now facilitates the Cardiology service in information sharing and timely decisions on patient care to be made with clinical specialists across Ireland.

The Foundation also invested €845k to provide essential patient, family and staff supports in the hospital. A total of €34k was granted to bespoke Social Work initiatives including €10k on clothing and hygiene packs for the hospital's most vulnerable patients, many of whom have no fixed address to call home. A total of 345 vulnerable patients received these packs on admission and discharge.



KATHLEEN AND HER TWO CHILDREN

A further €6k was spent on a Fit-to-Sit Care Programme for the elderly and €23k on Pain Clinic exercise equipment to provide an extra level of comfort and support to vulnerable and elderly patients.

Recognising that today's research is tomorrow's treatment and care, the Foundation invested €477k in research allocating €98k to Triple Negative Breast Cancer Research. This research aims to provide a detailed overview of how ovarian function suppression is being used by international breast medical oncologists.

The Foundation continues to invest in education and training initiatives to provide support for educational conferences and to assist staff with continued professional development within their own specialties and disciplines. Advanced training and development are so important when it comes to advancing patient care across the hospital so making this a priority each year is vital.

Please visit www.materfoundation.ie to find out more about how the Mater Hospital Foundation supports the work of the Mater Hospital, and how you can contribute and make a life-saving difference.



MARY BRODERICK AND HER NEPHEW THOMAS

Mary Broderick's Story

Mary's a regular at the Mater and she credits the exceptional care she's received with giving her hope.

“I was born with a genetic heart defect, which only began troubling me when I started my career. If I was stressed my heart rate would go crazy. I'd be exhausted all the time.

An underlying cause was identified – Noonan Syndrome. Noonan's is a genetic mutation that causes issues like the genetic heart defect I had - Hypertrophic cardiomyopathy, a thickening of the muscle tissues of the heart.

In 2011 I got a virus causing Myocarditis - enlarging my heart even more. I was referred to Prof Kevin Walsh in the Mater. He did a thorough review and stabilised things, but eventually the only option was a transplant.

I went on the list in 2016, my quality of life was really poor and I was failing fast. I was lucky enough to get my heart on my first call. My donor and their family were wonderful angels who gave me the gift of life while going through the most tragic circumstances. I'll be forever grateful.

My transplant went really well. The Mater team and post care crew were amazing. I spent six weeks in hospital post-op and threw myself into recovery physio. I could feel the difference my new heart made to my quality of life straight away.

Six months after my transplant I woke to awful back pain and stomach cramps. I was sent to the Mater for review, and they identified a mass of blood in the womb. I needed a hysterectomy.

During the op they found early onset cancer cells in my womb lining. Thankfully, all were removed, and I didn't require further treatment. But my luck hadn't changed completely. A few days post-op the team found I had a twisted bowel. Some of my bowel was removed and I needed a stoma and a bag. Between the hysterectomy and twisted bowel, I spent a month in the care of the Mater. Again, the staff were exceptional.

To those who support the work of the Mater Hospital Foundation I'd say - what you do really makes an impact. The exceptional care I received is helped in no small way by the patient-focused projects the Foundation has supported with your help.”

2

Improving Access to Quality Care

We are committed to providing high quality care ensuring the experience of the patient is central to everything we do; essential to this is providing better access to care, integrating more with the community, and keeping the patient closer to home.



Improving Access to Quality Care

Despite significant demand on services, and the emergency department exceeding 96,000 presentations, the Hospital still increased access to many of its services in 2023. It however faced challenges in ED waiting times and, due to growing demand for services, it saw an increase in waiting lists for inpatient procedures.



Comparative Data against 2022 Data (first normalised year since COVID-19)	Total 2023	Total 2022
Inpatient Discharges	27,026	25,367
Day Cases	76,853	75,055
Bed Days Used	230,794	224,221
ED Attendances by Location: Total	96,095	99,996
Main ED	60,171	57,916
Smithfield	19,424	20,243
EED	16,500*	21,837
Outpatient Attendances: Total	266,152	250,839
New	65,944	65,470
Return	200,208	185,369
Outpatient Referrals	82,858	76,410

*Reflects a reduction from 2022 due to a change in the recording method

During 2023 the hospital continued to face the challenges presented by COVID-19, as well as returning services to full capacity following the pandemic.

The hospital saw an increased number of patients with respiratory presentations in early and late 2023 and continued to run COVID-19 and flu vaccination programmes for staff and patients, as well as deliver pathways specific to patients with these illnesses.

There was a significant uplift in activity for the hospital, most notable in inpatients, day cases and outpatient attendances when compared with 2022.

Access remains a key focus for the hospital

In 2023 the hospital activated additional internal capacity, as well as accessing all available funding pathways (specifically Access to Care and National Treatment Purchase Funding) to secure increased clinics, procedures, and diagnostics both within the hospital and in collaboration with external partners. In addition, Mater patients are seen in Navan Hospital where appropriate. In 2023 this equated to 509 patients across Hepatobiliary, Colorectal, Vascular and Urology patients.

Waiting List Validation

The hospital currently carries out validation in both outpatient and day cases for all patients waiting longer than three months. In 2023 25% (1,781) of all cases validated were able to be removed from waiting lists where intervention is no longer required.

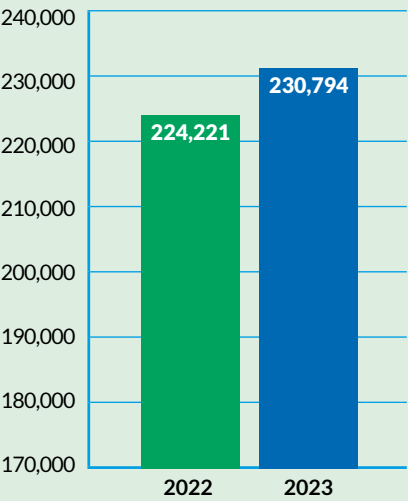
NPTF insourced access in MMUH	8,092 appointments delivered by 9 specialties
NPTF outsourced access in other hospitals	2,372 appointments
Access to Care inpatient day cases	2,260 cases
Access to Care Outpatient Department	5,570 appointments
GI Scopes	581 scopes

Improving Access to Quality Care Continued

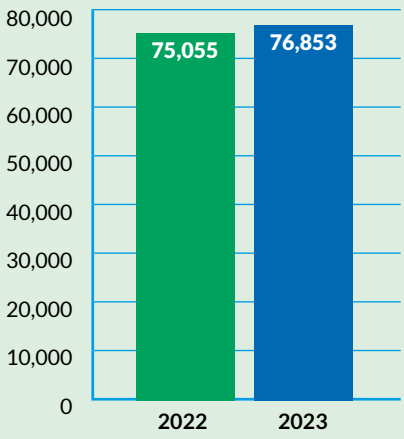
The Hospital increased access to many of its services in 2023.

The Mater provides services vital to the interests of the patients it serves within the community and its designated catchment area of North Dublin, and also national specialties to patients across Ireland.

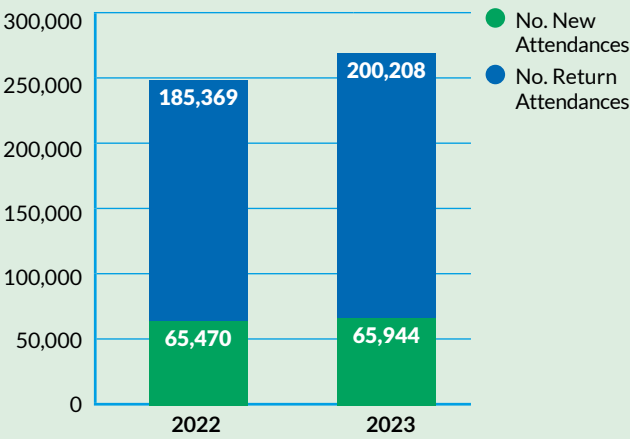
Bed Days Used



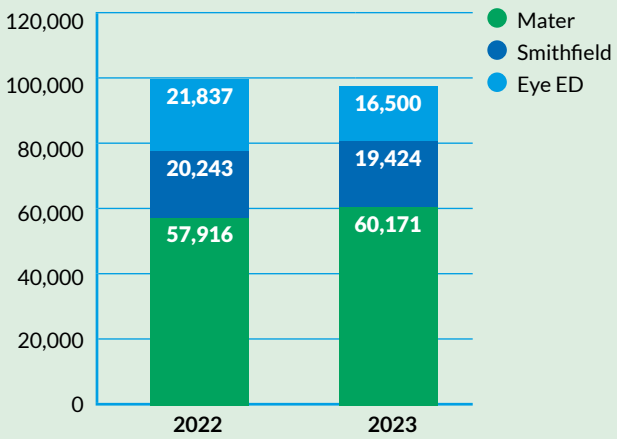
Inpatient Daycases



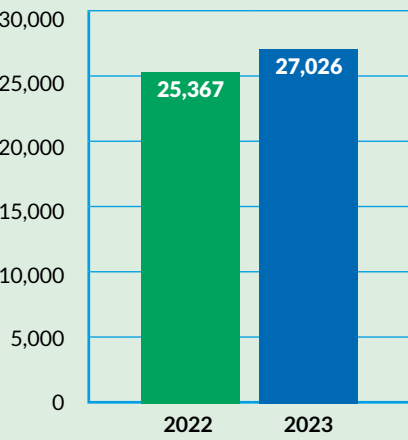
Outpatient Attendances by AttendanceType



ED Attendances by Location



Inpatient Discharges



Improving Access to Quality Care Continued

Critical Care and Theatres

Critical Care and theatre activity continued to support the hospital’s catchment area and national programs throughout 2023.

- In 2023:**
- 1,092 patients were admitted to Critical Care (ICU)
 - 14 patients received extracorporeal membrane oxygenation (ECMO)
 - There were 194 admissions to ICU from other hospitals
 - There were a total of 15,117 surgeries compared to 13,522 in 2022

In August 2023 the HDU relocated to the new Rock-Wing. The new location includes all single rooms capable of airborne infection isolation for future surge / pandemic conditions for critically ill infectious patients. The new rooms are equipped to the highest standard and designed to maximise natural light to benefit patient, family and staff. The move facilitated the expansion of ICU beds. When fully staffed the Rock-Wing will ultimately provide a critical care bed complement of 52 beds (vs 36 beds end 2022).

Mater Critical Care also continued to support colleagues in the Rotunda Hospital treating critically unwell obstetric patients in 2023.



C-SECTION SURGERY AT THE MATER

Critical Care Nursing

In line with the international market, recruitment of Critical Care nursing staff is an ongoing challenge. Local training of ICU/HDU nursing staff is ongoing with 30-36 new ICU nurses trained per year. While recruitment and training is consistent, the attrition rate of staff limits the rate of expansion.

Increased Theatre Access

In 2023 the Critical Care, Anaesthesia, Elective Surgery and Theatres (CCAEST) Directorate collaborated with surgical specialities to increase theatre access for multiple specialties.

The Ophthalmology Theatre moved from OT 5 to dedicated Theatres OT14 + OT15 in the McGivney Wing in 2023 increasing efficiencies and throughput of patients in the service. Additional theatre sessions were also introduced for Oncology Surgery (Colorectal and Gynaecology), Plastic Surgery and Urology. The additional theatre sessions were introduced on a phased basis to mitigate risk and maintain patient safety as staff were trained for specialised services unique to the Mater.

Also in 2023, theatre representatives from the Department of Anaesthesia, Nursing, and Operations were involved in plans for the interim Trauma Theatre and for the new Surgical Hub in Swords. As part of the Theatre Management Committee a new workgroup was established to plan for OT 5, (due to open mid-January 2024 which will increase access for the highest acuity trauma), and to plan for the Surgical Hub which aims to increase ambulatory access for low acuity surgical patients.



OPHTHALMOLOGY OPERATING THEATRE 14

Pathology

Pathology activity continues to increase at a significant rate, overall levels of activity up 27% since 2019. The rate of increase noted in 2023 is in line with the annual growth rate predicted in the 2022 Siemens report which estimated that by 2032 Pathology activity will almost triple, increasing from 2.8m orders in 2022 to some 8.3m in 2032.

The hospital continues to ensure that the very highest level of quality patient results have been sustained over time despite the continual increase in workload and the continuing challenge of working with sub-standard building infrastructure which is no longer fit for purpose. The hospital continues to plan for the delivery of a new state-of-the-art laboratory facility, in line with the hospital’s strategic objectives. However, this is dependent on further progress of the Major Trauma Centre Phase 2 development.

Phase 1 of the Mater Mortuary upgrade programme was delivered in 2023 increasing the available capacity in the unit and ensuring that the hospital can continue to offer the highest standards of care. Phase 2 of the Mortuary project will be delivered in 2024 ensuring greater comfort can be afforded to the bereaved.

Demand for Phlebotomy services grew considerably with the notable increase in Bed Days, Day Cases, and Out-Patient attendances during 2023. The Phlebotomy team now attend to more than 15,000 patients each month, an uplift of approximately 15% on 2022.

In 2023 the Phlebotomy team initiated a pilot to support the Emergency Department deploying Phlebotomists to the ward each weekday afternoon. This pilot has been a great success, and both Pathology and the Emergency Department will work toward attaining the resources to enable continued provision of this service throughout 2024.

Pathology retained accreditation against ISO15189 and ISO22870 in 2023 and is scheduled for re-assessment by INAB in May 2024. New versions of the ISO standards governing the Medical Laboratory Requirements for Quality and Competence (ISO15189:2022) will come into effect when the Mater undergoes its annual assessment in 2025. A significant body of work will be required to ensure that Mater Pathology can continue to meet the requirements in the new standards.

The recruitment and retention of suitably qualified staff across all Pathology related scientific and medical grades has been a challenge for Medical Laboratories throughout Ireland in recent years. Mater Pathology, in close collaboration with Mater HR and Mater Learn, has been heavily engaged with talent identification in the marketplace and with fostering continuous professional development of the many talented employees already in the hospitals service. While vacancy rates remain unacceptably high for Medical Scientists especially, significant improvements have been achieved during 2023.

Substandard laboratory buildings infrastructure will continue to pose significant risk to service provision, particularly as activity levels increase with added demand for services. Expedient progression of the new Mater Laboratory build programme is required to enable safe and sustainable laboratory services in the Mater Hospital over the medium to long term.

Throughout 2024 Pathology will focus on the potential to repatriate tests which the hospital currently refer to other laboratories, often at significant cost to the organisation. The progression of the build programme for the National Isolation Unit will deliver much needed infrastructure to enable the provision of safe laboratory services to the High Consequence Infectious Disease cohort of patients within the confines of the NIU following the ‘hospital within a hospital’ design concept. The development of new testing regimen and validation of analytical methodology enable both test repatriation and development of laboratory services for the NIU is resource intensive and will require deployment of additional supports.

Pathology workload	2019	2022	2023	% increase from 2019 to 2023
Blood Sciences - total sets ordered	2,394,709	2,816,900	3,019,359	26%
Blood Transfusion Requests	41,725	44,828	43,553	4%
Microbiology Investigation	261,684	360,156	353,060	35%
Histology Procedures	159,080	186,764	202,982	28%

Improving Access to Quality Care Continued

Radiology

2023 saw an overall increase in Radiology activity.

	2022	2023	Variation 2022 - 2023
Radiology - Total Referrals	221,200	233,712	↑ 5.7%
Radiology - Total Activity	209,888	221,463	↑ 5.5%
Radiology Unscheduled Care Activity (ED)	63,766	66,652	↑ 4.5%
Radiology Unscheduled Care Activity (inpatient)	58,982	61,933	↑ 5.1%
Radiology Scheduled Care Activity (OPD, GP)	87,140	92,878	↑ 6.6%
Activity 2023 versus 2022			
1. Breast Imaging up 12% 2. US OP Activity up 27% 3. MRI OP Activity up 24% 4. CT Outpatient Activity up 18%			

Equipment Replacement/Development Programme

2023 saw significant capital investment for Radiology equipment as outlined below. The hospital hope to have similar investment over the next 5 years to maintain the quality of its equipment services.

Mater Hospital Foundation	National Equipment Replacement Programme - NERP	Major Trauma Centre
<ul style="list-style-type: none">Digital Mammography Unit with Tomo synthesis capabilityMobile X-Ray x 3 for Rock-WingLu PSMA Therapy Dosimetry Software	<ul style="list-style-type: none">CV Lab 3General X-ray RoomFluoroscopy Room	<ul style="list-style-type: none">IR Suite UpgradeDual Tube CT Scanner - Due in Q1/Q2 2024 in line with Trauma Bays

Key challenges regarding waiting lists remained in 2023, however, key waiting list initiatives and ongoing validation supported the overall reduction of waiting list in 2023 with an overall reduction of 8% in waiting lists and a reduction of 43% in Diagnostic Ultrasound waiting lists. There was also an improved turnaround time seen for MRI Prostate (by 43%) and Cardiac CT (by 53%).

NTPF funded insourcing	NCCP funded insourcing and outsourcing	NTPF funded outsourcing	MMUH/CNOH funded Initiative
MR, CT and US Diagnostic & US Breast Imaging , ongoing from 2019	Mammography, MRI Breast, PETCT	Cardiac CT, Prostate MRI, CT and MRI & US (US new Initiative Sept 2023)	MRI



Drug Expenditure

The hospital's drug expenditure increased by 13% in 2023, to €61,578,121; with an average weekly expenditure of €1.2m. Approximately 70% of drug expenditure is funded or reimbursed. The Pharmacy and Medicines Optimisation Directorate (PAMO) intervene at multiple levels to manage the hospital's drug budget and to minimise wastage through procurement and negotiation, reimbursement submission, formulary management, clinical intervention, and patient education.

Drug Shortages

Shortages present an operational and safety risk due to the lack of timely drug availability. Recent public health emergencies and international geopolitical situations have contributed to global drug supply challenges. European pharmacy associations (EAHP, EIPG and PGEU) issued correspondence to the European Commission requesting EU wide action. The Department

of Health issued a statement to assure the public and highlight national strategies; however, drug shortages continue to present significant challenges. Pharmacists play a key role in managing drug shortages within hospitals co-ordinating the multi-stakeholder response.

Critical drug shortages managed in the hospital in 2023 include respiratory nebules (salbutamol), antiviral agents (aciclovir, valganciclovir), antibiotics (co-amoxiclav, co-trimoxazole, cephalexin and clarithromycin), a clot dissolution drug for the management of strokes and unblocking central intravenous lines (alteplase), single use eye drop preparations (minims) and essential cardiology drugs (adenosine ampoules). PAMO maintain a dedicated section on the MaterNet to keep staff up to date with drug shortages and discontinuation notices.

Improving Access to Quality Care Continued

In 2023 the Mater delivered a significant milestone with the opening of the Rock-Wing. This outstanding new building brings essential additional capacity to the healthcare system with 98 extra beds.

In the early part of the response to COVID-19, the lack of bed capacity, especially intensive care facilities and appropriate single bedrooms had been identified as an issue facing many acute hospitals in Ireland. The Mater Hospital submitted plans for a 98 bedded purpose-built infectious diseases hospital to address the lack of capacity and uncertainty associated with the repeated waves of COVID-19 and ensure the hospital’s readiness for potential similar health crisis events in the future.

2023 saw the completion of a nine storey, 13,500 sq metre building on the Eccles Street side of the campus. This has been named the Rock-Wing, after the esteemed Sr Margherita Rock who dedicated her life to caring for others and was a former chairperson of the Mater Hospital Board.

The Rock-Wing was delivered on budget of €103 million, and on time, within 2 years. It is estimated that the fast-track approach adopted under emergency legislation, resulted in savings of approx. €40 million.

The Rock-Wing development has had a significant impact on improving the care the hospital can provide to patients and the patient experience. To protect against the spread of infection and provide dignity and comfort to patients, all rooms are spacious, single and en-suite with natural light and individual patient monitoring facilities. The additional capacity has enabled the Mater to deliver improved care and access to specialist services for the country’s sickest patients, ultimately delivering better outcomes for over 5,000 inpatients a year.

In April 2023, Dr David Begg, Chairperson of the Board welcomed the Taoiseach Mr Leo Varadkar, Minister for Health Mr Stephen Donnelly and local TD Mr Paschal Donohoe for the official opening of The Rock-Wing.

