

Mater Misericordiae University Hospital

2014



Annual Report

CONTENTS

CHAIRMAN'S MESSAGE • 4

CEO UPDATE • 6

QUARTEINARY CARE • 8

QUALITY & PATIENT SAFETY • 40

TERTIARY CARE • 50

EMERGENCY CARE • 82

REGIONAL CARE • 90

HEALTH & SOCIAL HEALTH PROFESSIONS • 130

ICT • 142

RESEARCH & INNOVATION • 146

FINANCE • 160



CHAIRMAN'S REPORT

Working in the Health Service is a daunting prospect at the best of times. The past five years have been among the most challenging for the Mater Misericordiae University Hospital in its long history of service to the people of Dublin and Ireland. The financial crises saw major reductions in funding for the acute hospital sector at time when demographics and cost pressures on the hospital system are greater than ever. Those who work in the Mater responded magnificently to the challenge at every level of staff from consultant to porter and from nurse to allied healthcare professional. I thank them for their dedication and commitment in accordance with the principles established by our shareholder, the Religious Sisters of Mercy.

The Mater is a member of the Ireland East Hospital Group (IEHG) together with ten other acute hospitals with UCD as our academic partner. IEHG is one of six acute hospital groups established in 2015 as part of the reorganisation of the Health Service Executive. Together with our sister hospital, St Vincent's University Hospital and UCD we are committed to develop IEHG as an academic health science centre which international evidence indicates provides the best outcomes for patients, training for medical and healthcare professionals and maximising opportunities for research.

The challenge for the Mater for 2015 and beyond will be to provide a way of managing the increasing demand for healthcare and hospital services. Demographic change alone means an additional number of elderly patients to be cared for each year as well as the cost of high technology medicine and new innovative pharmaceutical products. Even with the welcome stabilisation of the country's financial profile and the return of economic growth, it seems unlikely that there will be significant new money for health for the foreseeable future. We must therefore examine the allocation of services within the existing funding envelope and ensure that the acute hospital sector is fit for purpose in the 21st century. The Mater will play its part fully in the necessary redesign of service provision.

On behalf of the Board, I would like to pay tribute to our Chief Executive, Professor Mary Day, whose leadership of the Mater has been exemplary. I congratulate her on taking up the post of Chief Executive of IEHG. I wish her well in her new role and welcome Gordon Dunne who succeeded Mary as Mater CEO in 2015. My thanks also to Professors Brendan Kinsley (Clinical Director), and Tim Lynch (Chair, Medical Board) for their clinical leadership of the Mater as well as Tanya King (Director of Nursing) and Caroline Pigott (CFO) and all of the members of the Mater leadership team.

In a joint project with the Health Service Executive, the Mater led a "Board on Board" initiative. As part of this project, the board commits to spend up to fifty per cent of its time on the patient experience at the Mater with a particular focus on safety and quality. This has been a very valuable exercise for the Board and in addition to our internal team, I would like to thank Dr Jennifer Martin and Ms Maureen

Flynn of the HSE for their help in this project as well as the Royal Salford University Hospital and, in particular, it's CEO, Sir David Dalton, for their invaluable support on these vital issues.

I succeeded John Morgan who served as Chair of the board from 2002 to 2014 in a quiet and effective manner with great integrity over a period which saw the development of the Whitty wing as well as new Emergency Department and Out-patient facilities. These developments secured the future of the Mater and its leadership role in Irish medicine. I would like to thank my fellow Board members, past and present, for their commitment and contribution to its deliberations; to the Sisters of Mercy whose legacy we cherish and to the financial support we receive from the Health Service Executive.

Despite the challenges we face, I believe we can look to the future with optimism standing on the shoulders of giants whose contribution and legacy allows us to serve our patients to the highest international standards.

Thomas Lynch
Chairman of the Board



CEO's UPDATE

The Mater Misericordiae University Hospital has been synonymous with healthcare in Ireland for over 150 years. The hospital is an acute-care academic health sciences centre affiliated with University College Dublin (UCD) and is one of the main hospitals of the Ireland East Hospital Group (IEHG). The hospital was built on the principles of respect, dignity and equality; a legacy that continues today. We are dedicated to delivering excellence in patient-centred care, research and education and our health care professionals are united by a culture that puts the needs of the patient first. We take pride in the breadth and diversity of our services, which include:

▶	Unique to the Country - cardiac surgery, heart and lung transplantation, extra corporeal life support (ECLS), spinal injuries, pulmonary hypertension and including the National Isolation Unit.
▶	Tertiary Services – Cardiology (incl. Adult Congenital Heart Disease), Oncology & Haematology, Clinical Genetics, Breast Surgery, Colorectal Surgery, Ophthalmology and Gynaecology.
▶	Inclusive Programmes – like our Hepatitis C screening service in the north inner city.
▶	Outreach Programmes – involvement in HIV projects for paediatric and adolescent patients in southern Africa.

2014 was an exciting year for us as we completed the migration of departments to the Whitty building. A facility of this calibre is a morale boost for everyone, adding to a more positive patient and staff experience. This new build provides the Mater with 12 new state of the art Operating Theatres, a new Intensive Care Unit (ICU) and a new hybrid theatre for major Cardiothoracic and Thoraco-abdominal Vascular Surgery, as well as a dedicated Emergency Theatre that improves the quality of care for patients.

Over the past year we have sought to address the continuing developments in demographic, social, political, and cultural aspects of health that accompanies an aging population and increased disease complexity. The Mater's Lean Academy was established to address some of these challenges by:

▶	Providing a direct patient benefit.
▶	Improving patient outcomes.
▶	Reducing the costs of treating patients.

Our lean programmes have been markedly successful, with the Stroke Project winning two national awards for successfully delivering a 40% reduction in “Door to Needle time” for stroke patients.

The hospital is a major research and innovation hub, in conjunction with our academic partner UCD and our Dublin Academic Medical Centre partner, St Vincent’s University Hospital. Our Clinical Research Centre is part of Ireland’s first academic-led research unit to be approved by the Irish Medicines Board for the conduct of clinical trials and investigator-led investigations. To date the hospital has over 40 principal investigators who are engaged in advanced research work in their given specialty.

I am proud of what we have achieved together in 2014 and I hope you find our annual report interesting.

Yours sincerely

Mary Day
Chief Executive

Quarternary Care

National Heart & Lung Transplant Programme

Spinal Trauma

Intensive Care Medicine

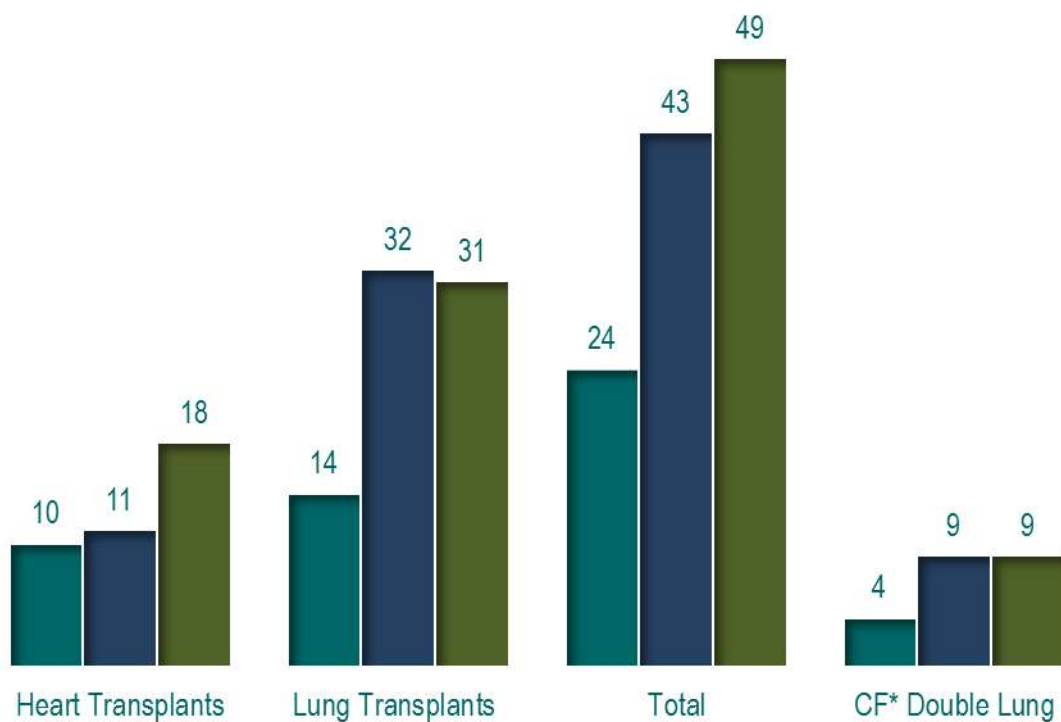
Pulmonary Hypertension

National Isolation Unit



NATIONAL HEART & LUNG TRANSPLANT PROGRAMME

The Mater Misericordiae University Hospital is the National Heart and Lung Transplant Centre. This includes all forms of specialized heart and lung surgery such as transplantation, ventricular assist device implantation for patients with a failing heart who cannot wait for heart transplantation, coronary bypass surgery, valve surgery and adult congenital surgery and the full range of thoracic surgery.