The floors were opened on a phased basis throughout 2023

Level 1

New hospital reception at Eccles Street entrance, multi-faith and reflective spaces, offices and multi-disciplinary team meeting rooms, Consultant and NCHD hubs

Level 2

20 x Major Trauma beds (St Peter’s Ward) - May 2023

Level 3

16 x Critical Care beds - August 2023

Level 4

20 x COVID-19 Pathway and Infectious Disease beds (St Martha’s Ward) - September 2023

Level 6

20 x Infectious Diseases beds (St Bernard’s Ward) - October 2024

Level 5

20 x Respiratory beds - substantial completion in Q4 2023 and due to open to patient occupancy in Jan 2024, following recruitment of key staff (John Sullivan Ward)

Level 0

Location for the new National Isolation Unit (NIU) following full fit out - planned for completion in Q4 2024

The opening of the Rock-Wing ensures timely access to care in the appropriate clinical setting, improves staff experience in a modern working environment and will ensure readiness for future surges in COVID-19 or other pandemics/health threats. As part of the planning into the clinical, operational and people aspects of this building, new ways of working and innovative measures are also being implemented.



Improving Access to Quality Care Continued

The Mater Hospital is continually transforming and innovating to improve quality, access to care, and the patient experience. 2023 saw the delivery of many initiatives to support these objectives.

“In transforming our services at the Mater, we want to ensure that each interaction a patient has with our system yields value for them; Our focus is on delivering improvements in the healthcare system by generating time and cost savings, improving quality of care and enhancing the patient experience. When we remove waste, it creates surplus that can be used in another part of the system”.

Dr Una Cunningham
Head of Mater Transformation and Executive Lead for Strategic Projects

<div>73%</div> <div>Increase in new patient urgent appointments in ENT being offered weekly</div>	<div>17%</div> <div>Reduction in the waitlist numbers in the Pain Clinic August-December 2023</div>	<div>ERAS</div> <div>A new Enhanced Recovery Programme after Cardiothoracic surgery (ERAS)</div>	<div>Psychology Resources</div> <div>Additional Psychology professionals recruited to support patients in Respiratory, Cardiology and Spinal services</div>
<div>iTransplant</div> <div>Introduction of iTransplant Electronic Offering System (EOS)</div>	<div>New Oral Opioid Tools</div> <div>New Oral Opioid Reference Tools - To support staff with prescribing and administering the correct oral opioid</div>	<div>Golden Hip</div> <div>Award for a second year in a row</div>	<div>PES</div> <div>Implementation of Evaluation Pharyngeal Electrical Stimulation (PES) for Stroke patients - first acute hospital to do so in Ireland</div>

Pulmonary Hypertension - STICK, SCAN, SAVE
Pulmonary Hypertension is a rare, lesser-known respiratory disease that affects approximately 20 people in Ireland. Patients wear infusion pumps that deliver a continuous flow of life sustaining drugs. Paramedics and emergency staff are unlikely to know of the disease, and if patients' pumps or infusions are tampered with, this could have deadly consequences. In 2023 the Mater developed a set of tools to help communicate in an emergency how to care for patients, including warning stickers, a website of instructions and contact information, and emergency cards to be kept in the patient's wallet. **The aim of the project was to improve patients' feelings of safety in their daily lives, improve staff's confidence in treating patients in their care, and reduce risk.** The use of the tools are currently being assessed as part of a service evaluation.

ENTire Systems Transformation
This transformation programme streamlined pathways and processes to improve access for patients to Ears, Nose, and Throat (ENT) services. One of the many successful outcomes included a **73% increase in new patient urgent appointments being offered weekly** which has greatly enhanced the quality of the ENT service for patients.

ENTegrate
ENTegrate is a pilot of a novel integrated pathway between the Mater ENT Department and a GP with an extended role in ENT in Community Practice. It examines a model to manage hospital routine ENT referrals in a specialist community clinic. **Over the 7 month pilot, 200 referrals were successfully removed from the Mater ENT outpatient waiting list and the GP directly discharged 69% of patients seen in the community.** ENTegrate was funded by the HSE Spark Innovation Programme.

New Nursing Assessment Forms
The nursing assessment document is used to assess the 27,000+ inpatients admitted to the Mater Hospital every year. The purpose of a nursing assessment is to gather objective and subjective data to guide patient care. The current document is long, unintuitive, and overall compliance is low. Following extensive engagement with nursing staff across the organisation, and in collaboration with designers at the National College of Art and Design, a new nursing assessment document has been developed. It is now short, concise, and intuitive and will follow the patient from their ED assessment through to their inpatient assessment. Early feedback from a pilot points to really high levels of satisfaction amongst nurses as well as a marked improvement in compliance. **The implementation of the new document will see better continuity of care for patients, will bring assessments in line with current national standards and will ultimately enhance the patient experience and safety outcomes.**

BIG IDEA Big ID: Enabling identification of ward staff, at a glance
During COVID -19, 82% of staff members found it problematic to identify staff specialty and role on the wards, as masks and PPE obscured staff identity. In this context, the Big ID project emerged. A team of designers and clinical staff worked together forming an add-on badge to the existing security ID badge, making staff easily identifiable at a glance and distance in clinical setting. In Q3/Q4 2023 up to 1,300 staff members participated in a trial of the Big ID. **91% agree that the Big ID makes it easier to identify staff quickly at a glance.**

“These badges are amazing. Well done to all involved.”
NCHD Anaesthesia



Improving Access to Quality Care Continued

Lung Transplant Programme

Managed by a multidisciplinary team, the Adult Lung Transplant Programme at the Mater provides lifelong care from evaluation to post-transplant. A scoping project began in 2023 to investigate patient and carer education needs during their lung transplant journey. Interviews with patients, carers, and professionals helped the team understand their needs and identify areas for improvement. The team identified specific areas along this journey where a multimedia support system could significantly enhance the existing education and support service. The project has now moved to Phase 2, collaborating with all stakeholders including patients and their families to co-design a comprehensive new paper asset and website with multi modal systems for transplant patients and caregivers.

SKINNOVATE

As of March 2023, over 42,000 people in Ireland were awaiting dermatology appointments, with half waiting over six months. Currently GPs refer uncertain skin conditions to dermatologists - the only available option. Mater Transformation are developing solutions with local GPs to manage routine skin conditions, including active discharge letters and advice at triage letters. **These aim to reduce referrals, shorten waiting lists, and empower GPs to treat routine conditions.**

Additionally in 2023, Mater Transformation's collaboration with Dermatology and NCAD designers led to a pioneering Dermatology teaching aid: a book set of 3D skin models. **This innovative tool addresses educational challenges, will facilitate the up-skilling of current and future GPs and will reduce dependency on acute hospital specialists for routine conditions.**



SKINNOVATE

New Integrated Low Back Pain Pathway

The Mater has been selected as the urban site for the pilot of a new Integrated Low Back Pain Pathway developed collaboratively by the National Clinical Programme (NCP) for Trauma and Orthopaedic Surgery and the NCP for Rheumatology. **The pathway will deliver a standardised approach to the management of patients presenting with low back pain.** A clinical specialist physiotherapist and two senior physiotherapists commenced in October 2023 to implement and support this project. The pathway opened to GPs based in Ballymun, Summerhill and Clontarf primary care centres in 2023 with further rollout planned in Dublin North City and County (DNCC) in Q1 2024.

Audiology Long Waiter ENT Lean initiative

The long waiter ENT Lean initiative began in Audiology in March 2023. The aim of this initiative was to reduce ENT waitlists by triaging the long-waiters by audiology in order to improve patient experience and access to care. The outcome of this study to date has resulted in **a reduction of ENT waitlists (patients waiting > 12 months) by 27%. Of the patients seen by audiology, 37% have been discharged directly back to their GPs and referred to community audiology services for hearing aids if appropriate.**

New Psychology Resources Recruited in 2023

New Psychology resources were recruited in Q4 of 2023 to support the Respiratory, Spinal and Cardiology services in the hospital.

In Respiratory, a new patient screening service for both inpatient and OPD clinics has commenced. Screening assesses the level of distress in pulmonary hypertension (PH) patients using a quality of life questionnaire completed while they are waiting in clinic. It also assesses the need for referral to psychology with the PH service. Plans are also in development to set up a group for Acceptance and Commitment Therapy (ACT), for people with Pulmonary Hypertension.

In the Spinal service, the new clinical psychology cover has been primarily supporting patients within the National Spinal Inpatient Unit (NSIU) and inpatients under the spinal team in other wards. The working referral criteria includes patients with non-traumatic spinal injury mechanisms, which were previously not covered by the Major Trauma Psychology service.

In the Cardiology service the additional psychology resourcing has enabled a new Cardiology Psychology service to support the National Congenital Heart Service and Heart Failure with Implantable Cardioverter Defibrillator (ICD).

Development of Renal Services at the Hospital

In recognition of the escalating needs of the Mater's catchment area for renal replacement therapies, the HSE has funded two additional Consultant Nephrologist posts for the hospital. Both posts were interviewed for in 2023 and the hospital expect the new appointees to commence in 2024. A second CNM2 post will also be added to the Haemodialysis Unit.

These additional staff will enhance the service and enable the continued delivery of exceptional care to patients attending the Renal service at the Mater.

Improved Workflow Pathways in Post-Acute Care

In 2023 Medical Social Workers alongside nursing colleagues in Post-Acute Care developed a new workflow pathway, with a focus on improving communication and timely completion of discharge documentation. **This has resulted in an increase in weekly discharges from the Post-Acute Care Unit, Fairview.**

Acquisition of an Indirect Calorimeter for Critical Care

An indirect calorimeter funded by the Mater Hospital Foundation is having an impact on nutrition care in ICU. It is now being used routinely on a number of patients each week, and "actual" nutrition requirements versus estimated requirements are being used to plan nutrition care. Nutritional requirements now accurately match individual requirements, and Mater Critical Care has improved its adherence to Critical Care best practice guidelines.



CALORIMETER FOR CRITICAL CARE

The Physiotherapy Lymphoedema Service

The Physiotherapy Lymphoedema service at the Mater received a highly commended citation as a finalist in Health Service Excellence Awards 2023 for Innovation in Service Delivery, leading on being the first centre to commence early detection and treatment of cancer related Lymphoedema for breast and gynaecological patients.

The service received 515 referrals in 2023, with 2,376 attendances, of which, 81% related to breast cancer and 19% for gynaecologic cancer. **55% of patients who triggered lymphoedema through assessment by this service have had their lymphoedema managed and resolved as a result of accessing this service.**

MMUH HIV Services

In 2023 the MMUH HIV services managed the introduction of a new antiretroviral (ARV) treatment option for Mater patients with HIV - abotegravir and rilpivirine. The injectable treatment is administered to the patient every two months, **reducing the daily burden on patients of taking oral antiretroviral therapy.** Injectable ARVs represent a new model for the delivery of HIV care in Ireland.



CELEBRATING WORLD AIDS DAY 2023

Improving Access to Quality Care Continued

Re-engineering Clinical Pharmacy Service Provision

Due to on-going recruitment challenges and pharmacist vacancies, the ward-based Clinical Pharmacy Service was remodelled to incorporate a 'priority patient review' across most in-patient wards. The 'Imperial Model of Ward Pharmacy' was developed by a large London NHS trust and was shown to maintain service standards whilst increasing time available for more in-depth patient review. The Mater initiative involves drug chart-focused ward reviews alternating with new and priority patient-focused reviews. Critical care and acute medicine patients were excluded and continue to be reviewed daily. **Adaptation of the model to the Mater supports a more patient-centred clinical pharmacist review for Mater patients. The hospital's adoption of the model improved efficiencies and maintained provision of the service despite staffing shortages.**

Medical Assessment Unit

The Mater Acute Medical Assessment Unit continued a new pathway in 2023 to reduce emergency waiting times and increase patient service quality. This enables the ED team to discharge acute unscheduled patients with the knowledge that they will return the next day for an extensive health evaluation and management plan by the Medical Assessment Service.

Outpatient Parenteral Antimicrobial Therapy (Service)

The Mater's OPAT Service continues to be one of the biggest users of the national OPAT Service. **This service enables patients to receive their antibiotics treatment in their own home instead of having to spend long stays in the hospital.**

Inclusion Health

The Mater Hospital's Inclusion Health service continues to be the busiest site nationally in terms of numbers of people experiencing homelessness presenting to the Emergency Department. The hospital record on average 250-350 ED attendances per month with 120-150 inpatient admissions. **The Inclusion Health team consistently work to cater for these patients ensuring they receive the best quality of care.** The Inclusion Health team have seen over 970 new referrals during 2023 and there were over 1,200 social work referrals for homelessness. Additionally, in 2023, Inclusion Health ran a Dalbavancin pilot program which used a long-acting antimicrobial as treatment for invasive infections in 15 Inclusion Health patients. Usually, these patients' hospital stay would be 4-6 weeks but the results of the pilot showed **over 200 bed days were saved and all patients' had successful treatment outcomes.**

NCIMD- Mater becomes a member of MetabERN

The Mater National Centre for Inherited Metabolic Diseases NCIMD is a formal member of the metabERN and the hospital submitted its data in March 2023 for the first time. MetabERN is a European non-profit network. The EU established the network **to facilitate access to the best available care and address the needs across borders for all patients and their families affected by rare inherited metabolic rare diseases (IMDs).**

National Centre for Inherited Metabolic Disorders (NCIMD) Transfer Program

The NCIMD Transfer (of patients >18 years old) Program between CHI Temple Street and the Mater was completed in 2023. Monthly Transition Clinics continue as a joint clinic between the two hospitals to prepare patients for the transfer of their care to the Mater Hospital when they become 18 years old.

Implementation of CVIS

In 2023 work began on the implementation of CVIS (Cardiovascular Information System). This is intended as a single-source reference capable of capturing a patient's entire cardiovascular record and aims **to improve patient experience times for both the completion of diagnostic testing and the production of clinically validated results.** It is used for day-to-day archival and distribution of diagnostic imaging, as well as for comprehensive report generation. Work is ongoing with the vendor, Change Healthcare, to deploy the system across the entirety of cardiac diagnostics and to interface with existing relevant hospital systems and the entire array of diagnostic modalities in use in both Cardiac Investigations and the Cardiovascular Suite.

Integrated Care Pathways

Further progress was made on the MMUH - Community CHO9 Integrated Care Pathways across Cardiology, Respiratory and Diabetes services in 2023.

Key developments were:

- Commencement of a new Respiratory Hub Out-Patient Clinic, to which local GPs can refer patients and remain close to the patient's plan of care
- Funding of a Consultant in Diabetes to join the Diabetes pathway in 2024 via the Modernised Care Strategic Plan
- Significant funding for diagnostic equipment - additional Echo machines and new state of the art Pulmonary Function kits to serve both hospital and community patients, facilitating the opening of direct GP referrals for key diagnostics and a shorter timeline for patients waiting

Post-Transplant Cystic Fibrosis Pathway

The implementation of Modernised Care Pathways (MCPs) is a core component of the transformation of scheduled care services in Ireland. The Mater Hospital received funding in 2023 for 5 x 0.5 WTEs (Whole Time Equivalents) to develop a Post-Transplant Cystic Fibrosis Pathway.

The pathway aims to deliver on fundamental principles of Sláintecare, ensuring that the patient is paramount, timely access to care, a focus on improved outcomes, prevention of exacerbation, and cost-effective high-quality healthcare delivery developed with strong stakeholder engagement. Recruitment began immediately with the aim for the full team to commence at the start of 2024.

Trauma Funded Vascular Surgeon Appointment

In 2023 a Vascular surgeon was appointed to the Mater via Trauma funding. In addition to the valuable contribution this makes to trauma rotas and shortening patient time to specialist care, this has led to **further capacity for OPD clinics and more surgeries completed**, helping reduce a waiting list which had grown exponentially over the COVID-19 pandemic.

Enhanced Recovery After Cardiothoracic Surgery (ERAS)

In a joint initiative between ICU, Anaesthesia and Cardiac Surgery the ERAS Program was launched. Its aim is to optimise the perioperative care of patients during surgery, minimise complications and aid with earlier return to normal functional status. The interventions are categorised into the perioperative, intraoperative, and postoperative stages.

The Cardiac Pre-Assessment Clinic has worked on patient education, lifestyle modifications and glycaemic control. The Anaesthesia department have reviewed intraoperative analgesia and hemodynamic targets before return to ICU. The ICU department have worked to optimise safe, early-stage ICU care with a view to earlier extubation. The ICU nursing staff and facilitators have helped patients to sit out of bed on the first postoperative morning and resume normal diet. The Physiotherapy staff encourage early mobilisation. **This multidisciplinary work is ensuring that patients receive the highest level of care in the National Centre for Cardiothoracic Surgery.**

Introduction of iTransplant Electronic Offering System (EOS) by the Transplant Coordination team

The role within the Heart Lung Transplant department is varied and challenging, ranging from patient advocacy and education during the assessment for candidacy and waiting period, to coordinating more than 50 personnel at the time of transplant including Medical, Surgical, Anaesthetic, Nursing and Emergency services. The team provide excellent patient care, continuously looking to improve the patient experience and outcomes, with an emphasis on quality and safety at all times.

In 2023 following much engagement with Organ Donation and Transplant Ireland the team successfully implemented the Electronic Offering System which went live in September 2023. Since then, up to the end of 2023, 39 offers have been processed. This has allowed fast efficient donor characterisation information to be exchanged electronically reducing the risk of transcription error previously posed by verbal handover and access to data in a timely manner streamlining the process.

This has had a positive impact not only for patient safety but has also decreased slightly the number of phone calls that are made on the night of Transplant which can be in excess of 100.

Unfortunately, the COVID-19 pandemic was a very challenging time for the Transplant service, with fewer donors and subsequent transplant surgeries. The team are hopeful with the new Human Tissue Act that the hospital will see an increase in potential donors and through the generosity of donor families continue to have the opportunity to be part of this ever evolving and life changing service.



Improving Access to Quality Care Continued

At the Mater Hospital we are committed to ensuring quality and patient safety are central to everything we do.

Quality and Patient Safety Directorate

The Quality and Patient Safety Directorate support the delivery of patient care that is safe, efficient, timely and equitable. The Mater has a robust patient safety governance structure underpinned by a number of committees focused on improving patient safety events.

Quality & Patient Safety Business Intelligence Tool

DCIQ is a transformative quality and patient safety information technology tool that will help to link all the aspects of quality and patient safety on one platform. During 2023 the QPS department designed and customised a number of modules within the DCIQ platform to increase insights into quality and patient safety within the organisation. These modules include patient feedback (complaints) and risk registers. Directorate and Corporate risks are now visible to all end users enhancing transparency and cross directorate learning throughout the hospital.

Hospital Patient Safety Indicators

The Mater reports and publishes the Hospital Patient Safety Indicators and these are monitored by senior management of both the hospital and hospital group monthly as a key component of clinical governance. The hospital's published performance against these indicators are available on the HSE website.

Nursing and Midwifery Quality Care Metrics Acute Care and Operating Theatre

Throughout 2023 the Mater Nursing Quality department continued implementing the Nursing and Midwifery Quality Care Metrics Acute Care and Operating Theatre. On average 179 patients' clinical documentation was audited bi-monthly. Quality Care-Metrics provide nurses with a framework and a measurement tool to engage in continuous quality improvement at the point of care delivery in order to positively influence the care experience for patients, clients and families.

Quality Care-Metrics also provide an assurance mechanism that captures the contribution and performance of nurses in a way that is transparent and focuses on improvement. In 2023 three clinical sites were presented with a certificate of achievement for sustaining the target of > 90% for a 12-month period bringing the total to 4 since the hospital transferred over to the national system in March 2021. In 2023 the total number of areas audited increased to 28 following the opening of the new Rock-Wing.

Infection Prevention & Control

In 2023 an ease in intensity and impact of the COVID-19 Pandemic was noted globally but hospitals continued to come under pressure with cases and outbreaks. While the severity of clinical illness was reduced by vaccination and universal testing strategies were appropriately retired, not all patients were protected and spread within the Mater continued to have an impact on hospital and IPC activities. There were 244 cases of healthcare associated COVID-19 and 17 ward outbreaks in 2023.

Healthcare Associated Infections

The Mater is continually looking to improve its performance in the prevention of Healthcare Associated Infections. In 2022 the Mater initiated the recruitment of a nursing IV Cannulation, Audit and Training Team (IVCAT) funded by the HSE through the Antimicrobial Resistance and Infection Control (AMRIC) programme. This team commenced its service in early 2023 and has been met with positive responses from both patients and staff. The team implemented a multi-modal strategy to improve the experience of Peripheral Intravenous Catheter (PIVC) insertion for patients with difficult peripheral IV access and improve adherence to PIVC-associated care measures such as aseptic non-touch technique, and also PIVC care bundles with the ultimate aim of reducing PIVC-associated complications, in particular healthcare associated S.aureus bloodstream infection.

Also in 2023, the Mater along with other hospitals in Ireland, participated in the Point Prevalence Survey of Healthcare Associated Infections and Antimicrobial Use in European Acute Hospitals. This survey was last undertaken in 2017. A team of more than 20 trained staff including the IPC team and QPS department collected data on 565 patients across all specialties. Results of the 2023 survey locally in the Mater show a major improvement (reduction) in the proportion of patients affected by HCAI. These results will be published as part of the Irish national report in 2024.

The Deteriorating Patient Programme

In 2023 the Critical Care ANPs (Advanced Nurse Practitioners) - CC ANP service expanded to a 7-day ANP service. This enabled an improved response to the increasing number of calls received from the medical /surgical clinical sites resulting in a collaborative critical care review of the deteriorating patient. This expanded service now involves working more closely with the out of hours staff, Site Nurse Managers and on-call Medical staff during the evening hours and weekends, thus benefiting the deteriorating patient in the Mater.

Antimicrobial Stewardship Programme

Antimicrobial stewardship (AMS) is the coordinated approach by the AMS Team at the Mater to promote the judicious and safe use of antimicrobials. The AMS goal is to enhance patient care and reduce the risk of emergent antimicrobial resistance. The programme consists of 13 weekly consultant-led ward rounds in high antibiotic-use wards, frequent staff education, audits with feedback, and compilation of a comprehensive set of prescribing guidelines to ensure appropriate use of antimicrobials.

A European-wide Point Prevalence Audit in 2023 found 48% of patients in the hospital were receiving an antibiotic compared to a national prevalence of 41%, correlating with the complexity of our patient cohort. Documentation of indication for antimicrobials in clinical notes compared well with national data (45% in the Mater versus 37% nationally). The hospital's use of oral antimicrobials also compared favourably with national data (18% in the Mater versus 14% nationally).

The HSE AMRIC (Antimicrobial Resistance and Infection Control) Team reviewed the Mater AMS Service in 2023 and commended the strong AMS practice in the hospital. One area for improvement was documentation of planned duration of antimicrobials. Only 61% of prescriptions had duration for the antibiotic use documented. This is a quality improvement metric for 2024 and will be targeted through education as well as policy updates and promotion.

Sepsis Awareness

In 2023 the Sepsis campaign was launched which included the rollout of a new Sepsis Chart across the hospital. A new trolley was also implemented in collaboration with the IVCAT team called the IVCAT- Sepsis trolley. Sepsis training remained ongoing and compliance continued to be monitored manually.

Falls Prevention Programme

2023 saw a reduction in all inpatient falls, a decrease in category 1 falls and a decrease in the overall falls rate. The numbers added to the falls register have increased in the past year demonstrating a growing elderly population. Harm can be sustained by patients, predominantly in the first week of their inpatient stay. A past history of a fall is the most significant predictor of future falls. All age groups are at risk, but older people are more vulnerable for an injurious fall due to multifactorial health needs. The hospital's quality improvement plan responds to monthly data.

In 2023 the hospital completed two successful audits monitoring compliance in bedrails and post fall medical review guidelines. The hospital also collaborated with the HSE National Quality and Patient Safety Directorate in developing a falls app called QUICKPatientSafety (Quality Improvement Capability and Knowledge for Patient Safety) designed to enable healthcare professionals improve clinical care, reduce and/or prevent harm and enhance patient safety using evidence-based approaches, elements of which the hospital plan to use for staff education.

Golden Hip Award

The hospital through the local Hip Fracture Governance Committee has retained the "Golden Hip" award for a second year in a row in recognition of its ongoing improvements in hip fracture care. This is evident across the hospital's multiple disciplines and Directorates who work together implementing a hip fracture pathway that delivers quality hip fracture care. This is the first year that the work of the Registered Advanced Nurse Practitioner (ANP) has been credited.



QUICK PATIENT SAFETY FALLS APP



GOLDEN HIP AWARD 2023

Improving Access to Quality Care Continued

Mater Hospice Friendly Hospitals Programme

The Hospice Friendly Hospitals Programme seeks to ensure that patients who have a life-limiting illness or those who die suddenly, and their families have a seamless experience of care in hospital, provided by well-coordinated and well-informed staff. 1,577 staff attended various levels of training in the Mater related to the provision of care at end of life in 2023. This training consisted of sessions on 'Delivering Bad News' and the day long 'Final Journeys' programme.

National End of Life Survey

In 2023 HIQA surveyed relatives of people who died in all settings of care including the Mater. The hospital's findings indicate that the quality of care at end of life is high compared to all hospitals in Ireland.

"The care in the Mater public hospital was exceptional. All staff which includes the nurses, doctors, consultants, cleaners, catering staff, physios, speech and language therapists, occupational therapists and dieticians were without exception excellent. They really cared."

"There were no delays when we got to ED. Mam was made comfortable and treated with great care and dignity. The privacy we had with Mam in the small room in ED and upstairs in palliative care (suite). All the staff were brilliant doctors, nurses, catering who brought us tea and sandwiches and the person who changed the oxygen cylinders. The chaplain prayed with us and his kind words helped a lot. Thank you."

"We are so grateful. We feel so fortunate and appreciative that our dad had such a positive end of life experience. Thank you to all the healthcare staff that made a very difficult time a little bit easier through their kindness, care and professionalism"

The Survey of Bereaved Relatives VOICES MaJam report endorsed the importance of the hospital's Quality Care Indicator of ensuring more people are cared for at end of life in a single

room. Bereaved relatives in the National End of Life Survey also strongly endorsed care in a single room, with 92% of relatives indicating their relative was cared for in the last days of life and died in a single room in the hospital.

The hospital is committed to making further quality improvements to enhance end of life care and a Quality Improvement Plan has been drawn together based on the findings related to experiences of care in the hospital in 2023.

A new bereavement pack has been developed and since October 2023, every family of a person who dies in the hospital receives this bereavement pack within two working days of a person's death. The hospital also plans to develop a new comfort care suite on an acute hospital ward in 2024. Each comfort care suite consists of two interlinking rooms, one room for the person receiving care and the other room for a family area. The suites have a kitchenette and a sleepover sofa to allow a family member to stay overnight if a person is seriously ill or dying. The suites provide a comfortable, private and quiet space with homely décor, facilitating the presence of large family groups with uninterrupted time together.

MMUH Medication Safety Strategy 2023 - 2025

The three-year MMUH Medication Safety Strategy 2023-2025 was published in 2023. The strategy provides a clear hospital vision for medication safety and outlines strategic and operational medication safety goals. The Drug Safety Committee (DSC) and the Drugs and Therapeutics Committee (DTC) work together with applicable stakeholders to achieve the hospital's medication safety strategy.

5 Goals of the MMUH Medication Safety Strategy 2023 - 2025

1. Engage in Patient-Centred Care
2. Strengthen Evidence Based Practice
3. Timely Medication Variance Analysis & Feedback
4. Staff Education on the Safe Use of Drugs
5. Enhanced Use of Technology



Medication Variances

There was an increase in medication variances reported in 2023, a positive reflection on the MMUH safety culture. Reporting incidents and near misses enables the hospital to prevent further errors by learning from mistakes, focusing on education and training, improving hospital policies, procedures and guidelines, identifying research / audit opportunities and implementing medication safety initiatives.

Drug Safety Committee Insulin Subgroup

In 2023 the Insulin Subgroup launched a new drug chart for Continuous Subcutaneous Insulin Infusions with associated prescribing and administration standards and a staff educational video. The Insulin Subgroup also hosted staff and patient educational days for Insulin Safety Week in May and World Diabetes Day in November 2023. Additionally, medication safety alert was developed to share key learning points from serious insulin errors.

Medication Safety Findings from the HIQA Unannounced Inspection

The HIQA Report from Unannounced Inspection against the National Standards for Safer Better Healthcare, held in July 2023 in the Mater Emergency Department (ED), was published in December 2023. The Mater was substantially compliant with medication safety items inspected. HIQA noted the following practice points in the report:

- Pharmacy services provided to the ED including clinical pharmacy, medicines reconciliation and access to an antimicrobial pharmacist
- ED staff were knowledgeable about high-risk medicines and associated risk reduction strategies
- Ready access to drug policies, procedures, protocols, and guidelines (PPPGs) at the point of prescribing and administration
- Drugs and therapeutics committee oversight of drug PPPGs, use and practices in the ED

Identified areas for improvement included high risk medicines training uptake and completion of medication safety audits relating to the ED only.

Quality Improvement Project on Missed Doses

Missed doses were identified as a priority action area for medication safety in 2023. Drug doses are omitted or delayed in hospital for various reasons. For some critical drugs or conditions, delays or omissions can cause serious harm or death. The Drug Safety Service and Nursing Quality are leading a quality improvement project 'Drug Administration ON TIME' to raise awareness of the importance of timely drug administration. In October 2023, the project was awarded HSE Spark Innovation Programme seed funding.

Improving Guideline Compliant Opioid Discharge Prescribing

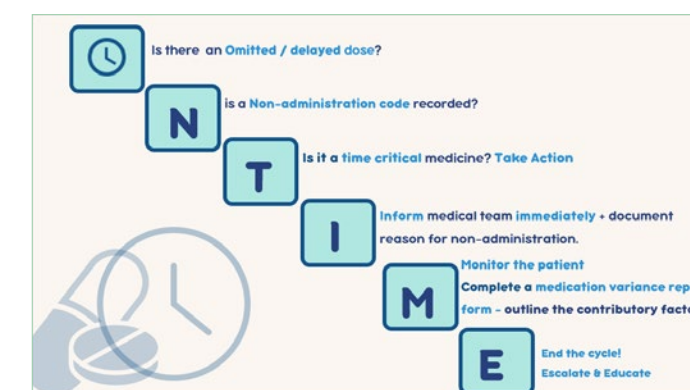
An audit was conducted in post-operative surgical patients to determine compliance of opioid discharge prescriptions with the Mater Guidance on Analgesic Discharge Prescriptions for Acute Surgical Patients. The hospital policy aligns with national and international guidance to minimise the risks with opioid use. **Compliance was assessed pre and post - educational interventions. Compliance increased significantly between intervention cohorts.**

Medication Safety - Oral Opioid Reference Tools

Opioids are the mainstay of analgesia for acute pain management, however there are significant risks involved during opioid use. In 2022 opioids were the second most frequent high-risk drug class reported in medication variances.

As medication errors can occur at any stage or multiple stages during the medication use process, a multidisciplinary approach was used to address oral opioid errors and support policy adherence and opioid stewardship. Multiple risk-reduction strategies of varying levels of effectiveness, targeted at both system and human related contributory factors, were implemented for combined effectiveness. These initiatives were implemented via working groups, with input from all relevant stakeholders.

In February 2023 at the Nursing Quality Forum the Mater launched the Oral Opioid Reference Tools (paper and digital poster, MDA press stickers) to support staff with prescribing and administering the correct oral opioid. The tools were developed in collaboration with Nursing Quality, Drug Safety, Mater Transformation, Nursing Tutors, Mater Pain Department and Palliative Care. The A3 poster and sticker were distributed to all clinical sites where opioid drugs are administered. In October the team presented their poster at the National Patient Safety Office Conference titled "Responding to Oral Opioid Medication Errors: A Multimodal Approach".



Improving Access to Quality Care Continued

Drug Trolley Replacement Project

In October 2021 the hospital established a working group (Nursing and Pharmacy) to look at selecting a new standardised drug trolley for the Mater hospital following a hospital wide audit of all 36 trollies which demonstrated that 70% (n=25) were 100% compliant with local and national NMBI standards and 30% (n=11) requiring review of the locking device. On evaluating all the available information, it was deemed opportune to introduce a new drug trolley type across the hospital. This process was however challenged and delayed by the unpredictable nature of COVID-19.

In 2022 the hospital had the opportunity to trial two trollies. The staff on Sacred Heart ward evaluated the two trollies and unanimously selected the Capsa Cart. A final audit of trollies across all clinical areas took place in December 2022 before placing an order in February 2023. **The trollies selected improved the safety, timeliness, and effectiveness of the multiple daily drug rounds.** The new trollies arrived in July 2023.

Safe Storage of Potassium Chloride Ready-mixed Bags

The Mater Drug Safety Service undertakes an annual Concentrated Electrolyte audit to determine compliance with prescribing, administration and storage of concentrated electrolytes against hospital policy. In the 2022 annual audit, 23% of wards did not segregate ready-mixed potassium chloride bags from other IV fluids. Due to their high-risk nature and risk of mis-selection, ready-mixed infusion bags containing potassium chloride should be stored separately from other fluids.

In October 2023, the Drug Safety Service and Nursing Quality took part in the Mater Transformation's National College of Art and Design (NCAD) Design Week (see award detail on page 60). A prototype solution for segregating Potassium Chloride Ready-Mixed Bags from other fluids was developed and won the Spark Innovation Programme Award. This project will be implemented further in 2024 to support wards with the appropriate segregation of potassium containing fluids.

Continued Education in Quality and Safety of Organs and Tissue in Transplantation

The European Directorate for the Quality of Medicines and HealthCare of the Council of Europe (EDQM), referenced as the basis for the Framework for Quality and Safety of Human Organs intended for transplantation, ran the 3rd European training course on Quality Management for Tissue Establishments from September to October 2023.

The Quality Manager for the Mater Hospital Heart Lung Transplant and Heart Valve Tissue Bank completed the training course which covered the fundamental aspects of quality management in the field of tissues and cells and provided guidance on how to ensure its implementation. Topics included validation and qualification, GMP, biovigilance, audit and risk assessment tools.

Heart Lung Transplant and Heart Valve Tissue Bank Quality - Health Products Regulatory Authority (HPRA) Inspections

The quality management system for the Mater Hospital Heart Lung Transplant and Heart Valve Tissue Bank assures compliance with the EU directives, Irish legislation, and EDQM guidelines and framework governing the quality and safety of human tissue and organs intended for transplantation. The quality management system covers all aspects of the process from donation to transplantation to maintain quality, safety, and continuous improvement.

The HPRA together with the HSE are the competent authorities responsible for the implementation of the obligations under the directives and national regulations. The HPRA carry out biannual inspections of both authorisations of all activities carried out in relation to organs and the authorisation of all activities carried out in relation to human tissues and cells.

In August 2023 the HPRA audited the Mater Hospital Organ establishment and in November 2023 audited the Mater Hospital Heart Valve Tissue establishment. **The outcome of both inspections was very successful highlighting the continued efforts and dedication of all staff involved to ensure quality in all processes relating to donation, procurement, and transplantation.**

Clinical Audit

Clinical audit is a core component of the Clinical Improvement Journey for the hospital. As a key element of the quality improvement cycle, it measures the effectiveness of healthcare against proven standards of quality and identifies actions required to bring practice in line with these standards to improve the quality of care and health outcomes.

Clinical Audit Master Class 2023

The inaugural Clinical Audit Master Class for Nursing was held in October 2023. This four-hour session offers participants a comprehensive introduction to Clinical Audit, incorporating brief activities to clarify the difference and similarities between clinical audit, research, service evaluation, and other prevalent quality improvement initiatives. The course primarily focuses on guiding participants in initiating and leading a clinical audit project pertinent to their own clinical area or the organisation. To date 20 nurses, including Staff Nurses, Clinical Nurse Managers, Staff Development Facilitators, and Advanced Nurse Practitioners, have participated. The masterclass has been awarded 4 Continuing Education Units by the Nursing and Midwifery Board of Ireland (NMBI).

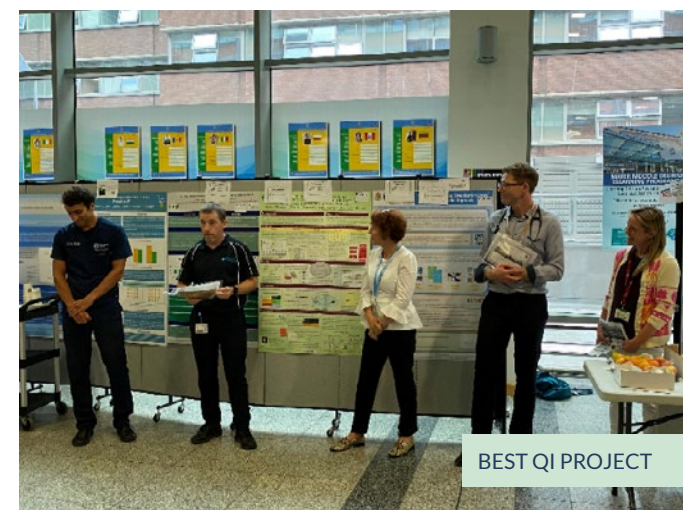
Clinical Audit Week 2023

In June 2023 the Clinical Audit and Effectiveness Committee ran the annual competition 'Mater Champions for Quality'. The invitation was open to all clinical disciplines and subsequent submissions represented projects from a diverse range of multi-disciplinary collaborations. 45 posters were entered into the competition and were on display on the Whitty Street corridor. Public engagement was encouraged through QR code voting for the Best Project.

Best Clinical Audit was awarded to Ms Kirsty Lee Wallace and Ms Marie Brennan for "MDA Schedule 2 Drugs Management in the Mater Misericordiae University Hospital".

Best QI project was awarded to an initiative led by Mr Breon White, Ms Jennifer Stafford, Ms Paula Morgan, Ms Dervilla Danaher, Dr Vinny Ramiah and Mr Shane O'Neill "The Virtual Fracture Assessment Clinic (vFAC) - a report of the Initial Six Months".

The Best Poster was a collaborative initiative that examined a non-obstetric referral pathway between the Rotunda Hospital and the Mater Hospital.



Improving Access to Quality Care Continued

Health and Social Care Professions Metrics Project

In February 2023 the HSCP team commenced a project to deliver a suite of HSCP-specific quality metrics, utilising the Dendrite Clinical Systems. It is anticipated that this project will be completed in 2024 and will be key to informing clinical service and improving the patient experience.

National Inpatient Experience Survey 2023

The National Inpatient Experience Survey did not take place in 2023. A review of the National Inpatient Experience Survey model and methodology was undertaken in 2023 to ensure the survey remains fit for purpose and responsive to future needs and priorities. The next National Inpatient Experience Survey will take place in May 2024.

Patient Safety Week September 2023

World Patient Safety Day 2023 took place in September in the hospital under the theme "Engaging patients for patient safety" in recognition of the crucial role patients, families and caregivers play in the safety of health care. Evidence shows that when patients are treated as partners in their care, significant gains are made in safety, patient satisfaction, and health outcomes. By becoming active members of the health care team, patients can contribute to the safety of their care and that of the health care system as a whole.



Mater Delirium Committee

The hospital marked World Delirium Day in 2023, raising awareness of tools and policies that staff can use to treat patients presenting with delirium.

Health and Safety

The hospital reported a total of 474 staff incidents in 2023 (excluding verbal aggression), a decrease of 4% since 2021. There was a decrease in the number of incidents reported to the Health and Safety Authority (HSA) over the past three years. Incidents that result in staff being unable to work for three or more days following an incident is reportable to the HSA (Health and Safety Authority). The highest reported injury was physical violence and aggression as a result of challenging behaviour. An average of 72 incidents of violence and aggression (excluding verbal aggression) as a result of challenging behaviour were reported every month in 2023.

The Managing Challenging Behaviour Committee at the hospital secured funding for a trainer to deliver safety intervention training to staff in areas where there has been a significant increase in the number of physical and verbal assaults on staff. This trainer commenced in September 2023 and to year end has re-introduced Safety Intervention Training (formerly MAPA training) initially to staff in high-risk areas.



In Q3 2023 the Health and Safety department completed a fire training exercise with the **Dublin Fire Brigade (DFB)** in the Rock-Wing. Upon arrival of the DFB a scenario was provided to the arriving Chief District Officer that there was a fire on level four and one patient was awaiting rescue via the firefighter lift. This exercise involved 15 members of the DFB and was a great opportunity for the Mater Hospital and the DFB to test their emergency response, familiarise themselves with the building fire protection systems and to work closely with key personnel.