*Cystic Fibrosis

Heart Transplant

People who have advanced (end stage) heart failure, but are otherwise healthy, may be considered for a heart transplant. Most patients referred to heart transplant unit at the Mater Hospital have end-stage heart failure. Their heart failure might have been caused by:

▶	Coronary heart disease.
▶	Congenital heart disease.
▶	Viral infections of the heart.
▶	Damaged heart valves and muscles.

The majority of patients have had a number of alternative treatments for their condition before being considered for a transplant. They also have been hospitalised many times for heart failure.

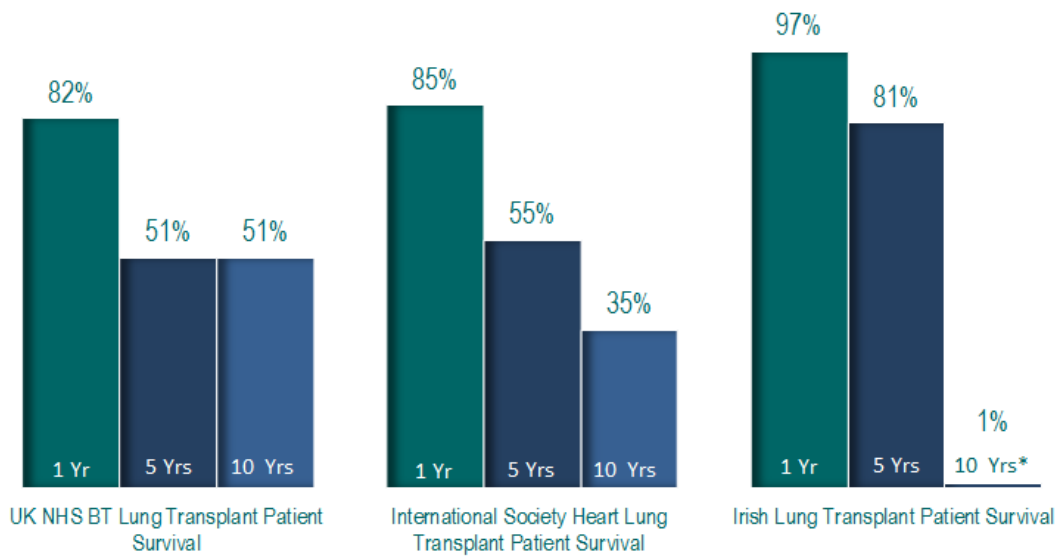
Ventricular Assist Devices (VAD):

Some heart failure patients, who are waiting for a heart donor or are too ill to wait for a heart donor benefit from Ventricular Assist Devices. The main purpose of a VAD is to unload the failing heart and maintain blood flow to vital organs. The surgery takes between 6-10 hours, with patients then spending another 4-6 days in the intensive care unit. Most patients see a significant improvement in their quality of life with symptoms of advanced heart failure reduced significantly.

Lung Transplant

In 2005, a new clinical service providing lung transplantation was initiated to join the heart transplant service at the hospital. The Freeman Hospital in Newcastle had been, up to that point, the provider of all lung transplantation services for Irish patients. The transition to the Mater has led to a steady growth in the volume and complexity of procedures, with the number of thoracic procedures increasing significantly in the past 2 to 3 years.

Nearly half of all patients receiving lung transplantation in Ireland have Cystic Fibrosis. This figure is driven by Ireland having the highest incidence of Cystic Fibrosis in the world. 19% of patients have emphysema and 15% idiopathic pulmonary fibrosis, with the remaining having a variety of diagnoses, including lymphangioleiomyomatosis, bronchiectasis, sarcoidosis, Eisenmenger's syndrome and primary pulmonary hypertension. The national service for Pulmonary Hypertension is also located at the Mater Hospital.



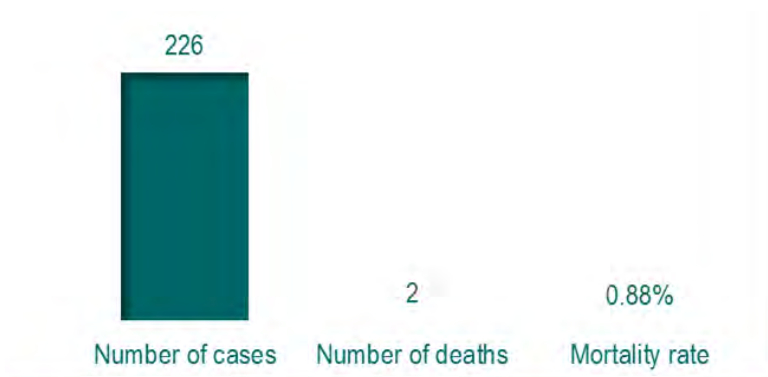
Transplant Survival Rates

* 10 year survival data available in 2016.

The service is built around a dedicated and highly experienced team drawn from a wide range of experts, including: cardiothoracic surgeons, cardiologists, respiratory physicians and anaesthetists, as well as transplant coordinators, nurses, physiotherapists and social workers. Working in close co-operation, this multidisciplinary team manages all aspects of patient care from initial assessment of potential transplant patients through to the long term post-transplant care required. The new structure in the Mater Misericordiae University Hospital enhances the programme with the various specialties involved all working in the same directorate .

Cardiac Surgery

In 2014 over 580 open heart surgeries were performed at the Mater Hospital including coronary artery bypass graft surgery, aortic valve replacement and mitral valve repair and replacement. All cardiac surgery outcomes data is sent to the Society of Cardiothoracic Surgery for Britain and Ireland for external review and audit.



Mortality Rate for First Time Isolated CABG Cases in 2014

Thoracic Surgery

In addition to a vibrant transplantation programme the thoracic surgery service has grown significantly in the last few years. The unit performs the full spectrum of procedures for lung cancer including open resections and video assisted resections. The team also performs a large amount of Video-assisted Thoracoscopic surgery (VATS) to diagnose and treat a variety of lung conditions including spontaneous pneumothorax.



Research & Innovation

British Medical Journal

In 2012 the team at the Mater Misericordiae University Hospital published a retrospective study examining survival rates of Irish patients following lung transplantation in both the UK and Ireland. Patients undergoing lung transplantation in Ireland had a 5-year survival of 91% compared to 69% in the UK. The study was published in 2012. (BMJ Open 2012, Mar 28; 2(2)).

Extra-corporeal life support (ECLS)

In addition to support to the transplant service Extra-corporeal life support is being used before, during and after surgery to support the sickest patients who could not survive without this type of support. Extracorporeal life support is a type of cardiopulmonary bypass that supports the lungs, heart, or both for days or weeks for patients with reversible life threatening respiratory or cardiac disease.

Endoscopic Lung Volume Reduction (ELVR)

The multidisciplinary team at the Mater have also introduced Endoscopic Lung Volume Reduction for patients with severe emphysema. This procedure is for patients with damaged lung tissue who suffer with hyperinflation due to air being trapped in the lungs. ELVR is a form of non-surgical lung volume reduction that improves breathing parameters, exercise capacity and quality of life in people with severe emphysema.

Academic Collaboration

In collaboration with the Conway Institute in UCD a number of trainees in cardiothoracic surgery have undertaken full time research in specific areas. The areas currently being researched include patient's inflammatory response to coronary artery bypass graft (CABG) and how it can be altered. And pulmonary fibrosis in lung cancer.

Organ Donation and Retrieval in Ireland

The hospital works closely with the HSE's National Organ Donation and Transplantation Office to ensure an integrated approach to organ donation and to maximise utilisation.

The national annual lung transplant rate is 7 per million, the second highest in Western Europe and twice the UK level.

Organ Donation and Retrieval in Ireland is currently based on a voluntary donation system (opt in) and occurs in intensive care units throughout Ireland. The increase in lung transplants would not be possible without the generosity of donor's and their families, at an incredibly stressful time.

In 2014 the overall number of lung transplants increased from 14 in 2012 to 31 in 2014 including the number of Cystic Fibrosis double lung transplants which increased from 4 to 9.



NATIONAL SPINAL INJURIES UNIT

The National Spinal Injuries Centre has been situated in the Mater Misericordiae University Hospital since 1991. It was established to provide acute care for patients following traumatic spinal cord injury. At the time it was estimated that the centre would treat 30-40 in-patients per annum. In 2014 alone, 415 patients were treated at the hospital.

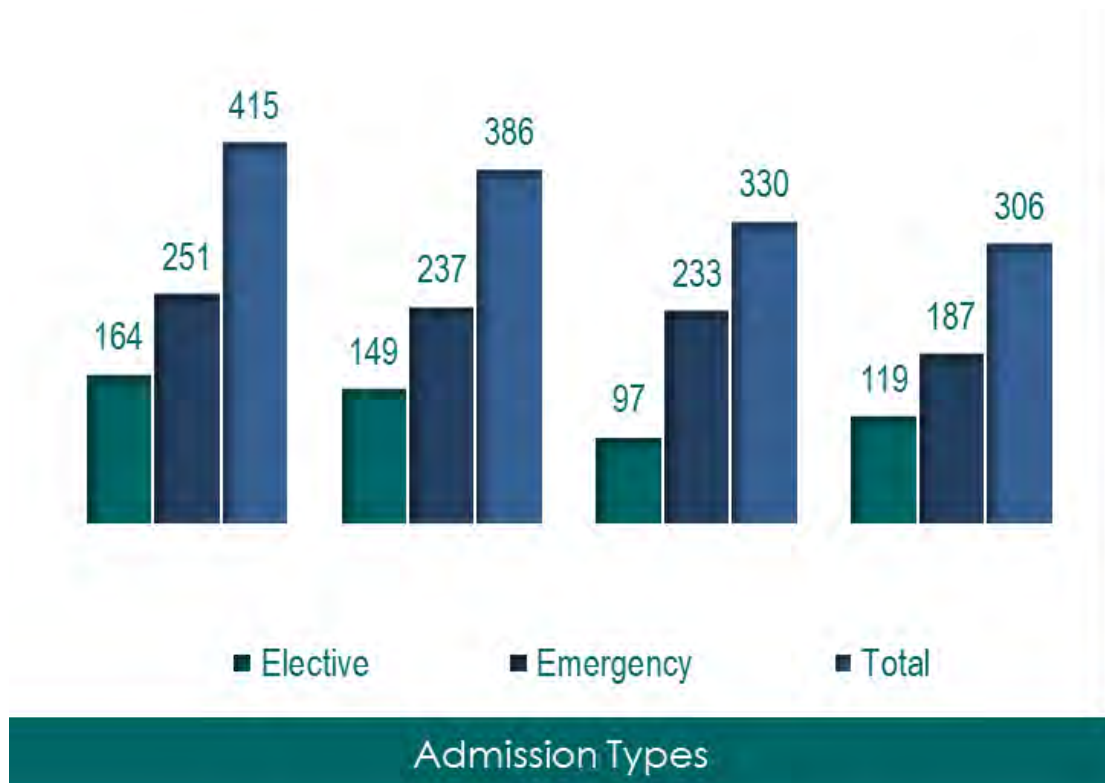
**There has been a 35% increase
in the volume of admissions
since 2011 with emergency
admissions accounting for 60%
of all patients.**

The service is delivered by 5 consultant surgeons and their teams with specialised skills from skull to pelvis. In addition to treating patients following spinal trauma, the team treats patients with spinal tumours, deformities, infections and degenerative spinal conditions. It is the only designated acute spinal injuries centre in the country.

Centre of Excellence

The National Spinal Cord Injury Centre at the Mater Hospital provides specialised, coordinated, interdisciplinary, medical and surgical care which is outcome focused and patient centred serving the needs of people with spinal cord injury. Patients are referred from all over the country and the service is needs based.

Surgeons at the Mater Hospital perform the most complex spinal surgery in the country in order to stabilize and fuse parts of the spine. This may be due to spinal fractures, metastatic spinal tumours, and spinal instability as well as sometimes for back pain. There are weekly multi-disciplinary team meetings attended by all relevant specialties to discuss all complex spinal cases.



The team at the hospital uses the latest techniques in complex spinal surgery including minimally invasive procedures. Minimally invasive surgery is available for a number of spinal disorders, ranging from degenerative diseases to spinal tumours. These procedures have potential to greatly benefit patients by reducing surgical risk, pain, blood loss, risk of infection, as well as improving recovery time. Specialists at the Mater Hospital have extensive training and experience in minimally invasive spinal techniques, some of which can be performed in the outpatient setting.



Referring Centres

The growth in the volume of admissions has been widely distributed across the country with 3 hospitals (St James' Hospital, Mayo General Hospital and St Luke's Hospital, Kilkenny) increasing the volume of patients referred by over 200% since 2012.

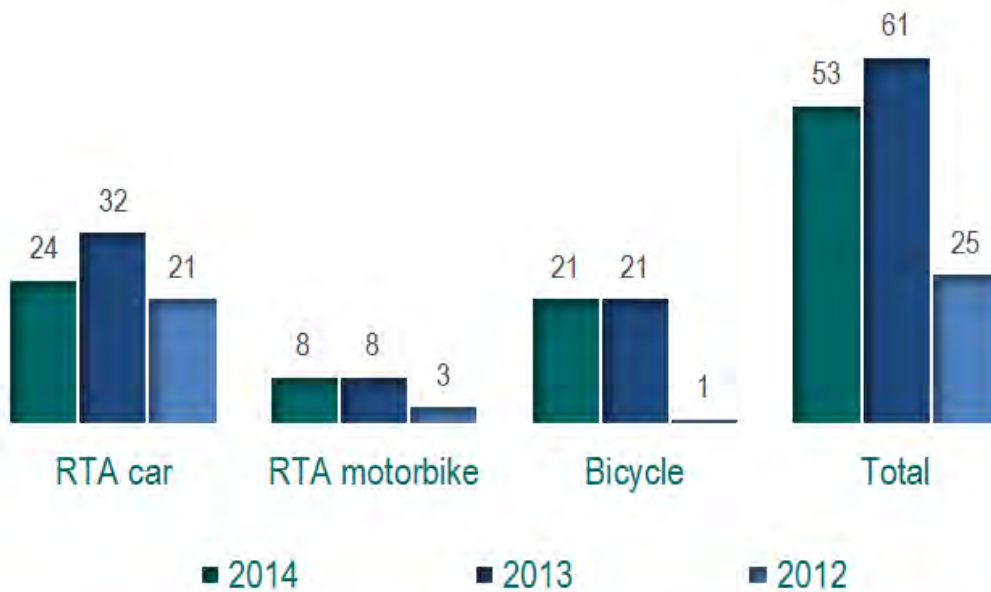
Referring Hospitals	2014	2013	2012
Our Lady Of Lourdes, Drogheda	48	34	34
Waterford Regional Hospital	39	33	29
St. James's Hospital, Dublin	36	28	10
Adelaide and Meath Hospital, Tallaght	34	31	39
Sligo General Hospital, Sligo	34	25	14
Connolly Hospital Blanchardstown, Dublin	33	33	17
Mayo General Hospital	32	36	10
Midland Regional Hospital, Tullamore	30	27	32
St. Vincent's University Hospital, Dublin	25	33	17
Cavan General Hospital	22	18	21
Letterkenny General Hospital, Donegal	19	18	28
St. Luke's General Hospital, Kilkenny	15	12	5
Midwestern Regional Hospital, Limerick	13	13	12

Source: Mater Hospital Referral Data

Accidents on our Roads

In 2014 falls in the home and road traffic accidents were the largest categories on admission. Accounting for 25% of all referrals. A further 2% were caused by falls from a horse with another 2% accounting for all other sporting injuries.

Accidents on our roads, whether involving a car, motorbike or cyclist accounts for 1 in 8 referrals to the centre.



Road Accident Referrals

Spinal Tumours

Following ground breaking work by Roy Patchell and his team at the University of Kentucky Medical Centre, the role of spinal surgery in the treatment of spinal cord compression caused by metastatic cancer has been well established. The number of surgeries to treat spinal tumours has doubled since 2012.

Over 80 patients were referred to the unit with a metastatic cancer issue between 2012 and 2014. A metastatic tumour results from a cancer originating in another part of the body. This is a malignant tumour and is classified by its location with the most frequently including:

▶	Lung cancer.
▶	Breast cancer.
▶	Prostate cancer.
▶	Thyroid cancer.
▶	Colorectal cancer.

Successful surgery achieves maintenance or recovery of spinal cord function, a greater degree of pain control, spinal stability and an improvement in the patient's quality of life.

Research

SCI-POEM Study

The Mater Hospital is the Irish centre in a Europe wide 12 trauma centre study evaluating the role of early surgical treatment in the management of patients who sustained a traumatic spinal cord injury. The study is a prospective, observational multicentre comparative cohort study, designed to evaluate the effectiveness of early surgical treatment for patients who sustained a traumatic spinal cord injury.





INTENSIVE CARE MEDICINE

Intensive Care, Anaesthesia, Elective Surgery, Theatres & Sterile Services

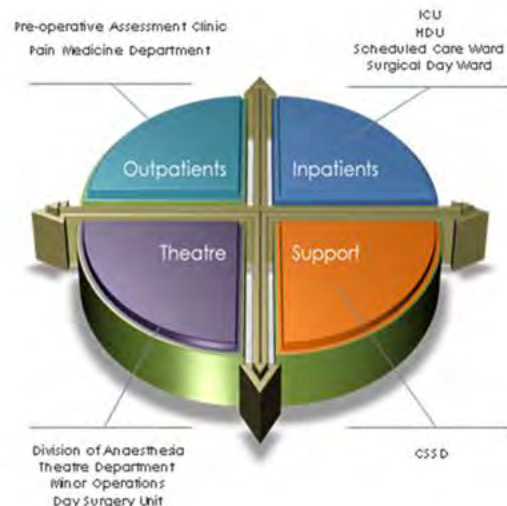
In late 2013 the Mater Hospital created a single directorate that encompasses Anaesthesia, Critical Care and Pain Medicine, the Operating Theatres and the Central Sterile Services Department. The Directorate works very closely with the clinical interdisciplinary teams to support the patients' through their care journey.