In 2023 there was an average of 114 staff trained per month in **Patient Handling and Manual Handling**. The Health and Safety department have developed a programme to include the use of handling aides such as the Sara Steady. Educating staff in the use of this equipment will improve the care experience for patients and act as a rehabilitation aid to contribute to earlier discharges and protect staff against injury.

Fit Testing of Respirators is a method used for checking that a tight-fitting face mask (FFP2 and FFP3) matches the person's facial features and seals adequately to the wearers face. An inadequate fit will significantly reduce the protection provided to the wearer. The Health and Safety department commenced a fit testing programme in 2023 for staff required to wear FFP2 and FFP3 masks (respirators). This was previously delivered by an external contractor. Testing was prioritised for high-risk areas e.g. Infectious Diseases, ED, ICU/HDU.



Open Disclosure

The Mater is committed to providing an environment in which all staff are able and encouraged to recognise and report errors or mistakes and are supported through the open disclosure process to discuss these directly with the patients affected. Where harm occurs the Mater Hospital is committed to learning and improving by reviewing the event guided by the national incident management framework.

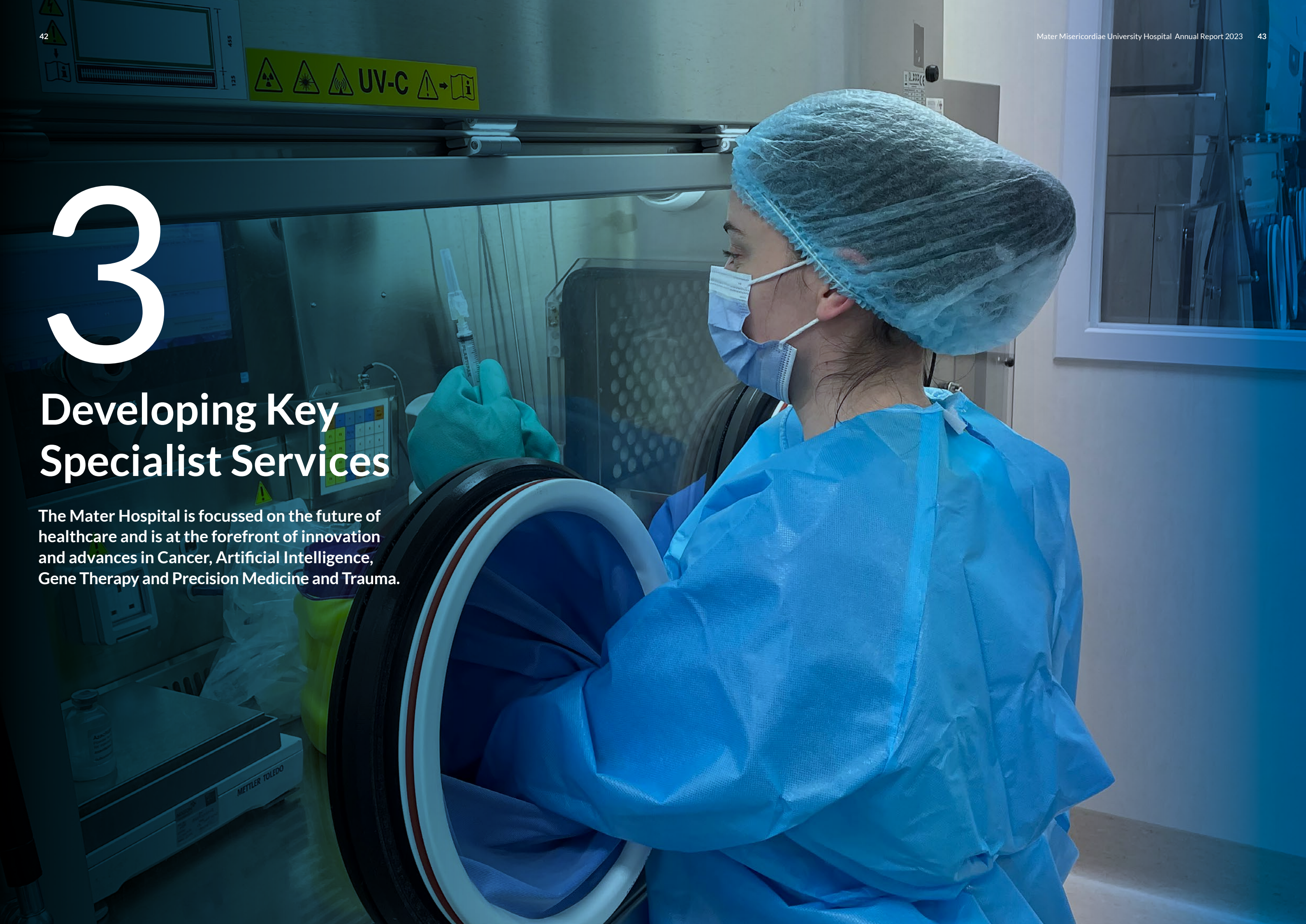
Training is ongoing throughout the hospital with online and face to face training. In 2023 the hospital participated in National Open Disclosure Week, raising awareness of the key principles and supports and providing information to both staff and the general public.



3

Developing Key Specialist Services

The Mater Hospital is focussed on the future of healthcare and is at the forefront of innovation and advances in Cancer, Artificial Intelligence, Gene Therapy and Precision Medicine and Trauma.



Developing Key Specialist Services

The Mater is continually driving innovation and services in Cancer Care.

Cancer is a leading cause of death, accounting for nearly 10 million deaths worldwide in 2020 nearly one in 6 deaths. The number of people being diagnosed with cancer by 2040 in EU and EFTA countries is estimated to increase by 21% compared to 2020 (WHO 2022). Cancer rates are set to double by 2045 (NCR, 2019).

“I am proud of the great strides that my colleagues at the Mater Hospital have made in the pursuit of better patient outcomes for patients with cancer. As a leading teaching and research hospital, we are maintaining our strong track record of producing high quality treatments that deliver real and meaningful results to patients and their families.”

Alan Sharp CEO

START Dublin

Ireland's first dedicated Phase I Clinical Research Unit.

In October 2022 the Mater Hospital signed, along with its academic partners UCD, a tripartite collaboration agreement with START (South Texas Accelerated Research Therapeutics) to form **START Dublin**, Ireland's first and only dedicated phase I oncology clinical trials unit.



START is a physician-owned company based in San Antonio, Texas, and is the largest phase I cancer clinical research network in the world. The mission of START is to accelerate the development of new anticancer drugs that will improve the quality of life and survival of patients with cancer and lead to its eventual cure. Since its inception in 2007, START's network has grown to a

total of eight dedicated units spanning both the US and Europe, conducting approximately 1,200 studies, and treating over 10,000 patients. They have led the development of paradigm-changing drugs such as pembrolizumab. The START program offers patients with advanced cancer access to experimental treatments that keep pace with the rapid progress of science.

START Dublin at the Mater is the most recent addition to the START network. START Dublin is fully embedded within the Oncology Directorate of the hospital with the intention of increasing treatment options for patients. The aim is to offer Irish patients access to cutting-edge clinical trials that previously would have necessitated overseas travel. Significant progress was made in 2023.

- **START Dublin team:** During July-October 2023 the core START Dublin team (The “STARTing” team) were employed as full-time Mater employees to specifically work in the phase I space
- **Staff training and onboarding:** The START Dublin staff travelled to San Antonio for two weeks in October for intense immersive training on the standardised START methodology in the conduct of phase I clinical trials
- **Establishment of temporary space:** Pending completion of a planned permanent space a temporary unit for assessment, treatment and pharmacokinetics has been established in the hospital in St Vincent's inpatient oncology ward
- **Education and training:** Education and training has continued within the START network. In December 2023 some EU and US counterparts flew to Dublin to train in the Dublin facility. START Dublin staff flew to Madrid and Lisbon to continue to grow and expand the knowledge within the START network
- **Study acquisition:** Since November 2023 the hospital have interacted with START associated sponsors hosting numerous site assessment and feasibility inspection visits and in November the first official START Dublin Protocol Review Committee (PRC) meeting was held

It is anticipated that in 2024 START Dublin will have a purpose-built space comprising a 9-bay treatment room, clinic and assessment rooms, an Aseptic Compounding Unit, a pharmacokinetic processing facility along with a conference room and administrative space. This state-of-the-art unit will be in the Misericordiae wing of the hospital, the placement of which encapsulates both the history and tradition of the Mater as well as the drive to be at the forefront of medicine, not only in Ireland but at a global level.

Advanced Cancer Care

At the Mater, surgical oncology expertise is offered to patients with established programmes of resection of all sites of extracranial metastatic disease, as well as pushing the boundaries for resecting advanced cancers in every surgical oncology specialty. Over 30% of Mater cancer surgeries are performed with the involvement of consultant surgeons from multiple specialties - which is quantitatively an indication of the complexity of the surgery types occurring in the institution, but also qualitatively a reflection of the unique collaborative culture within the organisation.

Over 20% of cancer surgeries in the Mater are on patients with metastatic disease, which comprises 30% of the national caseload of these patients receiving operations (from NQAIS data). These figures are reflective of the ethos and appetite of the medical and surgical oncologists in the hospital, who endeavour to challenge current clinical dogma and expand management options for patient care. In the last decade, the Mater has championed and expanded the peritoneal cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) service with great success.

“As part of our multidisciplinary approach to advanced cancer, we at the Mater Hospital collaborate with colleagues to select the most suitable patients for surgery. This collaboration ensures that patients receive integrated medical care from the moment of consideration of surgery to full recovery and has helped us to improve both peri-operative and long-term outcomes.”

Mr Jürgen Mulsow

Consultant General and Colorectal Surgeon at the Mater



Mater Hospital | Advanced Cancer Care



START DUBLIN TEAM



START PATIENT ROOM



MR JÜRGEN MUSLOW, HOSPITAL LIVE

Developing Key Specialist Services Continued

Leading Ovarian Cancer Research

An Annals of Surgical Oncology published study, which shows that 3-year survival has improved by 70% for advanced ovarian cancer patients.

A multidisciplinary surgical approach implemented by gynaecological oncology experts at the Mater Hospital has improved outcomes for women with advanced ovarian cancer to the extent that patients are approximately 70% less likely to die three-years post surgery. The new study published in the Annals of Surgical Oncology, which also noted a decrease in rates of disease progression, focused on two cohorts of patients diagnosed with advanced ovarian cancer and treated at the Mater Hospital from 2006-2015 and 2017-2021 respectively.

In 2017, the Mater Hospital's Department of Gynaecological Oncology adopted a multidisciplinary surgical approach to patients with advanced ovarian cancer which has allowed for greater rates of cytoreduction, or complete removal of all sites of cancer within the abdominal cavity. As a result, this study has noted a decrease in the mortality rate from 64.5% of patients three-years post surgery to 24%.

“Ovarian cancer is a complicated disease that requires input from multiple specialties including medical oncology, pathology, radiology and surgery. Extensive surgery is often required, and we believe that collaboration between different surgical specialties allows us to safely perform aggressive operations to remove all visible tumours from the abdomen which is the single greatest predictor of improved survival. The study supports the growing body of international evidence that patients with ovarian cancer have better outcomes when managed in centralised specialised oncology centres, such as the Mater.”

Professor Donal Brennan

Consultant Gynaecological Oncologist at the Mater Hospital and Professor of Gynaecological Oncology at UCD School of Medicine

In order to combat late-stage disease, the collaborative multidisciplinary environment allows for gynaecological oncologists as well as colorectal, hepatobiliary, and upper gastrointestinal surgeons to carefully plan surgical resections and subsequent treatment. These types of complex surgeries involve multiple specialists and can take up to ten hours to perform. This new research also shows that disease progression three years after surgery and chemotherapy has reduced from 75% in the first cohort of patients, to under 50% in the second - a decrease of more than 35%.

The study marks a positive step in the treatment of ovarian cancer, which is the seventh most prevalent female cancer globally and frequently presents at an advanced stage due to lack of symptom awareness. Historically, survival rates for ovarian cancer in Ireland have significantly lagged behind our European neighbours.

In May 2017, Jeannine Davis from Coolock in Dublin, received a diagnosis of advanced ovarian cancer at the age of 39. Speaking about her care at the Mater, **Jeannine said:**

“The only symptom I had of ovarian cancer was a swollen stomach and I was devastated to learn of my diagnosis. However, the silver lining was meeting with the gynaecological oncology team at the Mater who saved my life. I felt that I was in good hands as they meticulously planned my surgery and follow-up treatment. I encourage women to listen to their bodies and make themselves aware of the signs of gynaecological cancers.”

The UCD Gynaecological Oncology Group at the Mater Hospital has been certified as a centre of excellence for ovarian cancer in Europe. To date, as the National Centre for Peritoneal Malignancy and home to the largest ovarian cancer unit in the UK and Ireland, the Mater Hospital has performed more than 250 major cytoreductive surgeries on patients with advanced ovarian cancer.



JEANNINE DAVIS & DONAL BRENNAN

Lu-177 PSMA-617 Radioligand Therapy for Metastatic Prostate Carcinoma

The introduction of Lu177 PSMA 617 Radioligand therapy (RLT) in the Irish healthcare system represents a critical step towards improving treatment options for patients with advanced Prostate Cancer. This therapy has shown strong results in clinical trials globally, and its establishment at the Mater Hospital aligns with the hospital's commitment to delivering cutting-edge healthcare services. Radioligand Therapy is an entirely new approach to cancer treatment. The Mater Hospital became the first site to administer this type of treatment in Ireland or Northern Ireland.

Prostate cancer is the most common cancer among men in Ireland, with a growing incidence rate. Advanced prostate cancer poses significant challenges for both patients and healthcare providers. Lu177 PSMA 617 Radioligand therapy is an important treatment option that targets prostate specific membrane antigen (PSMA) expressed on prostate cancer cells, directly irradiating Prostate cancer cells in-vivo with B-irradiation.

The VISION Phase III international trial completed in 2021 outlined an overall survival benefit and significant progression free survival (NEJM). The Thera-P Phase II Trial based in Australia and funded by the Movember trust, demonstrated a superior performance of Lu 177 PSMA 617 to the existing Cabazitaxel chemotherapy treatment option for patients with progressive metastatic prostate carcinoma (Lancet).



DIGITAL PET/CT SCANNER

The Mater Hospital is the only Centre in Ireland to have treated patients with LU 177 PSMA-617 Therapy (Pluvicto®). To date the hospital have treated a total of 3 patients under a compassionate access agreement with the radiopharmaceutical manufacturer. The first treatment was performed in December 2022, 1 day after the European Medicines Agency licensed the product. This therapy was made available following a collaboration between Nuclear Medicine (within the Radiology Department), Medical Physics and Oncology.

This followed a number of years of preparation liaising with colleagues in Europe and Radiopharmaceutical manufacturers. The procedure around administration of the therapy was outlined in the Hospital Live broadcast in May 2023, following an interview with the hospital's first patient, who was undergoing his fourth cycle of treatment at the time.

Patients undergoing Radioligand Therapy require staging scans prior to selection with PET/CT. The Mater Hospital's PET/CT scanner was replaced with a state-of-the-art Digital PET/CT scanner in 2022 which has greatly increased capability and safety, following funding from the Mater Hospital Foundation. This has increased access for our patients to F18 PSMA PET/CT scanning which gives the most accurate assessment of Prostate cancer spread. The Mater Hospital Foundation also funded Radiation Dosimetry software in 2023 which will be used to refine the treatment and allow individual dosage for patients, aiming to improve outcomes further.



JURGEN MULSOW AND DONAL BRENNAN
AT THE CANCER GATHERING 2023

Developing Key Specialist Services Continued

Key Cancer Patient Supports

The GO Forward Clinic

The GO Forward Clinic launched in May 2023 coinciding with world ovarian cancer day. This new nurse led initiative helps patients move into the next phase of their cancer journey. Many patients express a feeling of limbo once treatment finishes. The purpose of the GO Forward Clinic is to empower patients to live well and achieve their best possible health moving forward - providing guidance and support on healthy lifestyle, disease prevention and disease control, aiming for good QOL (Quality of Life) and prolonged survival.

The GO Forward Clinic combines face to face nurse led education sessions with virtual review clinics for patients who have completed their primary treatment and are clinically well. A treatment summary, which was designed with contribution from the Irish Society of Gynaecological Oncology - Public and People Involvement (ISGO-PPI), is provided. Using a National Comprehensive Cancer Network (NCCN) distress thermometer and a holistic needs assessment (HNA) to guide the consultation, treatment and lifestyle related side effects are assessed. Each patient is provided with a resource pack to support their survivorship needs and education on alert symptoms which may be indicative of disease recurrence.

Over 170 patients have been reviewed in the GO Forward Clinic to date. Preliminary feedback from patients is extremely positive with the majority reporting a real sense of holistic, individualised care.

PAMO Cancer Service

The PAMO cancer service introduces initiatives to support patient education and patient access to emerging, investigative drug treatments. In 2023 an informative poster on the patient's chemotherapy journey was developed. This poster details the steps involved in ensuring patients receive safe and effective systemic anti-cancer therapy. This poster is displayed in the Oncology / Haematology Day Unit Waiting Area where it is visible to all patients who receive chemotherapy.

Proactive Psycho-Oncology Service

This service involving a consultant Psychiatrist, joining two Psychologists, one Clinical Nurse Specialists and two Medical Social Workers provides integrated and proactive mental health care to patients with cancer – inpatients, outpatients and those attending the oncology haematology day unit. With the additional funding for a new Senior Medical Social Worker in Psycho-Oncology, and successful recruitment in October 2023, the MSW service will now have the capacity to accept referrals to outpatients for gynaecology, colorectal, ENT and breast care patients for level 3 therapeutic interventions.

The Mater's Cancer Data Mapping and Forecasting Project

A cancer data mapping and forecasting exercise was commenced in 2023 by the hospital to examine the growing demand in cancer services in the Mater Hospital.

Based on initial findings from this exercise and given the growth rates predicted there is a significant need to expand capacity for cancer services at the Mater.

Organisation of European Cancer Institute's Accreditation

The Organisation of European Cancer Institutes (OECI) is a peer review program. Its aim is to help cancer centres improve the quality of care for their patients and to extend comprehensiveness in research, treatment and education.

A number of key milestones in the hospital's journey to OECI accreditation were accomplished in 2023, namely academic support from the hospital's partner university UCD, OECI membership, and the completion of the internal self-assessment process.

In tandem with this, work progressed on:

- the development of a dashboard for quality and patient safety metrics (a key requirement for accreditation)
- the development of standard operating procedures
- enhancements to the existing multi-disciplinary meetings to satisfy the criteria for accreditation

The Oncology Clinical Director, Nurse Manager and OECI Manager also attended "Oncology Days" the OECI Conference in June 2023 in Paris, France.



Oncology and Haematology Clinical Trials Research Unit

The Oncology and Haematology Clinical Trials Research Unit (CTRU) at The Mater Hospital is part of the UCD Cancer Trials Cluster along with St Vincent's Hospital. The goal of the UCD Cancer Trial Cluster is to build on and develop further the already well-established Cancer Clinical Trial Units at both hospitals.

It is well documented that patients who have access to Clinical Trials have better outcomes and the CTRU aims to widen the portfolio of clinical trials offered to the cancer patients attending the Mater. A HRB Grant awarded in 2021 was effective from January 2022 with the funding running for 5 years.

In 2023 there were 12 open recruiting trials and 6 newly opened studies across Pancreatic, Lung, GI, Prostate, Thrombosis, Lymphoma and Breast with a total of 163 patient accruals (142 Translational and 21 Interventional).

PAMO Cancer Services

The PAMO Cancer Service support delivery of the MMUH Oncology / Haematology Clinical Trial Service. Clinical Trial drugs are segregated from routine drug management processes including procurement, receipt, storage, regulation, documentation, disposal and fee claims. In addition, Clinical Trial protocol complexity is ever increasing, necessitating a significant time for review and action. The PAMO Cancer Service supply oral clinical trial drugs with the associated patient education. They also supply intravenous (IV) clinical trial drugs that involve aseptic compounding, checking and release steps. The Mater pharmacy supplied clinical trial drugs on 484 occasions to 75 patients in 2023.

Cancer Managed Access Programme

Cancer Managed Access Programmes (MAPs) applications continue to increase year on year, both for oral and IV medicines dispensing. Drug supply through MAPs is a complex process involving the Drug Expenditure Monitoring and Review Committee (DEMRC) liaison with consultants and the MMUH Legal Counsel and the Data Protection Officer. The Mater pharmacy supplied MAP drugs on 439 occasions to 66 cancer patients in 2023.



Developing Key Specialist Services Continued

The introduction of AI tools at the Mater Hospital demonstrates the strong emphasis we place on innovation and development to enhance patient outcomes, add efficiencies, and ensure our patients receive the best standard of care we can possibly offer.

In 2023 the Mater became the first hospital in Ireland to introduce Artificial Intelligence technology across the Radiology Department under the direction of Consultant Radiologist Prof Peter MacMahon. This has resulted in faster detections of anomalies, enhanced patient care and is freeing up valuable time for staff in the Department.

Since the introduction of the AI-assisted software in early 2023, more than 15,600 patient scans have been analysed. Over 700 pathologies were correctly flagged by AI within 2-3 minutes of the scan being completed, with 500 intracranial haemorrhages and 200 pulmonary emboli being identified. On out-patient scans, 50 pulmonary emboli were also identified where the scans were being performed to assess other medical conditions. The overall accuracy of the software in real Irish clinical practice has been deemed to be highly sensitive and specific, with an accuracy rate of more than 90%.

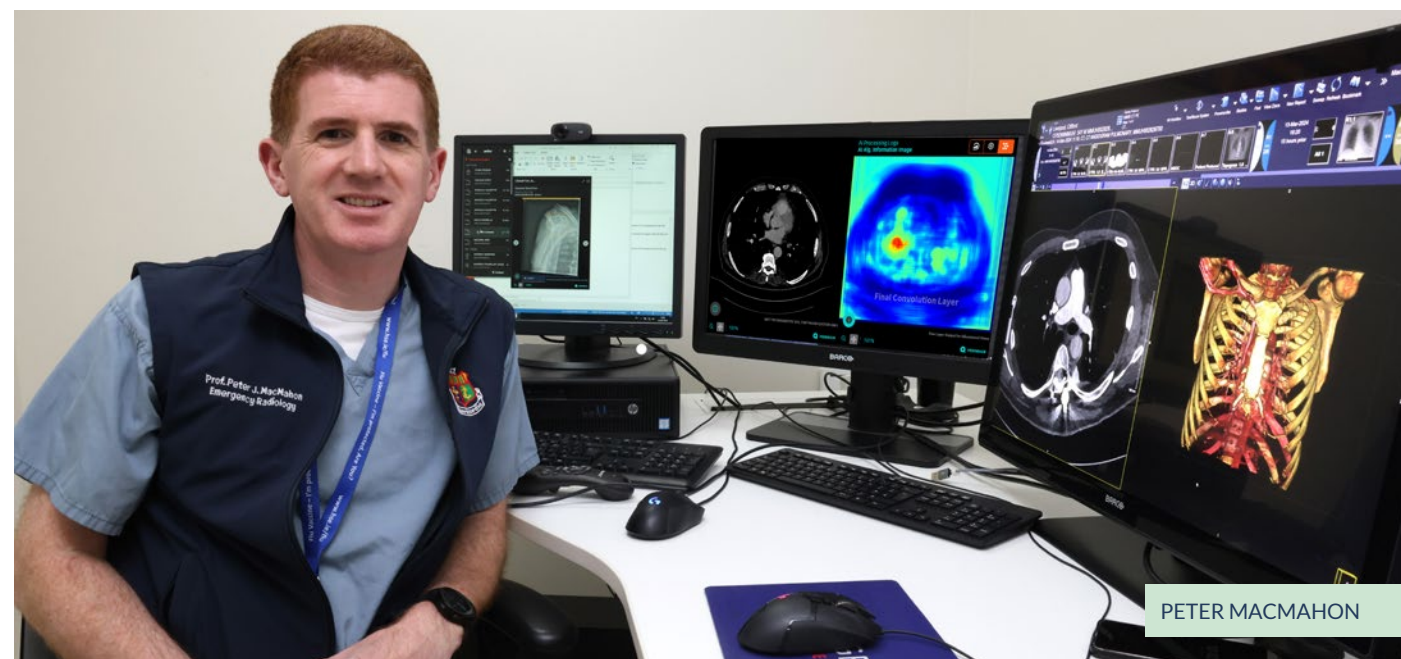
The Mater Hospital has implemented four new technologies, including AI assistance on: CT pulmonary angiograms, incidental pulmonary embolism detection on CT scans, intracranial haemorrhage detection on CT head scans and cervical spine fracture detection on CT C-Spine scans.

The screening software, made by Aidoc, operates on an 'always-on' basis, meaning it is constantly running in the background in order to analyse medical imaging data, identify urgent findings, and to highlight cases that should be prioritised and brought to the immediate attention of consultants. The use of the software in Radiology at the Mater has significantly reduced detection and notification times, while also improving diagnostic accuracy and streamlining workflows.

“Our experiences have underscored the tangible benefits of AI, notably in expediting critical diagnoses and reducing turnaround times by rapidly flagging anomalies detected in scans.”

Prof Peter MacMahon

The software underwent rigorous scrutiny, verification and testing at the Mater Hospital during a trial phase from April until August 2023 before the technology was fully deployed across the Radiology Department. The software is used to augment rather than replace the capabilities of radiologists at the hospital, ensuring that human scrutiny, verification and expertise is still at the centre of reading the scans.



"We are proud to collaborate with The Mater Hospital, a healthcare institution known for its dedication to patient care and innovation."

Mike Burns

Director of Sales for Aidoc in the UK and Ireland

The Pillar Centre for Transformative Healthcare at the Mater is now working with additional departments within the Mater Hospital to examine other ways in which AI can be incorporated into the hospital's day-to-day activities to improve patient care and to free up valuable time for frontline healthcare staff.

Artificial Intelligence Research Fellow

In 2023 the Pillar Centre in collaboration with Prof Peter MacMahon created the role of AI Research Fellow to further advance the hospital's interest in developing an AI Centre of Healthcare. The AI Fellow will contribute to cutting-edge research, creating innovative AI solutions, and aiding in the deployment and validation of AI products within our institution. This initiative aims to address specific challenges within our healthcare system, particularly the limited availability of medical imaging resources for 24/7 care.

The AI Research Fellow, will develop an AI-based method for enhancing image interpretation of lumbar spine CT in suspected cauda equina syndrome cases. This project aims to significantly increase confidence in CT interpretation, potentially reducing the need for MRIs, thereby reducing costs and saving crucial time.

This role will also assist in deploying CE certified AI products in the Mater Hospital, a critical step towards optimising the hospital's healthcare services with AI technology. The hospital will monitor the accuracy of these products, developing validation strategies to ensure their effective and efficient utilisation.

Microb-AI-ome

Federated artificial intelligence for privacy preserving international stratification of colorectal cancer patients.

This EU funded Horizon 2022 Study is a multicentre collaboration between BowelScreen Ireland and University College Cork Microbiome Research Centre Ireland with University of Hamburg (Artificial Intelligence and Cyber Security) and Clinical and Research Institutes in France, Austria and Romania. The Directorate of Education Research and Innovation (DERI) at the Pillar Centre, will manage and administrate the Grant for the three Irish Clinical Centres (MMUH, SVUH and the Mercy Hospital in Cork). This will involve a three year funding Programme.

Microb-AI-ome's goal

Colorectal cancer (CRC) is the 2nd most common type of cancer in the world (WHO Global Health Estimates 2019). However, identifying CRC early improves disease prognoses, and as such lessens the disease burden on the individual and on society as a whole. Current CRC screening programs utilise a quantitative faecal immunological test (FIT) to predict the need for colonoscopy for the detection of colorectal lesions indicative of CRC. However, the FIT has a high false-positive rate of over 37% leading to many unnecessary, unpleasant, invasive and costly colonoscopies. Microb-AI-ome aims to reduce this false-positive rate by 20% points by utilising powerful information hidden in our stool microbiomes.

Microb-AI-ome's approach

Artificial intelligence (AI) and machine learning (ML) technology have started to pave the way towards highly personalised medicine. However, while the number of identified associations between microbiome profiles and CRC has been rising in recent years, robust AI models for personalised prediction of a need for a colonoscopy are still missing.

The big data needed to train such models is distributed over many repositories around the globe, and privacy regulations are hindering its effective integration. Microb-AI-ome will overcome this barrier by establishing the first privacy-preserving federated big data network for CRC research.

Microb-AI-ome ensures that no sensitive patient data will leave the safe harbours of the local databases while still allowing for the training of robust AI models, which will be demonstrated in clinical practice, allowing regulatory bodies to adopt evidence-based guidelines.

**HORIZON
EUROPE**

Developing Key Specialist Services Continued

The Hospital continues to develop and expand the Mater Gene Therapy and Precision Medicine Service.

Next Generation Sequencing (NGS) Laboratory

The Next Generation Sequencing (NGS) Laboratory continued to offer diagnostic genetic testing for Cardiology patients in 2023. The service saw an increase of 206% in diagnostic tests compared to 2022. Furthermore, the laboratory has expanded the capabilities of the service provided and now also offers INAB-accredited cascade (familial) testing to Cardiology patients and their families. In addition, the laboratory now also offers a diagnostic genetic testing service to patients attending the National Pulmonary Hypertension Unit at the Mater.

In July 2023 the laboratory hosted the National Genetics and Genomics Office (NGGO) to provide insight into the genomics services within the hospital to aid in development of the national strategy.

National Cardiac Genomics Service established at the Mater

The National Cardiac Genomics Service was established by the HSE at the Mater hospital in 2022. To develop the service, the HSE Acute Medicine Programme funded a number of posts plus consumables. In addition to two laboratory staff and three Genetics Counsellors, a new Consultant in Clinical Genetics post was funded. This consultant position was appointed to the Mater in 2023 and will commence in post in 2024 - a first for this speciality nationally.

In September 2023 Ms Aya Ibrahim (National Centre for Inherited Metabolic Disorders Researcher) was awarded Best Clinical Poster Presentation Prize at the Irish Society of Human Genetics conference, recognising its significant contribution to understanding Lysosomal Storage Disease and improving patient care.

Ophthalmology Gene Therapy

Voretigene Neparvovec (Luxturna®) is indicated for the treatment of adult and paediatric patients with vision loss due to inherited retinal dystrophy caused by confirmed biallelic RPE65 mutations and who have sufficient viable retinal cells.

Voretigene neparvovec consists of a virus that contains normal copies of the RPE65 gene. When it is injected into the eye the virus carries the RPE65 gene into the retinal cells and enables them to produce the missing enzyme. This helps the cells in the retina to function better, slowing down the progression of the disease. Use of a virus to deliver a gene therapy medicine is termed a viral vector therapy. The type of virus used in this medicine (adeno-associated virus) does not cause disease in humans.

The Pharmacy and Medicines Optimisation Directorate (PAMO), in liaison with Prof D Keegan, Consultant Ophthalmologist, have been preparing for the Mater Ophthalmology Viral Vector service. Pharmacy considerations include logistics for gene therapy handling, storage and compounding, staff training, funding and reimbursement, and staff resources.

PAMO staff across three services have completed specific training on viral vector handling. In addition to the HSE managed access protocol, the HSE notified the Mater of the approved voretigene neparvovec (Luxturna®) reimbursement process in October 2023.



Developing Key Specialist Services Continued

Major Trauma Services at the Hospital continued to develop in 2023 following the designation of the Mater as the Major Trauma Centre (MTC) for the Central Trauma Network (CTN) in 2021.

New Inpatient Trauma Ward

In May 2023 St Peter's Ward was opened in the new Rock-Wing to facilitate Major Trauma patients. This is a state-of-the-art ward with a skilled nursing and multidisciplinary team. An education and orientation programme was developed within surgery to ensure nursing staff were prepared for this new patient cohort. This comprised a four-day training programme which commenced in February 2023 consisting of ABCDE assessment workshops and specialised trauma sessions from Consultants and Advanced Nurse Practitioners (ANPS) which was facilitated by Surgical Staff Development Facilitators.

Acceptance of Secondary Transfers

Another key milestone in July 2023 was the commencement of the acceptance of secondary transfers from within the Central Trauma Network (CTN) on an incremental basis. The initial phase included the acceptance of patients from trauma receiving hospitals with complex musculoskeletal, spinal, and multisystem pelvic injuries. The commencement of this aligned with a national strategy to implement a standardised process and 1,800 trauma referrals nationally. The Mater was the first site in this national plan to accept trauma referrals in this way.

Trauma Service Team

Following appointment of key posts, the development of a trauma team continued in 2023. The Trauma Service Team now meet daily to discuss trauma patient presentations in the preceding 24- hours. The team provide a consult and rounding service led by a Trauma consultant. This Trauma Service Team is made up of a range of disciplines across the various specialties involved in trauma including Resuscitation, Surgery, Neurotrauma, Older Person Services and Rehabilitation. The team provides input into various aspects of patient care including venous thromboembolism prophylaxis, pain management, splinting advice, wound management, therapy needs and management plans for each injury.

Traumatic Brain Injury Pathway

The Major Trauma Centre Project is made up of number of key work-streams reflective of the patient pathway. These work-streams continue to develop the model of care optimising service provision and improving the quality of patient care. An example of this was the roll out of a new governance pathway for patients who sustained a traumatic brain injury (TBI). This pathway has resulted in a 100% takeover of care of appropriately referred patients with TBI to either Neurology or Care of the Older Person teams.

Acute Trauma Rehabilitation Ward

An integral part of the delivery of care is the Trauma Rehabilitation element of the patient's journey. The building of the Trauma Rehabilitation team and service continued in 2023 and in December a new nine bedded Acute Trauma Rehabilitation Ward (St Gemma's Ward) located in the Misericordiae Wing was opened. The purpose of the ward is to provide an acute trauma rehabilitation service that aims to provide comprehensive care and support to individuals who have experienced traumatic injuries, helping them improve independence, function, and quality of life. The ward has delirium friendly measures in place, a co-located occupational therapy kitchen and access to therapy services and equipment on site. This is a significant development for trauma in the Irish context - to have access to a ward specifically for acute trauma rehab on site in a model 4 acute hospital. The team continue to work with specialist and complex rehabilitation partners on further developing trauma egress pathways to off-site rehabilitation.

Trauma Psychiatry Service

The Trauma Psychiatry service is a vital service for trauma patients at the Mater. The service involves an Advanced Nurse Practitioner and Consultant Liaison Psychiatrist who provide intensive input to patients on the trauma pathway with psychiatric needs which includes assessment of serious self-harm, behavioural disturbance associated with traumatic brain injury and delirium.

Trauma Education Research and Innovation Workstream (TERI)

As an academic teaching centre, with a long history of excellence in clinical care, education and research, the Mater provides specialist clinical services and expertise which are key enablers to leading on trauma care reconfiguration and education.

In 2023 the Mater established the TERI workstream with a view to leading out on the development and access to trauma education, as well as supporting trauma research and innovation at the Mater. A multidisciplinary Mater Trauma Education Working Group has been established and meets monthly with the aim of expanding the Mater's portfolio of trauma education, introducing UK based trauma courses to Ireland and strengthening the Mater's position in delivering world-class trauma training.

In February 2023 the Mater hosted a Trauma Nursing Core Concepts (TNCC) course for the first time in the Pillar Centre for Transformative Healthcare. This was open to candidates from hospitals across the network. Due to the success of the course and the demand, the course was held again in June 2023.

In March 2023 the Mater hosted the European Trauma Course (ETC) for the second time, establishing the Mater as a European Centre for the delivery of the ETC. The Mater team continue to be faculty members and the participation is open to senior clinicians working in trauma in various sites across the country.

In September 2023 under the guidance of Mr Frank Lyons, the Pillar Centre hosted the UK based TORCH (Trauma Orchestration of Continuing Healthcare) course. The Mater is now recognised as a teaching site for TORCH trauma courses, previously held in the UK only.

Additionally, simulation exercises aimed at the training needs of the trauma team continued in 2023 playing a significant part in informing system development and ensuring quality improvement.

The Mater continues to contribute significantly to a national strategy for trauma training through the National Office for Trauma Services (NOTS) and remain proud hosts of the National Trauma Forum. The attendance at this forum is growing month on month and it is recognised nationally as a valuable platform for informing practice from pre-hospital to rehabilitation and networking. The hospital looks forward to hosting the Rehabilitation and Function Post Trauma (RAFT) course in 2024.

In 2024, the hospital will focus on the planning of a purpose-built Major Trauma Centre (MTC Phase 2).



SPINAL TRAUMA

4

Building further our Academic, Research and Innovation Programmes

The Hospital provides an environment that is rich in Translational Research, Education and Innovation advancing Healthcare Nationally and Internationally.



Building further our Academic, Research and Innovation Programmes

Mater Transformation celebrates 10 Years	Approx. 357 research articles listed	405 students trained by Mater Lean Academy in 2023
Irish Association for Simulation Conference 2023 hosted at the Pillar Centre for Transformative Healthcare	575 courses hosted by the Pillar Centre for Transformative Health an increase of 25% on 2022	Crystal Plaque presented by HSE to Mater Centre for Nurse Education in acknowledgement of 21 years of nurse education service
420 nurses completed Nurse Induction week an increase of 43% on 2022	30 different short professional courses (NMBI approved) offered, 4450 attendees, an increase of 30% in staff attendances on 2022	13 bespoke Mater Clinical CPD nursing programmes (Specialist Foundation Nursing level 8 - UCD 10 ECTS) programmes completed
5% increase in nurses undertaking postgraduate and master specialist programmes	3 nurses received their fellowship by RCSI examination	

In 2023 the Mater Transformation celebrated 10 years of supporting Irish healthcare improvements and design-led innovation

In June 2023 Minister for Public Expenditure, National Development Plan Delivery and Reform and local TD Mr Paschal Donohoe opened an exhibition and new website which showcased the ways Mater Transformation has dramatically improved patient experiences.

The Mater Transformation Unit was established in 2013 and is first of its kind in Ireland. It is a dedicated unit embedded within the Mater Hospital that works closely with frontline staff all over Ireland to co-design and deliver long lasting improvements in the healthcare system, generating time and cost savings, enhancing quality of care and bettering the experience of patients.

The service provided by Mater Transformation over the last ten years has seen 430 graduates from 53 healthcare organisations nationwide delivering improvements in the healthcare system. In addition, over 3,500 healthcare staff nationally have undertaken the Mater Lean Academy's one day 'Fundamentals of Process Improvement Programme'.

Mater Transformation's success has been bolstered by a partnership with UCD School of Nursing, Midwifery and Health Systems since 2013 and the National College of Art and Design (NCAD) since 2016. The work has been supported by funding from sources such as HSE Spark Innovation Programme, Sláintecare Integration Fund and the Public Service Innovation Fund.

“Over the past ten years, the Mater Transformation team has been dedicated to the enhancement of healthcare systems and their innovative solutions have led to system efficiencies but more importantly a better patient experience.”

Minister Paschal Donohoe

Minister for Public Expenditure, National Development Plan Delivery and Reform and local TD



Building further our Academic, Research and Innovation Programmes Continued

Mater Lean Academy

Facilitating and mentoring person-centred process improvement programmes throughout the year, the Mater Lean Academy certified a further 321 healthcare staff nationally to White Belt level in 2023. In addition, 84 healthcare staff qualified as Green and Black Belts through the accredited UCD professional and graduate certificate programmes, resulting in 23 further process improvement projects delivered throughout the health system.

The Academy's teaching programmes generated a combined income of over €90,000 which in turn is allocated towards service improvement within the Mater Hospital.