The Division continues to deliver the highest quality patient care to a diverse and complex case-mix. This includes elective and emergency Anaesthesia for Surgical patients, Heart and Lung transplant Anaesthesia, Critical Care (ICU and HDU) for acute medical and surgical patients, Anaesthesia for Interventional Cardiology including Percutaneous Aortic Valve placement, Interventional Radiology, MRI and Gastroenterology.

Both the Critical Care and Clinical Anaesthesia Departments support the National Extracorporeal Membrane Oxygenator / Extracorporeal Lung Support (ECMO / ECLS) programmes. In addition, the Division delivers an acute perioperative and chronic Pain Medicine service and an expanding Pre-Operative Assessment Clinic (POAC).

Equally important and indeed underpinning this broad and complex case-mix is the academic profile of the Directorate. Teaching UCD and other Medical Students, training junior Anaesthetists and Intensivists and engaging in clinical research. The number of Anaesthesia trainees from the College of Anaesthetists of Ireland training scheme increased from 27 to 29 in 2014. The Division facilitates the Intensive Care training programme recognised by the College of Anaesthetists of Ireland and the Joint Faculty of Intensive Care Medicine of Ireland.

In addition, the Division has a Fellowship in Cardiothoracic Anaesthesia and Echocardiography programme as well as a senior Fellowship in Intensive Care Medicine. Each clinical day is preceded by an academic teaching session, so that NCHDs and Consultants are assured of a full commitment to continuing medical education and training. There is an active Department-wide Audit programme with dedicated time for presentation to a Departmental meeting every six months. There are two-monthly Departmental morbidity and mortality meetings as well as frequent multidisciplinary meetings with our surgical, cardiology and medical colleagues.



New Infrastructure

In 2014 the hospital transferred services to the new Whitty Building, with 12 new state of the art Operating Theatres, an Intensive Care Unit (ICU) and a High Dependency Unit (HDU). The new operating suite also included a new hybrid theatre for major Cardiothoracic and Thoracoabdominal Vascular Surgery.

In July 2014 a dedicated Emergency Theatre was opened with a total of 385 cases being performed between July and December 2014. A dedicated emergency theatre improves the quality of care for patients by decreasing cancellations in elective procedures and improving the access to surgery of priority emergency patients. The theatre is principally used by Orthopaedics, General and Plastic Surgery

Critical Care Medicine

The Mater Hospital Critical Care Complex is one of Ireland's leading Intensive Care Units, admitting approximately 2,800 patients in 2014. It is a tertiary referral centre for specialist intensive care medicine services, with a particular remit for the Mater based national services for Cardiac Surgery, Heart & Lung Transplantation, Spinal Surgery, and Extracorporeal Membrane Oxygenation. Survival rate in the ICU is 87%.

Traditional core demand for critical care include elective cardiac surgery, spinal cord injuries, obstetric emergencies from the Rotunda and a broad range of general emergency referrals from within and outside the catchment area.



The Critical Care Unit (ICU & HDU) is a 36 bed facility with core staffing provided by a team of approximately 130 -140 staff nurses, clinical nurse managers and a team of 5 Consultant Intensivists. These staff are supported by Consultant Anaesthetists, NCHD, physiotherapy, pharmacy, speech therapy, dietetic and household staff amongst others. Experienced administrative support is also a strong feature of the critical care department.

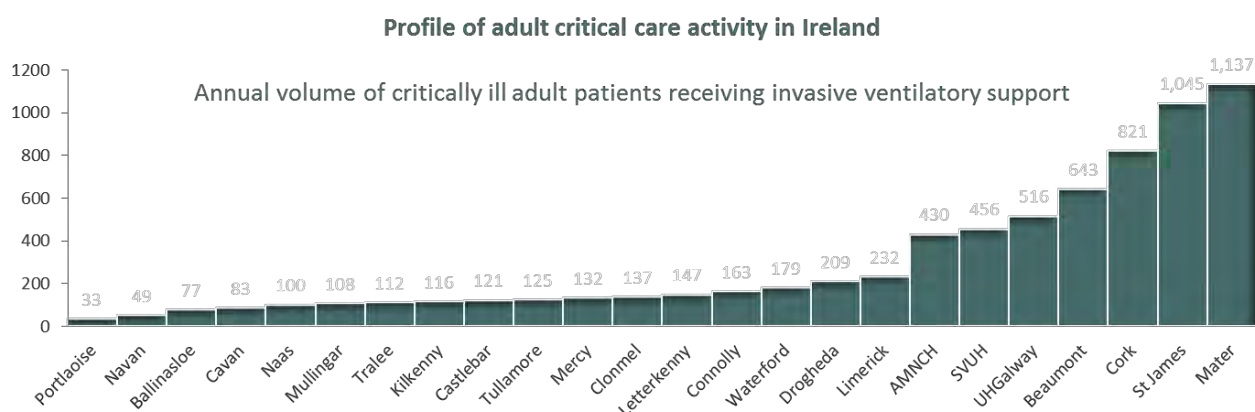
The vast majority of major non-cardiac elective surgeries (e.g. major vascular, GI, orthopaedic/spine, ENT and plastics) are admitted for post-op monitoring in the HDU and this demand is continually increasing.

As a leading academic intensive care practice, the intensive care team is staffed by consultants and by senior trainees from a broad specialty base, including anaesthesia, internal medicine, and emergency medicine. We are recognized for training by the Joint Faculty of Intensive Care Medicine of Ireland, the College of Anaesthetists of Ireland, the European Society of Intensive Care Medicine, and the College of Intensive Care Medicine of Australia and New Zealand.

Admissions to Critical Care

Acute Medical Admissions

The majority of acute or emergency admissions are general in nature and are usually referred on a 24 hour basis as unstable or deteriorating patients from the wards and the Emergency Department. The hospital also accepts all unstable obstetric/gynaecological patients referred from the Rotunda Hospital and orthopaedic patients from Cappagh Hospital. There have been 70 obstetric referrals since 2009 with 14 of these in 2014.



On a national basis the Mater accepts all referred cardiothoracic emergencies, spinal cord injuries and is the national centre for both heart and lung transplant. Lung transplant activity has gone from 4 recipients in 2011 to over 30 for 2013 and 2014 accounting for a significant increase in ICU bed occupancy for this patient cohort.

Admissions for 2014 were 1,138 patients to the ICU and 1,283 to the HDU making the Mater ICU one of the busiest in the country. This large throughput, combined with rapidly increasing patient complexity, are the key drivers of high bed occupancy. Occupancy over the last 5 years has averaged out at greater than 100%, above the internationally recommended occupancy levels of 80-85% that allows for the safe provision of critical care and accommodation of surge activity.

The extension of the remit of the hospital to other hospitals in Ireland East Hospital Group increases demand for critical care services.

Year	2008	2009	2010	2011	2012	2013	2014
Admissions (ICU)	1,119	1,076	1,060	1,058	1,200	1,117	1,138
Bed days used	6,728	6,557	6,275	6,440	6,957	5,946	5,622
Bed days available	6,121	5,771	5,374	5,574	5,905	6,105	5,821
Occupancy	109%	113.6%	116.7%	116%	117%	97.4%	97%

National Specialty Admissions

In addition to the cardio-thoracic organ transplant programme and national spinal injuries unit the hospital provides specialty Extra Corporeal Life Support (ECLS) on a national basis. The centre manages patients with severe hypoxic respiratory failure whose failure to respond to conventional measures may result in the institution of ECLS. This service is demanding in its nature and will account for one bed closure for each ECLS patient as the nursing ratio changes from 1:1 to 2:1 for these extremely critically ill patients. ECLS is also provided for selected severe cardiac failure with a significant proportion of these patients arising from the Mater's in-house cardiac and transplant activities.

The Mater Hospital is also the only centre in Ireland to provide Heated Intraperitoneal Chemotherapy (HIPEC) for certain peritoneal malignancy cancers such as stage IV colon cancer and other gastrointestinal cancers. The HIPEC surgical service is a new undertaking by the colorectal surgeons and patients undergoing this aggressive form of specialist surgery require post op critical care monitoring. The hospital has now completed over 30 of these cases with excellent results.

Quality and Audit

The Mater ICU was one of the first in the country to have a fully electronic record keeping system (ICIP) including e-prescribing for all ICU and HDU patients. The ICU was the pilot centre for the roll-out of the National ICU Audit as part of the National Office for Clinical Audit (NOCA). The Mater ICU has always undertaken comprehensive audit to benchmark quality and performance against international guides. Traditionally this has involved (amongst others) a measurement of APACHE II scores (severity of disease classification system) and using these to develop a Standardised Mortality Ratios.