6 improvement projects were undertaken in 2023 in the hospital:

1. "Deep Breaths"

Improving Outpatient CT-guided lung biopsy workflow to improve turnaround and patient experience

2. "A path less travelled"

Improving the turnaround time for diagnostic cellular pathology and microbiology specimens by standardising and optimising the process of collection and delivery from wards, theatres, and clinics

3. "The Pregnancy Pathway"

Establishing a pathway to specialist non-obstetric care from the Rotunda Hospital to the Mater Hospital to improve maternal mortality rates due to non-obstetrics causes

4. "Fast Forward"

Improving the process for inpatients with dysphagia who are eating and drinking with acknowledged risk

5. "Robotic Process Automation Saves the Day"

Building a robust billing system using AI/Mapping of current IT systems to improve the billing aspect of the clinical trials

6. "GEMMA"

Generating an Early Alert for Multiple Myeloma

Innovation Design Awards and Collaborations

Service Design Network Award - 'Save Time, Save Lives': Best Student Project 2023

Students from NCAD collaborated with Mater Transformation for a 5-week design sprint around Major Trauma in 2022. The project ultimately focused on improving the communication flows of emergency staff to effectively use life-saving time in major trauma. The 3-tiered solution ideas include digital prototypes to demonstrate potential improvements to key communication channels, as well as a revamped physical space set-up that allows the trauma team to find their positions quickly. These prototypes gained international recognition being awarded at the Global Service Design Conference in Berlin 2023.

Institute of Designers in Ireland Award

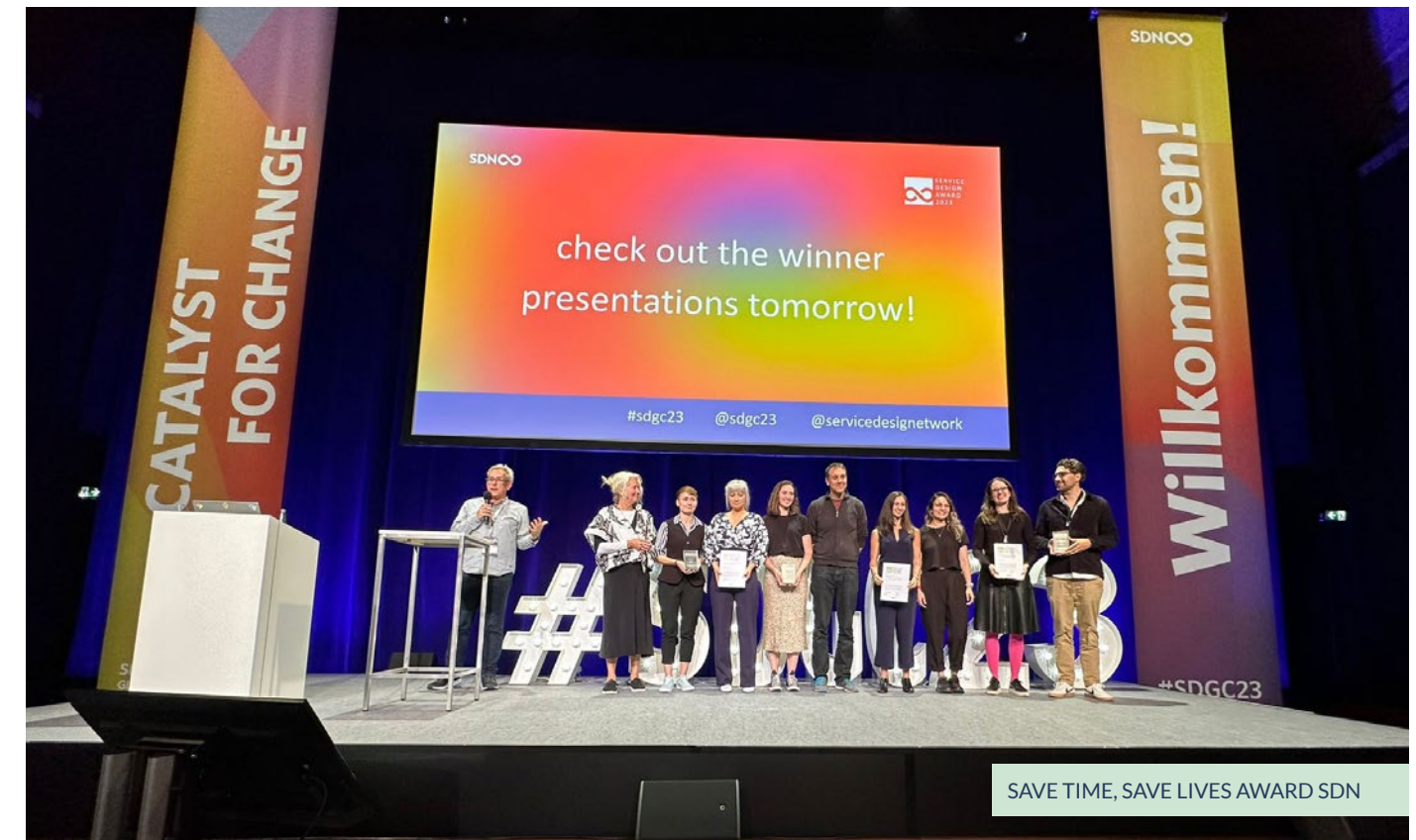
In November 2023 the Mater's dermatology education tool Sim-U-Skin won the Design Education and Research category at the IDI awards. "The IDI (Institute of Designers in Ireland) award winners exemplify the best of Irish design. The awards provide designers with a platform to showcase their talents, benchmark against their peers and provide inspiration for all. The breadth of projects truly shows the impact of Irish design on business, culture and creativity." This is a significant award in the Irish design space and reflects Mater Transformations commitment to effective design, creative partnerships and innovation.

NCAD Design Week

The design "the Warner Corner" won the Spark Innovation Programme Award in 2023. Marie Brennan, Nurse Lead Quality and Jayne Tuthill, Acting Drug Safety participated in the Mater Transformations NCAD design week bringing the challenges of segregating storage of ready mixed KCL bags. Ready mixed KCL bags look very similar to other fluids. The Mater's policy advises segregation from other fluids but this is not always possible on the wards with limited space. The NCAD students developed a standardised KCL section visual shelf label with prototypes. There is potential to include a QR code or warnings on the final product. Winning this award will provide funding for implementation in 2024.

HSE Spark Innovation Programme and SABE

In 2023 Mater Transformation collaborated with the HSE Spark Innovation Programme and SABE (School of Architecture and Built Environment), TUD Bolton Street, to explore ways of improving the oncology day ward environment to better support and comfort patients who are receiving treatment for cancer. It is planned that this collaboration will continue and expand next year.



SAVE TIME, SAVE LIVES AWARD SDN



WARNER CORNER SPARK INNOVATION AWARD



SIM-U-SKIN IDI AWARD



COLLABORATION WITH SPARK INNOVATION AND SABE

Building further our Academic, Research and Innovation Programmes Continued

In 2023 The Pillar Centre for Transformative Healthcare continued to develop, support, and enhance the activities of the Directorate for Education, Research and Innovation (DERI) as well as the education, research and innovation agenda of the Mater Hospital.

Clinical Research Support Office (CRSO)

Following a review of the research governance and management structures in the Mater in 2022, the hospital adopted a number of recommendations including establishing a CRSO on site. Hiring of the CRSO team commenced in early 2023 with a CRSO Unit Manager, a Financial Accountant for Research and a Contract and Regulatory Affairs Manager appointed. The CRSO team will offer expert guidance and assistance in conducting clinical research on a hospital site.

National Electronic Research Management System

The HSE National Electronic Research Management System (NERMS) is an online platform that researchers will be able to use in the future to facilitate the approvals needed to conduct research in or with the HSE. The vision for NERMS is that it will support researchers to complete a single application form to streamline the workflows required for research ethical review (conducted by a Research Ethical Committee) and institutional governance reviews (conducted by a Research Office).

The Mater is currently a pilot site for NERMS, working closely with HSE Research to develop the platform.

HIHI Partnership

In 2023 HIHI (Health Innovation Hub Ireland) identified the Mater as the first new clinical partner under its Phase 2 Business Plan. The organisations will work together to deliver key programmes and activities to support the healthcare innovation ecosystem in Ireland.

Projects will include working with clinical innovators at the hospital to create viable products and to develop pre-commercial prototypes and market-ready products. As part of the partnership, HIHI will work closely with the Pillar Centre and will co-fund an Innovation Specialist to lead a proposed Medtech Incubator Hub within the Pillar Centre.

Once launched, the hub will act as a site for companies and innovators to work together on innovation projects.

The Irish Association for Simulation Conference (IAS)

The IAS is an all-Ireland interdisciplinary society that advances the application of simulation-based learning to healthcare and high risk industries to drive change and improve quality and safety. The (IAS) Conference was hosted at the Pillar Centre in April 2023. This is the first time this event has been hosted at a clinical site.

National Isolation Unit Simulation Training Exercise

In September 2023, the Mater Hospital staged a local simulation involving a highly infectious diseases patient. This involved various different teams throughout the hospital. As part of the training event, staff dressed in personal protection equipment to protect them from the highly infectious patient and disease. As the designated site for any highly infectious patients, the exercises aim was to prepare the team at the Mater to deal with such patients and to improve on processes already in place.

The simulations and training are an important part of the work to prepare the Mater's dedicated staff should such events occur in the future. Similar simulations are planned for 2024 involving external national partners and international partners.

The MMUH / BioInnovate Immersion programme

In November 2023 four BioInnovate Fellows completed an eight week immersion programme in the Mater, identifying frontline needs in the areas of Trauma, Orthopaedics and Rehab that could be addressed through the development of medtech devices or digital solutions. Over 1,000 observations were distilled down into eight proposed projects which will be advanced during the course of the BioInnovate programme in 2024.

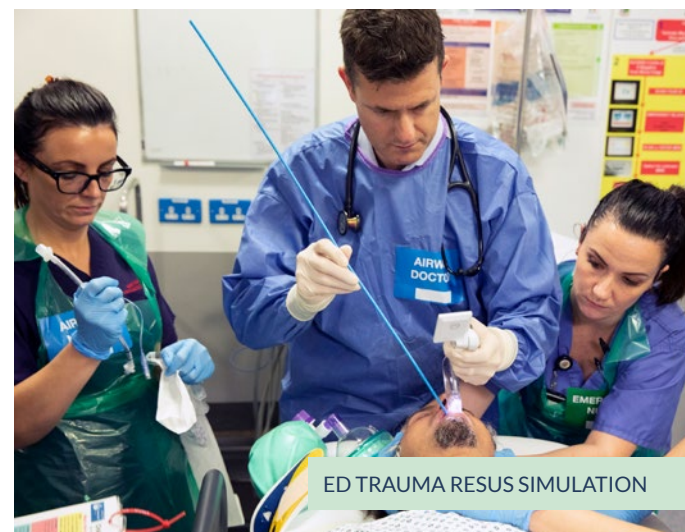
The BioInnovate Fellows complete a ten month, full time fellowship programme. The programme combines teams of high calibre, experienced fellows from medical, engineering, business and technical backgrounds whose aim is to discover unmet clinical needs and align them with market opportunities.

“We feel very privileged to be the first BioInnovate team to be hosted at the Pillar Centre for Transformative Healthcare. Prof Morris, Erin Daly and all the medical teams made us so welcome. This immersion has been a wonderful experience for us.”

Roisin McNulty
BioInnovate Fellow 2023



HIHI PARTNERSHIP



ED TRAUMA RESUS SIMULATION



NIU SIMULATION



BIOINNOVATE TEAM

Building further our Academic, Research and Innovation Programmes Continued

Formal Site Visit from the Nursing Regulatory Body – NMBI

In Q1 2023 15 auditors from NMBI, Academia and Health services carried out a formal regulatory site visit, examining compliance against the national standards and requirements for both undergraduate and postgraduate nurse education. Multiple cohorts of staff met the various team of auditors throughout the visit. The final report, issued in September 2023, positively reflected on many aspects of nurse education that is now published on the NMBI website.

Magnet for Europe

The Mater is currently on its third year of participation with Magnet4Europe, which aims to improve mental health and wellbeing among health professionals and patient safety in more than 60 hospitals in six European countries (Belgium, Germany, Ireland, Norway, Sweden, and United Kingdom). The phenomenon of Magnet® hospitals was initially studied scientifically in the USA in the 1980s by Dr Linda Aiken and her research studies and co-leadership of the Magnet4Europe study has had a major impact on nursing research and practice globally.

Dr Linda Aiken visited the Mater in January 2023. The Mater's Magnet4Europe Committee members also presented both nationally and internationally to showcase the hospital's projects and initiatives in line with the Magnet® principles and visited the Mater's twin hospital, Penn Presbyterian Medical Center, in Philadelphia.

The Deep Brain Stimulation Study Day

The Deep Brain Stimulation (DBS) Health and Social Care Professional (HSCP) staff and Nursing staff ran their first DBS Study Day in October 2023 at the Mater's Centre for Nurse Education, aiming to support community based HSCPs working with people with Parkinson's and DBS. The day featured sessions by each member of the team and included a session with three patients who have been through the programme and have had DBS in situ for more than a year. The Mater hope to hold more of these events in the future, working toward developing recorded resources which can be made available to teams and clinicians supporting service users.



Eye Movement Desensitisation Reprocessing

In 2023 funding was secured through the HSE for EMDR (eye movement desensitisation reprocessing) for ten staff to be trained in a trauma therapy for patients who have experienced a traumatic or near-death experience as a result of their medical condition or hospital experience (e.g. frightening emergency or critical care experience). Seven staff are engaged with ongoing supervision to gain accreditation in this therapy to provide increased support to patients.

Pharmacy Undergraduate Education Support

The Pharmacy and Medication Optimisation Directorate (PAMO) welcomed 1st year Pharmacy students for a site visit to the hospital in November 2023. The students learned about the diverse roles undertaken by Mater hospital pharmacists to ensure safe, rational and cost-effective medication use.

PAMO also offered three summer placements for Pharmacy undergraduate students in June - August 2023. This offered students an opportunity to experience hospital Pharmacy services including dispensary and logistics, clinical pharmacy, drug safety, medicines information and aseptic compounding.

'Pharmacy in the Hospital' Workshop

Pharmacy and Medication Optimisation Directorate staff delivered a 'Pharmacy in the Hospital' workshop to approximately 200 final year UCD medical students as part of their Professional Completion Module. The workshop was delivered to students both in person and virtually via Zoom. The workshop outlined prescribing legalities and factors to consider when prescribing, e.g. drug choice, dose, drug-drug interactions, and contra-indications. The session placed particular emphasis on prescribing considerations for high-risk drugs.

Medical students were presented with the opportunity to practice prescribing some commonly encountered medicines for the first time, e.g. heparin, potassium infusions and antimicrobials. Positive feedback was received from students who remarked that the session was comprehensive and engaging and gave them valuable insights into real life prescribing.



Online Induction Program for Cardiac Surgery

As NCHD's rotate every 6 to 12 months the Cardiac surgery department have been working toward a more robust method of induction into the service. Ideally there would be protected time to facilitate this but with such a high acuity group of patients this can be difficult.

In a joint venture with the Mater Learn the department developed an online induction program for Cardiac surgery. The new NCHD's are brought through the weekly schedule, departmental protocols, referral forms, OPD letter templates, managing common postoperative scenarios and suggested reading materials. These materials can be easily accessed by mobile phone for reference when required. This initiative will facilitate reliable induction of new team members and consistency in patient care.

Digital Surgery Unit

The Digital Surgery Unit was established at the Mater in July 2019 to facilitate engagement in impactful research in response to global healthcare challenges. It is part of UCD Centre for Precision Surgery, an applied research, education and training facility dedicated to excellence in surgical practice and the future of surgical care. The centre is led by Professor Ronan Cahill, (Colorectal Surgeon and UCD-Mater Full Professor of Surgery) and includes a team of surgical researchers, engineers, biomolecular scientists, data analysts and domain experts.

Key activities of the unit in 2023 involved surgical device development and testing with industry in the following:

- Smoke evac and insufflation technologies
- Implant for bowel anastomosis
- Tissue device containment for laparoscopic surgery

The unit was also involved in the trialling of new technologies in theatre:

- Smart personalised insufflation systems (Ev15, Palliare)
- AI-powered surgical video and analytics platform (Touch Surgery, Medtronic)
- 2D to 3D endoscopic visualisation system (DARWIN 3D Endoscopic System, MedicalTek)

Major Research Awards in 2023 included:

- The Future of Colorectal Cancer Diagnosis and Treatment: Combining Tissue Responsive Probes, AI, and Machine Learning to Transform Medical Care; funded by Enterprise Ireland
- CLASSICA - Validating AI in classifying cancer in real-time surgery; funded by Horizon Europe
- Digital Surgery - Building a National Ecosystem; HRB Conference and Event Sponsorship

UCD-MMUH Clinical Anatomy Centre

Alongside the Digital Surgery Unit, the UCD-MMUH Clinical Anatomy Centre located in the original Mater operating theatres, offers an advanced skills training and simulation facility where new technologies, systems and procedures can be introduced, perfected and embedded. The Centre is licensed by the IMC for cadaveric work at postgraduate level.

Complimentary to research at the Digital Surgery Unit, 50 events held at the Clinical Anatomy Centre in 2023 included wet labs, specialty-specific skills workshops and study days. The centre provides for foundational undergraduate level surgical education up to the most complex training requirements including in-suite fluoroscopy for intraoperative image guided surgery and CT for digital-twin imaging. Users of the facility included 10 surgical and interventional specialties, allied health professionals, industry and training bodies (RCSI, RCPI, Institute of Obstetricians and Gynaecologists and the College of Anaesthesiologists of Ireland).

The combined capability of the Digital Surgery Unit and the Clinical Anatomy Centre at the Mater offer an unrivalled national resource for consolidating and scaling surgical training, skills development, simulation and research.

'ACR Master' at the American College of Rheumatology

Professor McCarthy received the designation of 'ACR Master' at the American College of Rheumatology Annual Scientific Meeting, the highest honour that the College (ACR) can bestow. The award reflects Prof McCarthy's outstanding contributions to the advancement of Rheumatology. Geraldine was one of only three people from Europe to receive the award at the 2023 ceremony in San Diego.