A key internationally utilised measure of quality is readmission rates and the Mater has consistently kept these rates well below 5% (1.5% for 2014). Another trend that has both significant local and national implications is the admission demographic in relation to elderly patients. Over recent years we have seen a significant increase in the admission of patients over 80 years old with a survival rate similar to the ICU norm.

Research & Innovation

The team at the Mater is involved in two major studies at the moment. The ETHICUS II study is a global population based study looking at end-of-life issues in ICUs. While the PHARLAP study is a multi-centre trial in patients with Acute Respiratory Distress Syndrome (ARDS).

The most prominent local innovation has been the development of a local echocardiography training programme for intensive care medicine (ICM) trainees. This has been a great success and makes the Mater ICU one of the most sought after ICM training centres in the country. The Mater ICU is also the first in the country to participate in the extension of the national mobile intensive care ambulance service (MICAS) for weekend ICU to ICU patient transfers.

Anaesthesia

10,734 patients underwent either General or Regional Anaesthesia, or a combined technique in 2014. A majority of these patients were able to be admitted on the same day of surgery.

▶	The Day Surgical Unit (DSU) treated 2,484 patients in 2014.
▶	The Surgical Day Ward (SDW) admitted 2,366 patients for Surgical Day Procedures in theatre.
▶	The Scheduled Care Ward (SCW) admitted 2,281 patients in 2014 for surgical procedures requiring short duration post-operative hospital stay.

The Pre-Operative Assessment Clinic (POAC) had a significant role in facilitating this, reviewing 2,578 new patients and 1,105 review patients in 2014. Of these patients, 40% were ASA 2 (mild systemic disease) and 55% ASA 3 (severe systemic disease). This identification of the complexity of the patient's profile ensures that the appropriate level of care is allocated for each individual patient.



Innovations in Surgery continue to challenge Anaesthesia to innovate in response.

2014 saw, the performance of the first Heart Transplant in a patient with Congenital Heart Disease (CHD) in Ireland; the performance of 20 Percutaneous Aortic Valve procedures and a small number of ventricular assist devices as an alternative to or a bridge to heart transplantation in critically ill patients. In addition the number complex Laparoscopic Colorectal surgeries performed has increased dramatically.

ECMO/ECLS

(Extracorporeal Membrane Oxygenation / Extracorporeal Life Support)

The Extracorporeal Life Support (ECLS) service in the Mater Hospital provides comprehensive short-term support for adult patients with severe, acute, potentially reversible lung or heart failure. The programme is based in the Intensive Care Unit and the bed-side care is provided by Intensive Care Nursing and Medical staff with specific ECLS training.

Short-term extracorporeal support for occasional patients with severe cardiogenic shock after heart surgery has been long established in the Mater Hospital. The Mater ECLS Programme was initiated in 2009 when for the first time in Ireland, prolonged ECLS support was used for an adult patient with primary lung failure.

The Mater ECLS Programme has been formally registered with the Extracorporeal Life Support Organisation. ELSO is the recognised international organisation for extracorporeal support and is based in University of Michigan, Ann Arbor, USA. In addition to promoting the highest educational standards for extracorporeal practice, ELSO also maintains a worldwide registry of all extracorporeal activity in both adults and children.

Specialist Services Activity	2012	2013	2014
Transplants performed	24	43	49
Extra Corporeal Life Support Patients	10	18	11

HIPEC

Hyperthermic intraperitoneal chemotherapy (HIPEC) is a highly concentrated, heated chemotherapy treatment that is delivered directly to the abdomen during surgery. HIPEC is a complex theatre environment.

Unlike systemic chemotherapy delivery, which circulates throughout the body, HIPEC delivers chemotherapy directly to cancer cells in the abdomen. This allows for higher doses of chemotherapy treatment. Heating the solution may also improve the absorption of chemotherapy drugs by tumours and destroy microscopic cancer cells that remain in the abdomen after surgery.

The HIPEC National Programme matured and strengthened in 2014. These patients, with predominantly extensive intraperitoneal colonic and ovarian carcinoma, require prolonged surgery and instillation of chemotherapy followed by HDU care. The specific benefits of HIPEC are:

▶	Allows for high doses of chemotherapy.
▶	Enhances and concentrates chemotherapy within the abdomen.
▶	Minimizes the rest of the body's exposure to the chemotherapy.
▶	Improves chemotherapy absorption and susceptibility of cancer cells.
▶	Reduces some chemotherapy side effects.

Pain Medicine

The Department of Pain Medicine plays a pivotal role in the care of Patients suffering chronic pain, cancer pain and acute pain. Patients' experiences are vastly different within each of these broad groups.

Clinical Activities	2010	2011	2012	2013	2014
Total Number of New Patients (New Contact)	2,015	2,229	2,314	2,431	3,116
Total Number of Reviews	4,783	6,023	6,788	7,123	9,263

Acute Pain Service

Acute pain is an inevitable experience in normal healthy development. Pain acts as a physiological warning, however it may have negative effects particularly following surgery. Poorly controlled acute pain results in increased pulmonary, cardiac, metabolic, gastrointestinal and metabolic complications. Post-surgical complications are a major cause of morbidity and mortality, in addition to increased length of stay, increased cost and patient suffering. Many techniques used for acute pain management require specialist training and intensive monitoring. The acute pain service is at the forefront of staff educations and the safe delivery of care to patients. The activity of the acute pain service has increased over the past number of years.

Chronic Pain Service

Chronic pain affects 35% of the Irish population. 12% are not working due to chronic pain and the estimated cost is in excess of €5 billion per annum (Rafferty et al). The role of tertiary service is to support, educate and assist primary care in managing patients suffering chronic pain. Patients experiencing chronic pain are vulnerable, conflicted, stigmatised and often among the greatest health care utilizers. It is therefore imperative that a whole person inter disciplinary approach is adopted when assessing and managing patients with established chronic pain.

As a tertiary referral centre the Department of Pain Medicine offers a neuromodulation and intrathecal drug delivery system service to patients with intractable cancer pain or severe pain from benign causes such as post-laminectomy syndrome or complex regional pain syndrome.

The establishment of the Mater Acceptance and Commitment Pain Program (MAPP) has been a major innovation in the last few years. The 8 week programme is delivered by Clinical Psychology and Physiotherapy in conjunction with the department of Pain Medicine.

Another innovative process has allowed streamlined multidisciplinary assessment of complex patients. This process was formerly performed as inpatient only. However its expansion has had a significant impact on admissions, which have reduced by approximately 60 per annum resulting in 300 bed days saved.

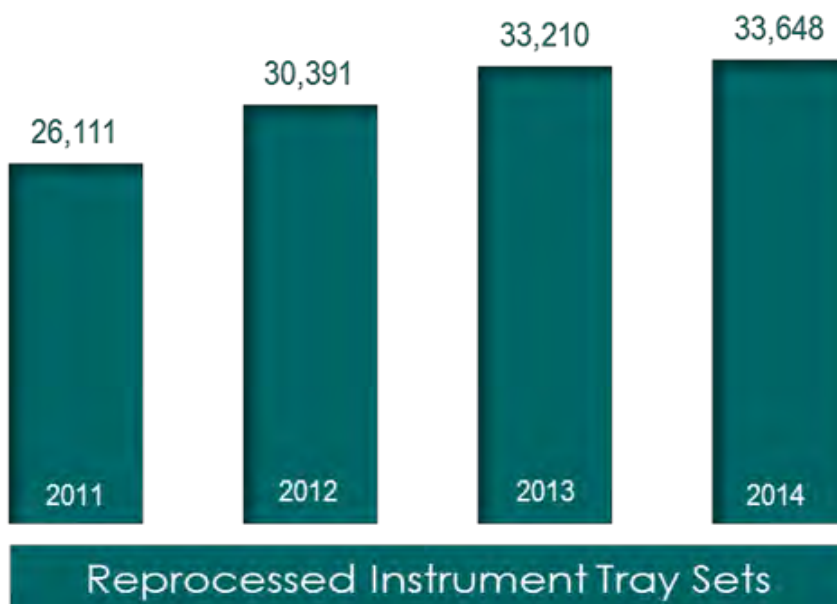
2014 also saw the start of nurse led telephone clinic. Patients undergoing procedures for the management of chronic pain are interviewed via telephone within weeks of the procedure, the result has been a reduction in outpatient attendances for positive responses to diagnostic testing.



Central Sterile Services Department

The Central Services Department (CSSD) provides on-site decontamination services for surgical instruments and medical devices to all theatres, wards and clinical units within the hospital and incorporates dedicated decontamination, clean room and sterilisation facilities. The department is operational 365 days per year.

The CSSD provides services to 11 theatres which cover the following categories: General, Vascular, Orthopaedic, Cardiac, Gynaecology, Urology, Plastics, ENT, Dental, Facio-Maxillary, Ophthalmic, Minor Surgery, and Day Surgery. The hospital is a national centre for cardiac, ophthalmic and spinal surgery and instrument reprocessing demands for these areas have increased sharply in recent years. Spinal surgery in particular places extra pressure on the service with each case requiring a large number of trays containing complex instrumentation. The CSSD provides instrument reprocessing and medical equipment decontamination to 33 wards and clinical departments. The volume of reprocessed instruments tray sets have increased 29% since 2011.



A large number of ultrasonic probes and non-channelled endoscopes plus procedure packs were reprocessed for wards and clinical departments each year. The CSSD also provides a commercial sterile pack distribution service to all areas within the hospital in addition to in-house produced sterile packs.

Academic

Prof Donal Buggy continues to progress the Academic profile of the Division with ongoing clinical research in the hospital, including collaborative work with International Perioperative Research Groups, and collaborative translational laboratory research in the Conway Institute, UCD.

Trainees and Consultants from the Division presented numerous audits and clinical research projects at National and International Meetings in 2014. Consultants participated as faculty in numerous workshops in Ireland and abroad. Consultants in the Division presented regularly at Grand Rounds in Mater Misericordiae University Hospital and gave invited lectures nationally and internationally.

Collaborations 2014

▶	Outcomes Research Consortium, led by Dan Sessler Cleveland Clinic. The Mater remains instigating and lead centre for trial: Can anaesthetic technique during primary cancer surgery effect recurrence or metastasis? Currently > 1,300 patients enrolled worldwide. Other centres are Beijing University Hospital, Dusseldorf, Vienna and Louisville.
▶	PHRA Canada for SIRS trial (steroids in cardiac surgery).
▶	ESA Clinical trials Network for EtPOS trial on transfusion practice and POPULAR trial on postoperative pulmonary complications, especially after neuromuscular antagonists.
▶	BALANCED trial, led by Univ. Auckland, randomizing patients to 'deep" or "light" anaesthesia and measuring postoperative outcomes.
▶	HiP-HOP: Trial proposal in collaboration with UK Hip Fracture database group (Richard Griffiths, Iain Moppett).
▶	Conway Institute for Biomedical Sciences, UCD, with Dr Helen Gallagher and Amanda McCann.
▶	DCU Dept. Immunology: Dr. Patricia Johnson.

Undergraduate Teaching

▶	Just over one hundred 4th medical year students rotated through the Mater Misericordiae's Division of Anaesthesia under the Acute Medicine module. It is a tribute to the entire Division's engagement with the students and enthusiasm for teaching, that despite the ongoing heavy clinical workload, the Anaesthesia rotation was the top ranked module, as rated by students themselves.
▶	This year for the first time, a prize examination was held, and a medal was awarded to the winning candidate at the Mater graduation dinner for students.
▶	Another twenty five students undertook electives in the Division, including international students from France, Romania, Germany and Switzerland, in addition to Irish students from other medical schools and eight from UCD.
▶	Summer Student Research Awards: 3rd year medical year student Emma O'Riordan joined the laboratory group on cancer cell biology and completed a paper, "Xenon and seoflurane effects on migration in oestrogen receptor positive and negative breast cancer cells" and was shortlisted for the Final SSRA awards night, but was unable to present due to illness.

Postgraduate teaching

The range of advanced postgraduate teaching across the Division includes:

▶	Preparation for both Primary and Final Fellowship of the College of Anaesthetists of Ireland.
▶	Diploma in ICM and Pain Medicine.
▶	Contributions to Perioperative Nursing Courses with lectures.
▶	In addition, many consultants contribute as Faculty to CAI courses and international congresses.



NATIONAL ISOLATION UNIT

The 12-bed National Isolation Unit was officially opened by the Minister for Health, Mary Harney TD in December 2008. The unit is equipped with two high specification negative pressure rooms with HEPA filtrated individualised air-handling systems and appropriate anteroom for decontamination as outlined by the European Network of Highly Infectious Diseases.

This state-of-the-art facility is responsible for caring for patients referred from all over Ireland, who have both hazardous and highly infectious diseases such as

▶	Tuberculosis.
▶	Viral haemorrhagic fever.
▶	SARS, Avian (bird), Ebola Viral Disease (EVD).
▶	Pandemic influenza.

The unit also provides essential care of infectious disease stemming from bioterrorism.

Ebola Viral Disease (EVD)

There is a clearly defined pathway for referral and immediate transfer of any high risk cases to the Mater. The unit is activated by the on-call Infectious Disease consultant and has clear policies and procedures in place to facilitate a safe and effective transfer of patients to the hospital. Blood samples for Ebola diagnostics are packaged in category A containers and couriered to the National Virus Reference Laboratory in University College Dublin.

Intensive training includes staged scenarios focusing on patient transfer and retrieval coordinated between the hospital, the National Ambulance Service, Dublin Fire Brigade and the Gardai. Access to emergency treatment and post exposure prophylaxis is in place.

Throughout the epidemic the EVD Scientific Advisory Committee convened regularly and issued guidelines on the management of high-risk cases in particular regarding patient retrieval and repatriation, public health strategies for contact tracing, risk assessment algorithms for use in acute hospitals and community settings, guidance on the use of Personal Protective Equipment (PPE), waste management and laboratory specimen handling.

In addition the HSE's Health Protection Surveillance Centre closely monitor the flow of Irish nationals to and from West Africa. Initial concerns regarding the risk of an imported case of Ebola were centred on Ireland's predominantly Nigerian African migrant population with a shift towards the latter part of the epidemic to the flow of Irish Humanitarian Aid Workers travelling in and out of the region.



On the 12th November 2014 the Mater Misericordiae University Hospital hosted an Ebola conference with the purpose of assisting staff in the acute hospitals in preparation to deal with Ebola Virus Disease (EVD). Delegates from all 29 receiving hospitals in Ireland attended an event jointly co-ordinated by course directors, Dr Jack Lambert from the Mater Hospital and Dr Darina O'Flanagan, director of the Health Protection Surveillance Centre.

The event included information sessions on the epidemiology of the outbreak, early critical care management, infection control, contact tracing, contingency planning, case scenarios and experiences from Ebola-affected countries in West Africa.

The conference was an opportunity for health professionals from right across the health service to get the most up to date information on what has been an evolving situation internationally and to hear from some of the leading health professionals who have been planning Ireland's response.

Infectious Diseases

The team at the Mater Misericordiae University Hospital also looks after a large number of patients with other infections such as

▶	HIV.
▶	Hepatitis B & C.
▶	Meningitis.
▶	MRSA.
▶	Tuberculosis.
▶	Malaria.

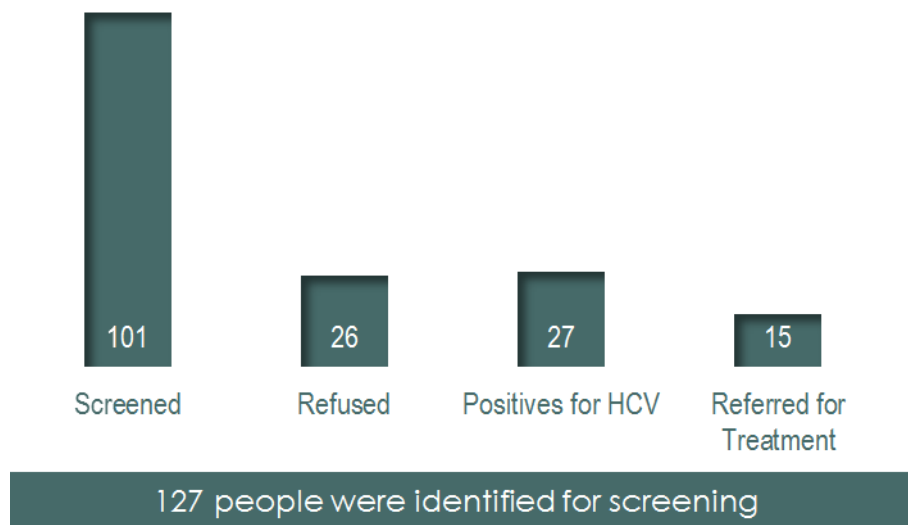
The Mater's three consultant specialists run weekly clinics with urgent patients are seen within 72 hours. There is an established a national network relationship where GPs and the hospital provides the lead in post exposure prophylaxis, which is commonly linked to HIV, where prophylactic treatment is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

Hep Check: Homeless Hepatitis Check

In late 2014 the Infectious Team at the Mater Hospital started a project to establish the effectiveness of intensified screening and support for Hepatitis C (HCV) in individuals attending homeless services in Dublin. There are over 3,000 homeless people in Dublin Merchant Key area alone, with the majority of them accessing the Safety Net Primary Care network for Homeless Health Services.

The purpose of the project is to complete a Rapid HCV oral test on homeless patients attending the Safety Net Services, monitor referrals and the percentage of successful referrals, with a longer term goal of creating 'shared care' oral only Direct Acting Antiviral treatments in the Merchants Quay care and treatment centres.