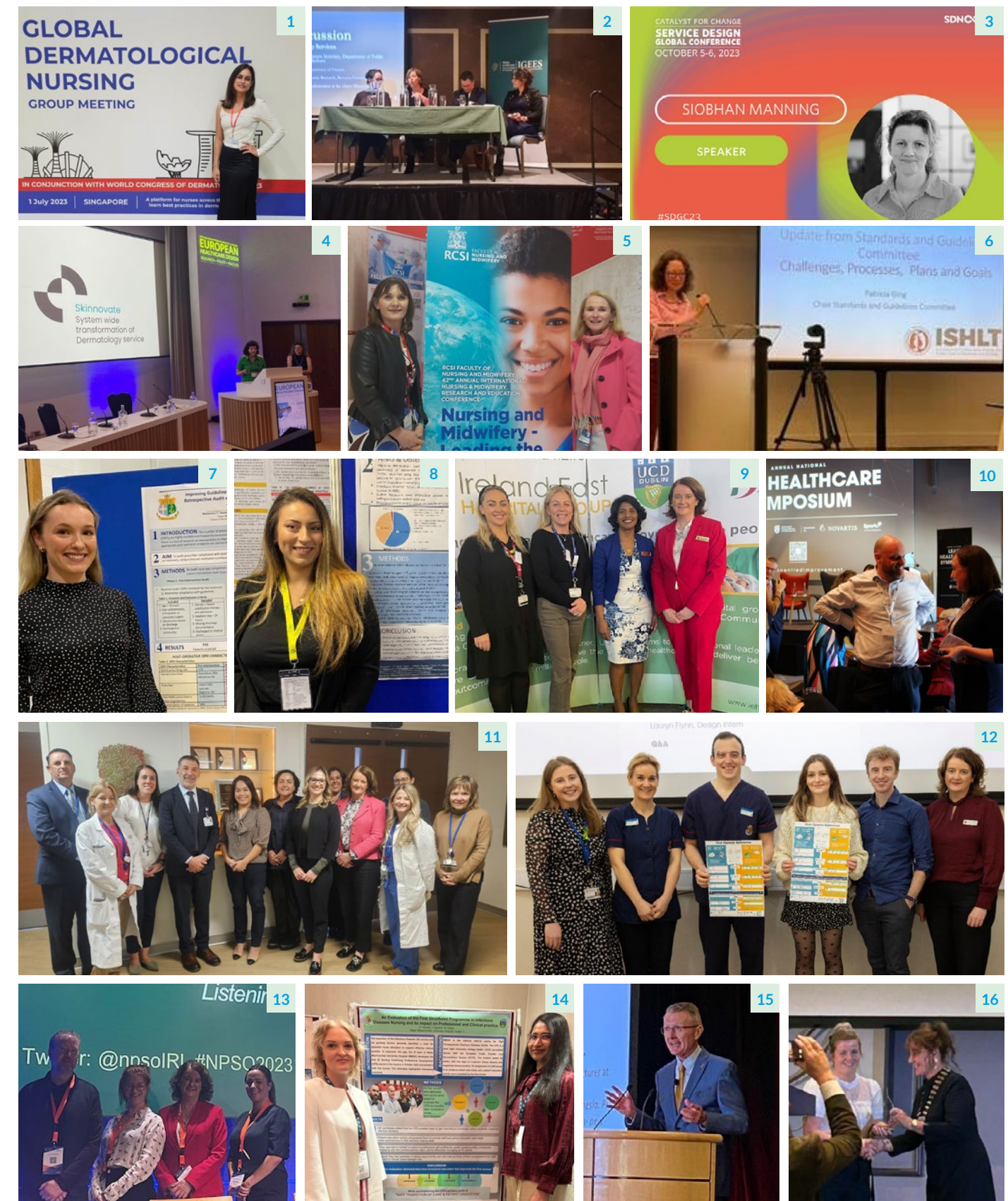


PROF GERALDINE MCCARTHY, ACR MASTER

Building further our Academic, Research and Innovation Programmes Continued

Mater staff and clinicians continually seek to learn and share learnings. Over the course of 2023 they participated in numerous national and international conferences and events, a sample of which are listed below:

1. Nerea Moran at the Global Dermatological Nursing Group Meeting Singapore
2. Una Cunningham on the Panel at the Irish Government Economic Evaluation Service Annual Conference, who also represented the Mater at the International Society of Quality and Safety in Healthcare Conference in Seoul
3. Siobhan Manning at Service Design Global Conference
4. Aileen Igoe and Siobhan Manning at European Healthcare Design Conference in London
5. Mater Nursing at Royal College of Surgeons Conference
6. Patricia Ging presenting at the International Society for Heart and Lung Transplantation Conference
7. Lara Mulvanny, presenting her MSC project on improving opioid discharge prescribing at Trinity College Dublin
8. Dzana Hadzic at the Hospital Pharmacist Association Ireland Conference
9. Mater staff at IEHG 6th Annual Nursing and Midwifery Symposium
10. Mater representatives at the 10th Annual National Lean Symposium
11. Magnet4Europe visit to Penn Presbyterian Medical Centre in Philadelphia
12. Mater representatives presenting their poster at the MMUH Nursing Quality Forum
13. Mater staff at the National Patient Safety Office Conference
14. Mater staff at the Office of the Midwifery Service Director Education Conference
15. Sean Paul Teeling at the Lean Healthcare Conference Stanford
16. Siobhan Magner winning the President's prize for poster presentation at Irish Gerontological Society Conference



5

Developing our People and Culture

At the Mater we continually strive to provide a supportive, collaborative environment; working together across specialties and teams to deliver excellence.



Developing our People and Culture

728	70	482
Non medical new hires, the highest number of new hires recruited to the hospital to date	Mater Hospital ranked as a new entry at number 70 in Ireland's Best Employers list for 2023 as published in the Sunday Independent	additional contracts issued
50	50	440
new graduate nurses started on permanent contracts	managers participated in Management Development Programmes	of NCHD posts were filled in 2023

The Hospital could not deliver the exceptional service it provides to our patients without the extraordinary commitment and dedication of our staff.

Recruitment

2023 saw the highest number of new hires recruited to the hospital to date with 728 starters (including 324 nursing grades).

However, the hospital faced significant recruitment challenges in 2023, including difficulties in attracting suitably qualified and experienced candidates largely due to the current cost of living in Dublin and low availability of suitable/affordable accommodation in the city.

The Mater has seen the impact on recruitment across all disciplines in the hospital, most notably in Nursing and Allied Health professions. The widening gap between Public Sector salaries and higher salaries available in the Private Sector was also seen as a factor impacting recruitment.

An additional challenge included a national legislation change in Q1 2023 which resulted in the cancellation of all new visa applications for incoming overseas nurses which created a backlog, resulting in unexpectedly large numbers of overseas nurses arriving in Q3 and Q4, 6-10 months later than scheduled. Recruitment was further impacted by the hiring embargo implemented by the HSE in October 2023.

Promotion and Retention

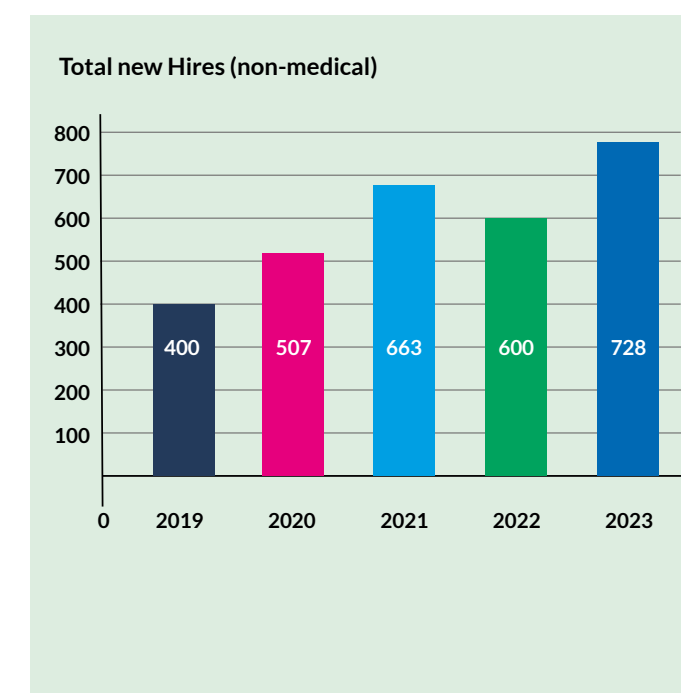
In 2023 the hospital saw an additional 482 contracts issued due to promotion or temporary staff moving to permanent contracts. This included 153 nursing grades and 269 other non-medical grades.

The hospital also retained 50 new-graduate staff nurses in 2023 who started on permanent contracts.

In addition, 440 of NCHD posts were filled in 2023.

During 2023 the hospital also introduced the:

- Public Only Consultant Contract (POCC 23)
- Implementation of HSE/IMO NCHD Agreement Dec 2022
- Implementation of Interim Recommendations of the Ministerial NCHD Taskforce



Developing our People and Culture

Continued

Gender Pay Gap

In early 2023 the Mater published their inaugural Gender Pay Gap report.

	Pay Gap (%)
Mean hourly gender pay gap (all)	24.14%
Mean hourly gender pay gap (part-time)	19.08%
Mean hourly gender pay gap (temp contract)	18.93%
Median hourly gender pay gap (all)	6.52%
Median hourly gender pay gap (part-time)	-0.75%
Median hourly gender pay gap (temp contract)	15.45%

The results were not a surprise and gave the hospital an opportunity to take time and look behind the figures ensuring hospital initiatives and the hospital culture supported the advancement of women in the Mater.

Some of the specific actions taken in 2023 to lay the foundations for the hospital to build on for the years ahead include:

Career Development and Support

- Providing career development and leadership programmes for female talent to support acceleration to senior positions
- Ensuring all employees have equal access to opportunities and development support
- Launching the hospital Capability Framework which provides a roadmap of the skills required to move people's career forward enabling a more consistent and clear approach
- Continued career coaching to those who may be unsure of their next career step

Recruitment and Promotion

- Implementing transparent and open recruitment and promotion processes via the hospitals Recruitment Policy
- Ensuring that all interview panels have the opportunity to take part in inclusive interview training
- Ensuring that the hospital use gender-neutral language in job descriptions
- Ensuring that the hospital have gender-balanced interview boards
- Continuing inclusive approaches to recruitment and talent management via an internal expression of interest process, and allowing employees streamlined access to career progression opportunities via a simplified application process
- Targeting women to apply for senior roles
- Enabling and supporting flexible ways of working for colleagues at all levels of the organisation e.g. flexible working policy

Inclusion and Diversity to Include Gender Inclusion

- Continuing to embed inclusion and diversity into the hospital policies, practices, and platforms
- Ensuring that key projects that lead and drive strategic initiatives for the organisation are carefully staffed through a strong mix of women and men
- Delivering an employee Wellbeing Programme that supports and enables staff to take more responsibility for their health and wellbeing and growing the hospitals online well-being platform, making the programme accessible at all times; therefore, supporting colleagues to work around busy work and home-life commitments
- -Work Policy, to maintain a workplace environment that encourages and supports the right to dignity at work and highlight the procedures the hospital has in place to handle complaints, including on the gender ground

70th in Ireland's Best Employers list for 2023

In 2023 the Mater Hospital ranked as a new entry at number 70 in Ireland's Best Employers list for 2023 as published in the Sunday Independent. This was a significant achievement, especially as the ranking was an independent review, based on evaluations and opinions that came directly from employees. The research was facilitated and the list was compiled by the paper of companies employing more than 200 employees in the Republic of Ireland. With 1,100 eligible companies, ranking number 70 is an extremely impressive accomplishment.

The award was recognition for the whole hospital, as how the hospital views its workplace is not only based on the day-to-day decisions made by the Board, the Executive, our Directorates, or Managers but also on how it interacts and supports each other as colleagues. This view was further validated by the results of the HSE Staff Survey, "Your Opinion Counts", where the results had improved significantly from the 2021 Staff Survey.



Mater Performance Achievement

Mater Performance Achievement (MPA) is a new initiative in the hospital that will support the career development of employees through a structured process. Managers and employees will engage in 'Performance Achievement' aimed at promoting the performance and employee wellbeing through structured development conversations. In 2023 MPA was formally launched to a range of corporate and clinical professional groupings within the hospital. A series of practical workshops and supports were also provided to participating managers.

Development of Blended Induction

The induction process for the Mater has been redeveloped in order to improve the onboarding experience. A range of e-learning and online learning modules are now made available to new joiners covering a range of regulatory and compliance content. The induction and onboarding process was further developed in 2023. New joiners can now access a wider range of personal and professional development modules.

Additionally, a new manager induction programme now supports colleagues with managerial responsibilities. The programme covers a range of practical HR elements including recruitment, probation and managing performance.

Patient Experience Programme

Following an initial pilot in 2022, the patient experience programme was finalised and rolled out to the hospital telephony department. Wider programme delivery is now ongoing with attendees covering six modules; communication, empathy, self-awareness, collaboration, accountability and leadership.



Developing our People and Culture Continued

Management Development Programmes

In 2023 a range of bespoke management development programmes were designed and delivered in order to support managers across a range of areas including performance conversations, managing challenging behaviours and coaching as a manager. Approx 50 managers went through this short programme in 2023.

Leadership Development Programmes

A comprehensive bespoke Leadership Development Programme was designed and developed following the organisational directorate restructure undertaken in 2023. In 2024 senior managers in both clinical and corporate directorates will go through this new programme.

Organisational Capability Framework

In 2023 an Organisational Capability Framework was developed for the Mater. This framework is the result of interviews and workshops held across the hospital. A Charter of the core capabilities has now been identified and agreed.

The Framework outlines the knowledge, skills and behaviours needed to meet Mater organisational requirements now and into the future. It will assist with the formation of a consistent approach in how the hospital develop employees and in time will be integrated into all elements of the employee lifecycle.

Health & Wellbeing at the Mater

Healthy workplaces help people to flourish and reach their potential and now more than ever there is a much broader understanding and application of holistic health and well-being approaches. The Mater has always been strong in this area and there have been many initiatives delivered over the years to support staff well-being.

In 2023 the Hospital's Health and Wellbeing Specialist, supported by the Health and Wellbeing Committee, developed a more formalised health and well-being programme to facilitate well-being to be integrated more within the organisation.

The remit of the Health and Wellbeing Committee in 2023 was to promote and facilitate a culture of physical, psychological, and emotional well-being by providing activities and supports to enable and empower the hospital teams to look after their personal health whilst they are focused and committed to looking after others.

In January 2023 the programme was launched with the plan to run something each month around the themes of **Connect** (social theme), **Challenge** (try something new) and **Grow** (personal development).

An example of some of the events that ran in 2023 include:

- Salsa, yoga, art, fitness and Irish Dancing classes
- Personal finance talks
- Seminars on finding balance, compassion fatigue, understanding menopause, how to stay safe online, deep fakes and image abuse
- Traditional music for St Patrick's Day
- Employee events to mark Employee Appreciation Day, Workplace Wellbeing Day, International Women and Men's Days
- Bike week (lunch & learn session)
- Wellbeing by the sea (Sea swim with coffee & tea + treats)
- A vintage tea bus tour
- A guided mountain walk

The Psychology team also supported staff across departments, with reflective groups and mindfulness sessions with recorded audio mindfulness exercises for HR to develop a QR code for staff to access brief mindfulness exercises. Additionally, throughout 2023 Physiotherapy continued biweekly programmes of Pilates for staff.



NATIONAL WELL-BEING DAY

Leo St

In 2023 this service for the elderly community continued to open from 10am -3pm Monday-Friday accommodating up to 14 people daily for a warm meal. Three new people joined the service in 2023, with referrals coming from Public Health Nursing, Medicine for the Elderly and the Physiotherapy department. Alongside the daily meals, yoga and movie afternoons provided in a caring and supportive environment, the clients went to Áras an Uachtaráin, Knock Shrine and the National Concert Hall to name but a few of the activities.

Additionally, a new alliance was forged with transition year students working with LOCALISE and in August 2023 150 volunteers from Notre Dame University, USA refurbished the house as part of their 'giving back' to society.

Mater Volunteer Programme

In 2023 the Mater Volunteer Programme was re-established post COVID-19. The first volunteers came on site in September and have been providing much needed assistance to patients/visitors regarding 'way finding'. The feedback to date has been extremely positive as the hospital campus continues to grow in size.



MATER
VOLUNTEER

International Women's Day 2023

The hospital proudly celebrated this important day for women. The theme #Women in Tech prompted the hospital to engage two international speakers, Kelsey Farish and Noelle Martin to raise awareness of 'Deep Fake' and the associated inherent dangers for young girls and women. They gave staff at the hospital very useful information to reduce the risk and maximise the benefits of technology.

Suantraí LTD – Crèche and Montessori

The numbers of children of staff attending the crèche ranged between 43 to 45 children. From September until year end 2023 there were 42 children in the service.

The waiting list for the crèche as of the end of 2023, stands at 65 children between all age groups. The hospital in the future hopes to extend these facilities which are very important to support staff.



CRÈCHE AND MONTESSORI

Developing our People and Culture

Continued

In 2023 the endeavours of the Office of Mission Effectiveness, and all our staff and community showcased a commitment to nurturing an inclusive and diverse atmosphere, firmly rooted in the values of empathy, care and compassion.

The key role of the Office of Mission Effectiveness lies in advancing the fundamental principles articulated in the hospital's Mission Statement realised through the lived experience in the Mater.

Our Mission

To care for the sick with compassion and professionalism at all times, to respect the dignity of human life and to promote excellence, quality and accountability through all our activities.

What our patients have to say about us:

“Seen at the appointment time, quick, efficient, friendly and explained what was happening clearly. A very pleasant surprise with all the bad press about public hospitals”.

“We hear so many bad things in the media about the health service but my experience in dealing all the staff in Neurology has always been such a positive experience”

“The staff provided absolutely outstanding care with more patience than I ever would have hoped for. They never rushed me or made me feel like I was a burden. They are an amazing credit to their profession”

“I would like to praise the professionalism, courtesy and helpfulness of all the Sacred Heart Ward and ED staff to me and my family.”

The pictures below demonstrate how our people live through our values and how we work with and support our local community.



6

Being Efficient and Sustainable and Building Capacity into the Future

In the Mater Hospital we not only think about sustainability we incorporate it into everything we do. We are constantly looking at ways to be more efficient in the delivery of our service anticipating the future regarding required services, capacity and our infrastructure whilst also looking at how we can reduce our carbon footprint, save energy and contribute positively to the planet.



Being Efficient and Sustainable and Building Capacity into the Future

Recent global health emergencies such as the COVID-19 pandemic and Mpox outbreak highlight the importance of a responsive and resilient national response system.

National Isolation Unit

As part of the national strategy for emerging health threat preparedness, the Mater Hospital is constructing a state of the art High Level Isolation Unit (HLIU). This National Isolation Unit (NIU) will play a critical role in protecting the public from outbreaks of unexpected infectious disease threats.

The NIU will be located on the ground floor of the recently completed Rock-Wing building. This biocontainment facility has been specifically designed for the provision of care for patients with a High Consequence Infectious Disease (HCID). These are a group of conditions that occur infrequently however may pose a risk to any close contacts and to the health care workers. These infections are uncommon and tend to have limited treatment options. They can carry a high risk of serious illness or death for example Ebola Viral disease, MERS COV 2.

Simulation exercises are an important part of preparedness. As part of the preparation phase for the new facility, a number of cross agency simulation exercises continued in 2023. The aim of these training events is to strengthen co-ordination and collaboration across national agencies including the National Ambulance Services, Irish Defence forces, HSE and Public Health. This strengthens Ireland's capability and preparedness for future health threats.

The new NIU will play a pivotal role in containing any potential future public health crisis thereby protecting the public as well as providing advanced care for patients with potential high consequence infectious disease. The Mater Hospital is working closely with national authorities and transport agencies to ensure successful and sustainable preparedness and response strategies for future public health emergencies.

In April 2023, members of the Mater team participated in a wider HSE High Consequence Infectious Disease Transport Working Group who visited Oslo to meet Norway's Helsedirektoratet Partners, RescEU NOJAHIP HCID Medevac Capacity and to visit the High Level Isolation Unit (HLIU) at Oslo University Hospital.

Official visits and connections with established HLIUs are crucial in informing decisions, planning for the new National Isolation Unit design, and the development of a Clinical Operating Model. There was significant progress made towards this in 2023.

The hospital is always future planning to ensure we can continue to provide improved access and exemplary care to our patients and community. Development of extra capacity is critical to achieving this.

Cardiology Day Ward and Opening a Third CV Lab

In 2023 the hospital was funded to run a third CV lab in the Mater, allowing it to bring in additional specialist cardiac staff. This coupled with the opening of a dedicated six bedded Cardiology Day Ward has led to a revitalisation of CV Lab activity. The doubling of the CV Lab recovery space in conjunction with the CCU build along with National Equipment Replacement Programme (NERP) funding to replace radiology equipment will lead to an upgrade in CV Lab 1 facilities. The improvements will future proof the service and align the hospital with a global trend towards more day cases and fewer inpatient stays for cardiac procedures as seen over the past 20 years.

Neurology OPD Facility

Plans for a new building to provide OPD facilities for Neurology and Stroke patients were agreed in 2023 and the design and tendering processes commenced. The unit will deliver eleven OPD examination rooms as well as support facilities and a four couch infusion suite. The facility will cater for the specific needs of neurological and stroke patients to continue on their treatment plans. It is planned for the new facility to open in late 2024.

Coronary Care Unit

In 2023, after several years of planning, HSE Capital Funding of €25.27m was awarded to the hospital for a new modern Coronary Care Unit (CCU). Additionally, €2m has been pledged to the CCU build via the Mater Hospital Foundation. The current hospital's CCU consists of twelve single bedrooms; however there are no ensuite facilities and only one shared bathroom for the area, posing an infection control risk. The plan now is to increase

CCU capacity, in line with demographic growth, while replacing suboptimal existing CCU facilities. Detailed designs have been completed with architects and engineering.

New OPD Space

The hospital is planning for a new OPD space 'Rose Garden' on the hospital grounds. This new space is due to open in 2024 and will deliver eight clinical rooms and administration space delivering approx. 10,000 appointments per year.

Planning for Additional Capacity

In 2023 the hospital began work to plan for much needed additional capacity to improve access to care. It is in early stages of planning for an additional wing which will connect into the new Rock-Wing and is expecting to progress with these plans in 2024 pending support from the HSE.

The hospital is also currently in the planning stage for the re-development of the Temple Street site in order to provide additional public health services to the community.

North Dublin Surgical Hub Swords

As part of Strategic Regional Development, work on a new surgical hub in Swords commenced in 2023. The Mater Hospital is playing a key role in the planning for this new hub and will be providing clinical governance and operational management for the new surgical hub which is due to open in 2024.



NORWEGIAN AIR TRANSPORT EPISHUTTLE



NIU SIMULATION



6 BED CARDIOLOGY DAY WARD



CGI OF ADDITIONAL CAPACITY BUILD

Being Efficient and Sustainable and Building Capacity into the Future Continued

As the Hospital develops and expands, its organisation capabilities also need to develop; ensuring they are fit for purpose, future proofed and can effectively support the safe running of the Hospital.

New Directorate Structure

In response to growing activity, complexity of clinical and operational requirements and the addition of initial major trauma work, the directorate structure of the hospital was reviewed in 2023.

The previous Emergency and Specialty Medicine Directorate was reformed into two directorates:

- Emergency Acute and Specialty Medicine Directorate
- Acute Neurosciences, Specialty and Rehabilitation Medicine Directorate

In July 2023 the Directorate Team for the Acute Neurosciences Speciality and Rehabilitation Medicine Directorate commenced their roles with Dr John Stack, Consultant Rheumatologist as the Directorate Clinical Lead. Dr Catherine McGorrian, Consultant in Cardiology and Acute Medicine remains as the Clinical Lead for the Emergency, Acute and Specialty Medicine Directorate.

Quality and Patient Safety Programme

In November 2023 the hospital commissioned a review of the governance and structures for the Quality and Patient Safety Directorate supported by an independent advisor. The aim of the review is to provide the hospital with an 'as-is', comparators with similar sized organisations nationally and internationally, and a final report incorporating a future design of a new Quality and Patient Safety function to support the developing hospital. The report is due to be completed mid 2024.

Electronic Health Record

The core clinical application in the Mater is "PatientCentre". Over the 30 years the system has been in place in the hospital it has evolved and been locally developed to keep pace with clinical requirements and technology developments. However, there is now an urgent need to implement an Electronic Health Record to replace this ageing and unsupported system and provide the additional clinical functionality that is required in the hospital and to mitigate risks.

To this end, the hospital initiated a procurement process for an Electronic Health Record. The procurement process continued throughout 2023 and is expected to conclude in 2024.

Campus Development Office

The hospital ramped up an extensive programme of capital development over the past couple of years, and in 2023, a proposal was developed to establish a Campus Development Office (CDO) to manage large scale projects. It will incorporate capital and infrastructure development, healthcare planning and clinical operational and people planning functions.

The successful build and operationalisation of the Rock-Wing (built on budget €103 million and on time, within 2 years, saving approx. €40 million) was project managed internally by the hospital.

The hospital intends to manage future projects through the newly established Campus Development Office in order to ensure this level of experiential knowledge, expertise and efficiency is deployed to all projects into the future.

TPRO Connect

In 2023 the Cardiovascular, Respiratory, Renal, Diabetes, Endocrine (CVRRE) Directorate signed up on behalf of the hospital to pilot T-Pro Connect, an e-correspondence distribution solution that enables the hospital to send letters electronically to GPs via Healthlink. The system allows GP letters to be signed off electronically by a clinician, using the hospital's existing digital dictation solution, and is sent to the patient's GP immediately via secure, HL7 messaging.

The wide deployment of T-Pro Connect is fully funded through the obtained savings in current postage costs (paper, printing, stamp, envelope etc.) and also achieves significant savings in turnaround time.

Eco Bot 50

In October 2023 the hospital welcomed the Eco Bot 50 Combi to the Mater who has been christened "Herbie" and is designed to work alongside the Hygiene teams. After been mapped and configured, the Eco Bot 50 performs dust control during the day and scrubs and dries the floors at night.

The Eco Bot 50 automatically returns to his charging point when he needs to recharge, self-docks and begins charging. The Eco Bot 50 is extremely sustainable recycling water through a highly efficient filtering system which has significantly reduced the water usage required for floor cleaning.

"Herbie" recognises when a person is near and stops and changes direction, no human intervention is required.



"Hospital Food" Improvement Project

To support the patient experience the Catering Department developed a project in 2022 to redevelop its menu options and the presentation of meals. Several pilots of three new menu options were undertaken on the wards in late 2022 to resounding positive feedback from patients.

The Catering Department, alongside the dieticians, dedicated 2023 to redeveloping all menu options and more pilots were conducted on wards, again with extremely positive responses. By collating and gathering feedback from patients on current and new dishes the Catering Department are now placed to roll out the new presentation and menu options in the Mater in 2024.



Being Efficient and Sustainable and Building Capacity into the Future Continued

Throughout 2023 the Hospital continued to work on Climate Action and Biodiversity Plan Projects and secured capital support funding, in excess of €5m, from the HSE Sustainability and Climate Action Office.

Climate Action Roadmap (CARM) and Biodiversity Plan - Progress on Key Initiatives in 2023

GEO Thermal

In the hospital's continued drive to achieve net zero targets, and in collaboration with Carbon Energy Fund Ireland (CEF) and Geoserv, a Shallow Geothermal Feasibility and Design Report was developed for the Campus.

Solar Photovoltaics (Solar PV)

A Feasibility Study in collaboration with the HSE and Actvie8 for the Mater Campus was developed.

Whitty Building Lighting Replacement

Design is progressing throughout the Whitty Building, and complex areas such as theatre. Replacement works are expected to commence in late 2024.

Biodiversity

A landscape company was appointed and has completed a design intent document addressing a number of the hospital's ecology reports main objectives. The hospital is now actively seeking funding for initiatives recommended in this document.

Waste Water Management

The Hospital has engaged with a wastewater treatment specialist contractor to consider the introduction of a new and emerging technology to treat the hospital's wastewater and introduce a solution that will provide an environmentally friendly 'end of life' for waste materials.

Decarbonisation of Site

The decarbonisation of the hospital site involves removing the use of fossil fuels, commencing with the removal of the hospital's steam boilers used for its CSSD Autoclaves and Reverse Osmosis (RO) plant. Steam in the future will be generated electrically by new autoclaves. Scope of works and design is in progress for this, and works are expected to commence in 2024.

Heat Pumps

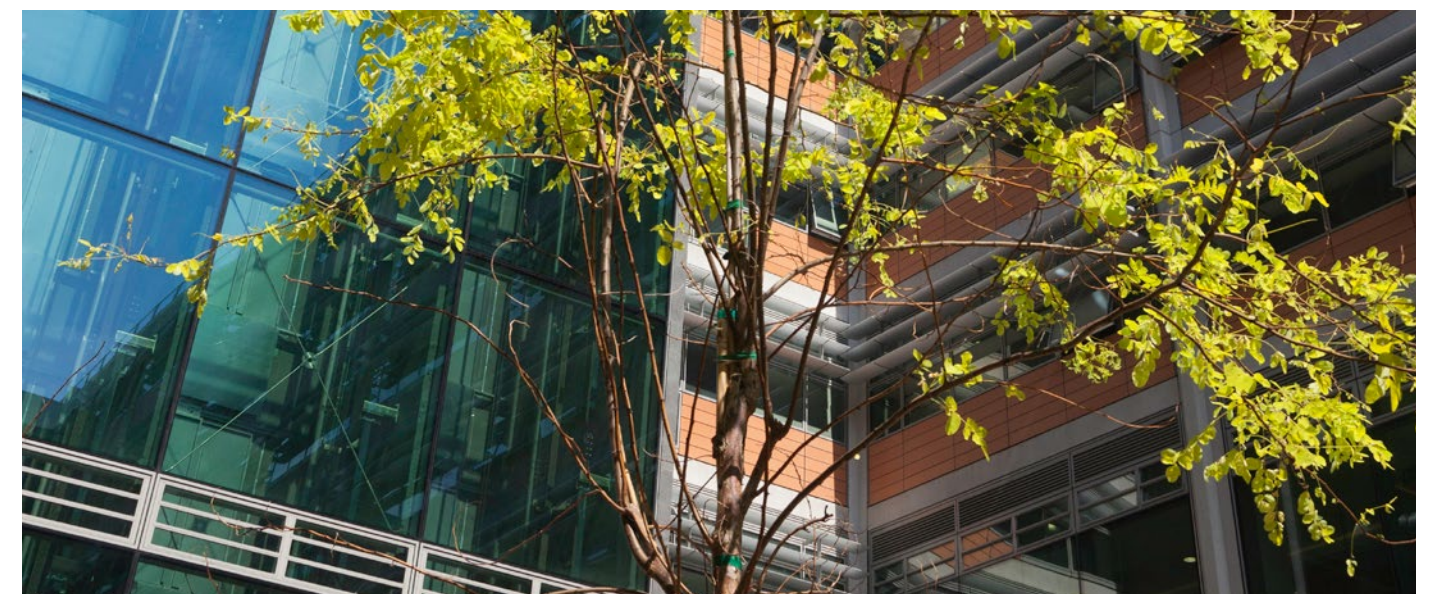
Heat Pumps Feasibility Designs are currently being reviewed for existing boiler replacements.

The Mater completed the third year of its CEF Energy Performance Contract with Veolia which saved the hospital c. €3.15m in avoided energy costs. In addition, the EPC overachieved by c. 11% in its carbon reduction of 2,595TCO2 in 2023.

2023 was a challenging but successful year for the Hospital. Looking forward we will continue to innovate and develop to ensure that we are preparing for the future, and we are constantly improving and building on excellence.

Looking forward into 2024 and beyond we aim to deliver on key strategic initiatives which include:

- Continued phased development of the Major Trauma Centre and Service
- Further development of Start Dublin Phase I Clinical Trials Unit
- Further expanding the hospital's Artificial Intelligence capability
- Enhancing the hospital's Quality and Safety structures
- Further preparing for OECl Accreditation and developing further the hospital's Advanced Cancer Care
- Further implementing the hospital's Climate Action Roadmap and Biodiversity Plans
- Implementing an Electronic Health Record
- A High-Fidelity Simulation Suite in the Pillar Centre for Transformative Healthcare
- A new Neurology OPD and Day Unit in the hospital
- A new Coronary Care Unit (CCU) in the hospital
- The National Isolation Unit
- A staff gym on site - 1861 Health and Wellness Club
- An Adult Mental Health Facility



7

Financial Review and Governance



MMUH Financial Statements 2023

Mater Misericordiae University Hospital Statement of Income and Retained Earnings for the financial year ended 31 December 2023

	2023 €'000	2022 €'000
Turnover		
Revenue grants	477,366	421,123
Other income	46,721	40,489
Capital grant amortisation	4,746	4,839
	528,833	466,451
Costs		
Staff costs	(361,269)	(317,105)
Non pay costs	(170,073)	(144,390)
Depreciation	(4,746)	(4,839)
	(536,088)	(466,334)
Operating (deficit)/surplus	(7,255)	117
Interest payable and similar charges	(62)	(34)
(Deficit)/surplus on ordinary activities before taxation	(7,317)	83
Taxation	-	-
(DEFICIT)/SURPLUS FOR THE FINANCIAL YEAR	(7,317)	83
Retained deficit at the beginning of the reporting period	(22,609)	(22,692)
Retained deficit at the end of the reporting period	(29,926)	(22,609)

Mater Misericordiae University Hospital Balance Sheet as at 31 December 2023

	2023 €'000	2022 €'000
Fixed Assets		
Tangible Assets	42,454	79,811
Financial Assets	-	-
	42,454	79,811
Current Asset		
Debtors and Prepayments	48,015	43,070
Stocks	13,367	11,318
Cash at bank and in hand	26,857	38,422
	88,239	92,810
Creditors: Amounts falling due within one year		
Creditors	(103,255)	(101,295)
Bank loans and overdrafts	(14,909)	(14,123)
	(118,164)	(115,418)
Net current liabilities	(29,925)	(22,608)
Total assets less current liabilities	12,529	57,203
Capital grants	(42,454)	(79,811)
NET LIABILITIES	(29,925)	(22,608)
Financed by:		
Capital and reserves		
Called up share capital presented as equity	1	1
Retained deficit	(29,926)	(22,609)
SHAREHOLDER'S DEFICIT	(29,925)	(22,608)

Financial Review

Income and Expenditure for the year amounted to €484.7m split as follows: - Pay €361.3m, Non Pay €170.1m and Income €46.7m. The HSE provided budget amounting to €453.6m together with Supplementary Funding approved in April 2024 of €23.8m giving a total budget allocation for 2023 of €477.4m. The Hospital is, therefore, left with a deficit for the year of €7.317m, which when added to the historical deficit of €22.609m brings the current retained deficit to €29.926m.

During the financial year 2023 the impact of inflation was felt where medical and surgical supplies, energy, food, cleaning, laboratory supplies, were impacted by price increase. Increased patient activity as outlined in the tables was also a key factor in increased expenditure as Hospitals were requested by the HSE to maximise capacity to deliver increased levels of patient care due to demand.

Review of performance and achievements

Results

During 2023, the Hospital discharged 27,026 inpatients (Table 1) consuming 230,794 bed days (Table 2) and treated 76,853 day cases (Table 3). The Emergency Department including Smithfield Rapid Injuries Clinic and the Eye Emergency Department had 96,095 attendances (Table 4). The Hospital's Outpatient Department treated 65,944 new and 200,208 return patients for the year (Table 5).

Operations

During 2023, the Hospital continued to face the challenges through unscheduled care pressure from patients presenting to the Emergency Department. However, one of the key achievements in 2023 was the opening of 96 additional beds in the Rock-Wing. This project was completed on time and within budget and has added hugely in relieving the pressure for inpatient services.

The real additional benefit from the Rock-Wing will be evident in 2024 activity as the beds were opened incrementally in 2023 with the remaining ward opening in Q1 2024.

In 2023, the Hospital continued to experience significant pressure on all services and this was despite the addition of the 96 beds in the Rock-Wing giving an overall addition of 152 beds since 2020. It is acknowledged there is still insufficient capacity to deal with the demand from unscheduled and scheduled care. Of note is that in 2019 the hospital had delivered activity levels in excess of any year up to that point, and since 2019 the activity levels across all patient categories has continued to grow. Tables 1 to 5 show activity increases across all patient admissions and attendances in 2023 when compared to 2019.

The Mater Hospital is committed to continually transforming and innovating to improve quality, access to care and the patient experience.

Table 1: Inpatient Discharges

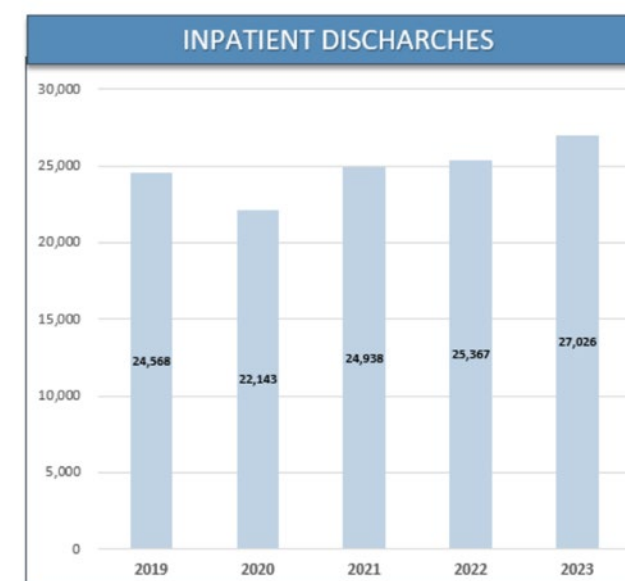


Table 3: Day Cases

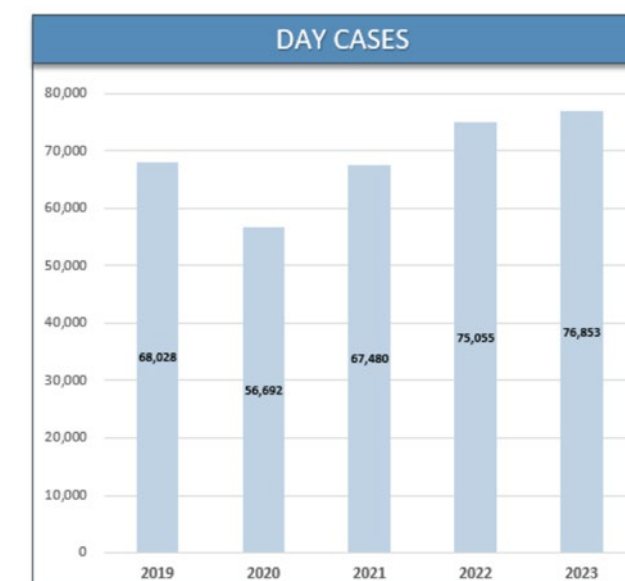


Table 2: Bed Days Used



Table 4: ED Attendances by Location

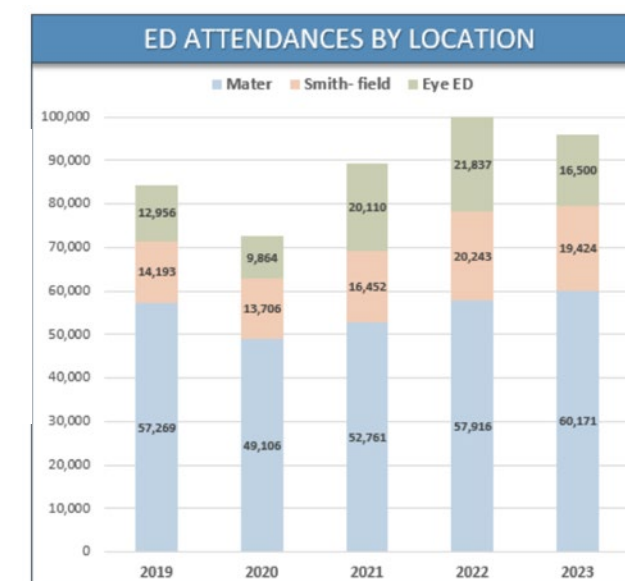
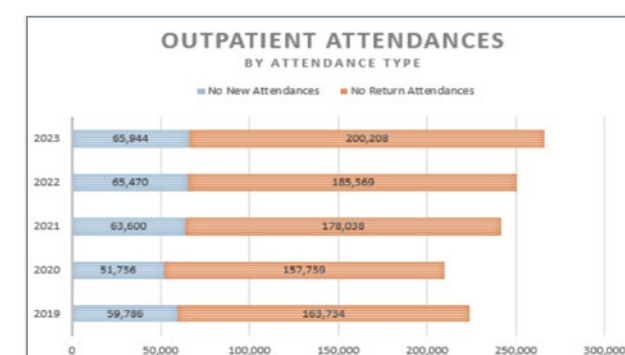


Table 5: Outpatient Attendances



Board of Directors

The Mater Misericordiae University Hospital DAC is a voluntary hospital, established in 1861 by the Sisters of Mercy, to care for the sick with compassion and professionalism.

The Mater Board of Directors is the governing body of the hospital and is responsible for developing and reviewing the hospital's overall mission and strategy.

The Board is chaired by Dr David Begg and comprises eight independent non-executive directors (who are elected for a period of three years and can be re-elected to serve for up to nine years), and four executive/medical directors.

The board guides the goals and policies for the hospital and oversees the delivery by the CEO and executive management team at the hospital. There were eight board meetings held in 2023 with an attendance rate of 90%.



Dr David Begg
Chair



Alan Sharp
CEO



David O'Kelly
Vice Chair



Dr Brian Marsh
Executive Member



Prof Jim Egan
Executive Member



Brid Cosgrove
Executive Member



Suzanne Dempsey
Executive Member



Ellis O'Brien
Non-Executive Member



Dr Mary McMenamin
Non-Executive Member



Rod Ensor
Non-Executive Member



Prof Cecily Kelleher
Non-Executive Member



Anne Vaughan
Non-Executive Member



Pat O'Doherty
Non-Executive Member



Mary Raftery
(In attendance)



Anna Broderick
Company Secretary

Appendices

Hospital Patient Safety Indicators -

<https://www.hse.ie/eng/services/list/3/acutehospitals/patientcare/hospital-patient-safety-indicators-reports/>

Research publications 2023 on Mater Website -

https://www.mater.ie/healthcare-professionals/the-pillar-centre/2023_Pubs_Sort_Author_Final.pdf

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Seirbhís Sláinte
Níos Fearr
á Forbairt

Building a
Better Health
Service



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