The preliminary results were:



The Hep Check project is a collaborative effort between Dr Jack Lambert Consultant Infectious Diseases, Dr Steve Stewart Consultant in Hepatology, Professor Walter Cullen, Professor of Urban General Practice, UCD School of Medicine and Dr Austin O'Carroll, General Practitioner.

The team also provides a masterclass on HCV for primary care providers focused on:

▶	Providing an update on the latest developments in Hepatitis C treatment.
▶	Support for primary care in primary prevention, screening, and clinical evaluation.
▶	Facilitating treatment and on-going care.
▶	Strengthening links between primary and secondary care.
▶	Developing a model for GP partnered community based Hepatitis C treatment.

Embrace Project

The team from the Mater Hospital are part of coordinated project to enhance clinical quality for paediatric patients with HIV in southern Africa. Currently 91 % of children living with HIV live in Sub-Saharan Africa. In 2013 only a quarter of the number of children eligible for antiretroviral therapy (ARV) received it, as opposed to half of all adults.. The difference is usually that children lack the self-efficacy to seek treatment in many cases. Therefore having a digital system in place to track and trace those at risk for loss to follow up is critical to successfully meeting treatment goals.

The Embrace Project uses a Paediatric Anti-Retroviral Data Management System to optimise the use of electronic Medical Records (EMR) in HIV patients in the Eastern Cape, South Africa. The project has now deployed the final EMR tool along with all the data onto the Department of Health servers at both Frere Hospital and Cecilia Makiwane Hospital. This gives direct access to over 2,600 patient records and more than 60,000 visits.

In 2014, the team presented their first observational data at the AIDS 2014 meeting in Melbourne. This is the largest stand-alone cohort of HIV positive children that has been digitally captured across all variables in the world. In addition a paper was published in HIV Drug Therapy 2014 on drug efficacy specific to lamivudine holding, an important point of discussion among HIV clinicians working with limited access to second and third line therapies.

Global Adolescent HIV Research Project: The Passages Project

Consultants from the Mater Hospital are the primary investigators in a multinational HIV research project in Adolescents Living with HIV (ALHIV). The projects aims are:

▶	To evaluate barriers and facilitators of adherence among HIV-infected adolescents in a cohort of ALHIV.
▶	To design/modify support tools to improve Anti-Retroviral Therapy (ART) compliance, Sexual and Reproductive Health and Rights uptake, and successful transition from paediatric to adult clinics.
▶	To assess the impact of interventions across cohorts using indicators that combine adherence self-reports, suppressed viral loads, and successful retention across the transition spectrum to adult clinics.

The study was design, in partnership with government, NGOs and ALHIV and has the aim of informing future policy and programming. The centres involved in the research are:

▶	Romania (Victor Babes Hospital).
▶	United Kingdom (King's College Hospital).
▶	Ireland (Mater Hospital).
▶	Thailand (Chiangrai Prachanukroh Hospital).
▶	Brazil (Hospital Universitário Clementino Fraga Filho Hospital).
▶	South Africa (East London Hospital Complex).
▶	South Africa (King Edward VIII Hospital).
▶	Jamaica (University of the West Indies).



PULMONARY HYPERTENSION

The Mater Misericordiae University Hospital is the National Centre for Pulmonary Hypertension (PH). Pulmonary Hypertension is a rare lung disorder in which the arteries that carry blood from the heart to the lungs become narrowed, making it difficult for blood to flow through the vessels. It is a severe disease with untreated patients surviving on average between 2-3 years.

The estimate prevalence (total number of people with PH) in Ireland is 26 per million with the number of new cases annually (incidence) of 7.6 per million. Joint guidelines developed by the European Cardiology Society and the European Respiratory Society recommend that the management of PH should be carried out in designated specialist centres. This allows expert care to be delivered at the correct stage of the disease process. There are 7 centres in England, 1 in Scotland and 1 in Ireland (at the Mater Hospital).

The National Pulmonary Hypertension Unit was officially opened by the patron of the Pulmonary Hypertension Association, President Mary McAleese in 2006.

The specialised centre for PH was established as the national referral and treatment centre for those diagnosed with PH in Ireland in 2003. Working with cardiac and respiratory consultants across the country the centre has developed and rolled out the national referral guidelines for PH, to ensure that patients get optimum care.

The unit moved to the new out-patient department, with state of the art diagnostics in 2012. This new facility integrates the services of Phlebotomy, Radiology, ECHO Department, Cardiology and Respiratory with the out-patient consulting rooms.



Integrated Care

It often takes some time to find the best treatment for pulmonary hypertension. The treatments are often complex and require extensive follow-up care. When pulmonary hypertension is caused by another condition, the underlying cause will be treated whenever possible.

Providing fully integrated care across many specialties is important in Pulmonary Hypertension. That care starts with right heart catheterisation, the most accurate and conclusive of diagnostic tools, for diagnosing pulmonary hypertension. This is a non-routine specialised investigation requiring the measurement of a number of variables and is carried out by the cardiology department in the Mater Hospital.

Treatment of patients with Pulmonary Hypertension requires a high level of integrated care across several specialities. The specialties most frequently involved in patients care are;

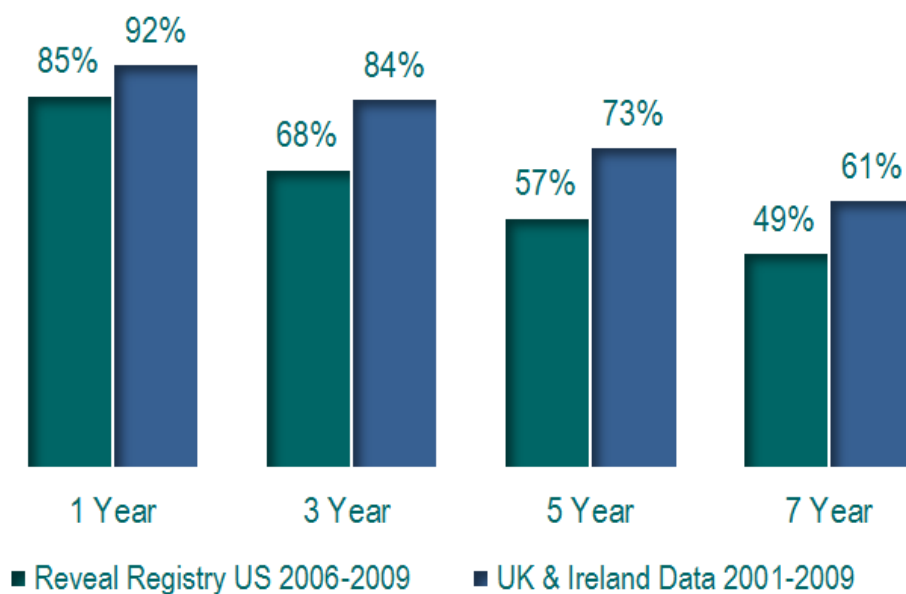
▶	Rheumatology for connective tissue disease service.
▶	Thoracic surgery for lung transplant and pulmonary endarterectomy.
▶	Cardiology for adult congenital heart disease.
▶	Genetics (for research purposes).

The Mater Hospital is ideally structured to deliver the high level of integrated care required as it houses the National Centres for both Lung Transplantation and Adult Congenital Heart services, while rheumatology and genetics are both available on the campus.

Outcomes

Because PH is almost always diagnosed rather late in the course of the disease, a complete study of progression has not been carried out. When PH goes untreated, the long-term outlook is very poor, with a 68 % chance of survival after one year and 34 % after five years.

There have been significant advances in the treatment of patients, but pulmonary hypertension remains a complex disease where patients should be managed in specialised centres.



Survival Rates

With clinicians that are expert in the diagnosis, assessment and follow-up of PH patients and are familiar with the complexities of its various treatments.

Research

The Mater Hospital has participated in numerous international multi-centre clinical trials for the treatment of Pulmonary Hypertension. This provides some patients the opportunity to avail of innovative drug therapy that are not yet available on prescription. The Griphon clinical trial was one of the clinical trials conducted in the Mater in 2014.

The GRIPHON clinical trial evaluated the long term efficacy and safety of oral selexipag in patients with pulmonary hypertension. The results were positive across the key groups and showed a decreased risk of a morbidity/mortality event versus placebo by 40%. In December 2014, the registration dossier for selexipag was submitted to both Europe's EMA and the US FDA for the treatment of patients with pulmonary arterial hypertension. In addition the Unit has also developed partnerships with the Conway Institute for Biomolecular Research and Biomedical Research in UCD. This work focuses on key chemical characteristics found in patients' with pulmonary hypertension and transferring bench research into new drug developments for patients.



Quality & Patient Safety

Safe & Effective Care
Patient Experience





SAFE & EFFECTIVE CARE

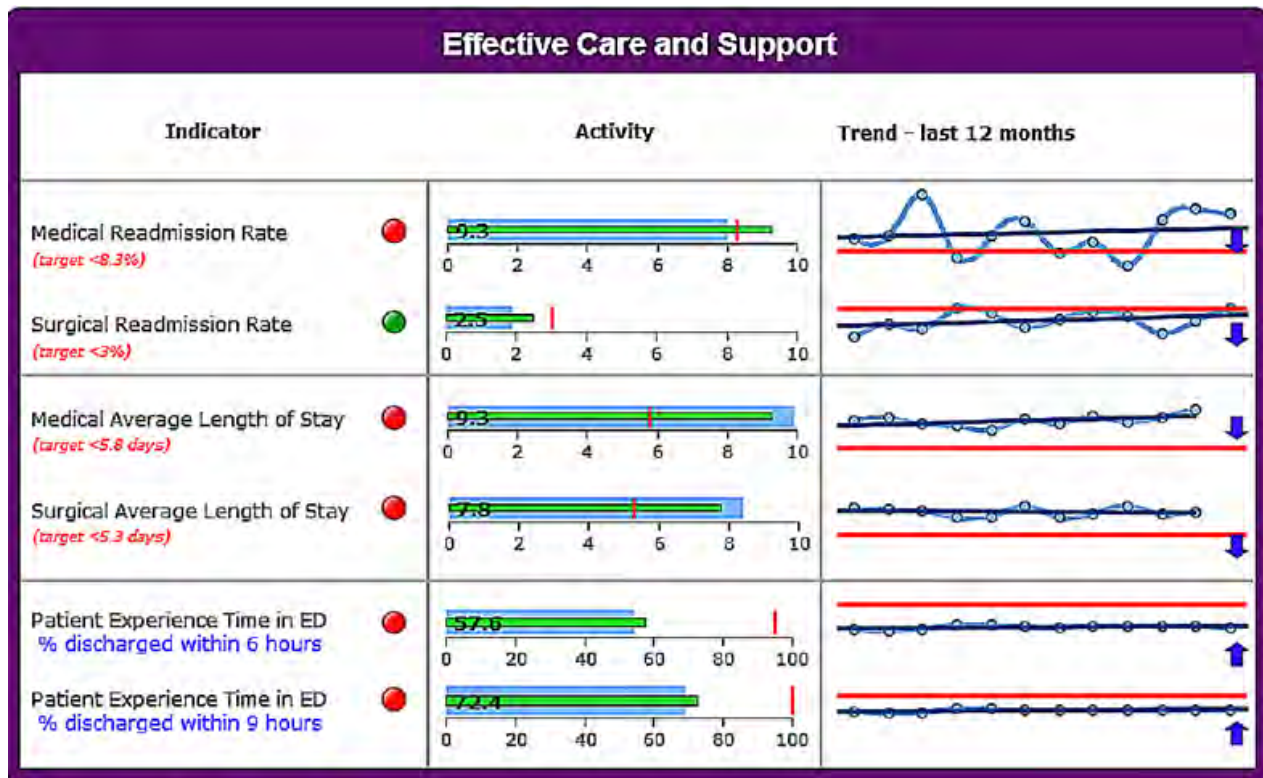
At the Mater Hospital the patient is at the centre of the care we deliver. We provide safe and effective care, in an environment of the highest quality. We continuously measure outcomes and monitor performance to support the delivery of safe and effective care. Our structured approach to governance ensures patient safety is an essential part of our processes.

We recognise that there is always more that we can do. With this in mind, we continue to implement and expand innovative patient safety and quality improvement efforts.

Measures to achieve this in 2014 have included:

▶	Mater Board on Board Quality Improvement Project.
▶	Quality Walk Rounds.
▶	Listening to our patients.
▶	Strengthening performance measurement to demonstrate our outcomes.

Performance Measures



The Mater Misericordiae University Hospital is constantly striving to improve the care it provides. Key measures ranging from readmission rates through average length of stay to time in the emergency department are all monitored and acted upon. In the context of an aging population and an ever increasing demand for services the hospital has:

- ▶ Improved the % of patients discharged from the Emergency Department within 6 hours to almost 60% and those within 9 hours to over 70%.
- ▶ Reduced the Average Length of Stay for both medical and surgical patients. Thereby increasing capacity for new patients.

The Mater Hospital faces the challenge of providing care to an aging and more complex patient population. This is causing challenges in both readmission rates and higher than targeted average lengths of stay. In response to these challenges the hospital has created project teams to deliver workable solutions to these complex problems.

Mater Board on Board Quality Improvement Project

The purpose of the Project is that the Board of the Hospital

▶	Get a comprehensive picture of the quality of clinical care at the Mater.
▶	Have a deep understanding of the quality of that care.
▶	Act to hold the hospital accountable on the quality of clinical care delivered.

Ten change packages were agreed by the board for implementation over a nine month period (February to November 2014). These changes are as follows:

1	Ten quality of clinical care indicators introduced to the board on a phased basis.
2	Board of Directors receives a monthly Quality Dashboard and report on quality of clinical care indicators.
3	Board of Directors increases their knowledge of best practice in getting boards on board with quality and safety through targeted reading.
4	The Board of Directors shares experience and learns from other boards' approach to quality and safety.
5	Strengthen directors' understanding of quality of clinical care indicators through a workshop (and one to one support if requested).
6	Non-Executive Directors invited to participate in quality and safety walk-rounds to hear directly from patients and thereby gaining a greater understanding of the context and environment related to the quality of clinical care indicators being monitored by the board.
7	Restructure the agenda for the board of director meeting to include quality of clinical care indicators as the first or second agenda item for each meeting.
8	Restructure the meeting agenda to allow 25% of the meeting for the quality of clinical care section (verbal reports and dashboard) of the board meeting.
9	Use ISBAR (Identify, situation, background, assessment and recommendation) to structure the Board of Directors' discussion of the quality of clinical care indicators.
10	Restructure the meeting minutes to include meeting times and an index of board assessments and recommendations.

Key Outputs

▶	Eight of the ten indicators have been introduced.
▶	A visit by project group to Salford Royal NHS Foundation Trust UK, widely recognised for its work in quality and safety, took place in August to gain first-hand experience of how Salford has developed their Board Quality Dashboard.
▶	Sir Stephen Moss, former chair of the Board of NHS Mid-Staffordshire, visited the Mater Hospital to share his knowledge and experience and assist the board in learning from other boards' approach to quality and safety.
▶	The proportion of Board time spent on quality of clinical care has increased from 10% to 25% (target reached in June 2014).

This project is the first of its kind in Ireland. It is very timely as public hospitals in Ireland are moving to a new governance structure with the establishment of seven hospital groups, each of which will have a hospital group board. This project therefore will support not only the Mater in improving its governance of quality of clinical care, but will also provide an example to other hospitals and hospital groups.



Quality Walk Rounds

In 2014 the senior management Quality Walk Rounds was introduced to the hospital. The Walk Round usually has 2 members of the management team and starts with a tour of the ward or department. The aim is to ensure that all preventable harm is eliminated and in order to achieve this all members of staff, patients and the public have a role to play.

These are interactive meetings that focus on:

▶	Good practice that needs to be highlight.
▶	Concerns to patient safety in relation to, Environment and Equipment.
▶	Staff training, staffing levels, skill mix.
▶	Communication to and within teams within departments.
▶	Any patient complaints dealt with a local level and compliments received.
▶	Actions taken to address any patient safety concerns.
▶	Supports needed to address concerns.



PATIENT EXPERIENCE

Improving the patient's experience is at the centre of the care provided at the Mater Hospital and is of crucial importance to patients and families. Measuring patient experience is therefore an important outcome in its own right, but good patient experience also is associated with important clinical outcomes.

For example:

▶	Patient experience positively correlates to both prevention and disease management. [1] Diabetic patients show greater self-management skills and quality of life when they report positive interactions with their carers. [2]
▶	Patient experience positively correlates to both prevention and disease management. [1] Diabetic patients show greater self-management skills and quality of life when they report positive interactions with their carers. [2]
▶	Patients' experiences with care is also strongly linked with adherence to medical advice and treatment plans. [3], [4] This is especially true among patients with chronic conditions.
▶	Patients with better care experiences often have better health outcomes. [5], [6] Studies of patients hospitalized for heart attack showed that patients with more positive reports about their experiences with care had better health outcomes a year after discharge. [7], [8]

In addition measuring patient's experience can reveal important system problems such as delays in returning test results and gaps in communication that may have broad quality, safety, and efficiency implications.

Patient Experience Survey

The Mater's monthly survey measures the patient's perception of the nursing care provided. Between 5 and 6 patients from 21 wards/units are interviewed using a standardised set of questions along with a section for free comments for patients. The results are reviewed at Ward, Directorate and Director of Nursing level. Results are reviewed by the hospital board at their monthly meeting.

This information drives a constant review of practice, and identifies the areas of concern from the patients' perspective. It also provides opportunity for patients to highlight their positive experiences of the care they received. The survey facilitates early identification of issues and to adopt and implement quality improvement initiatives to improve the care delivered.

Figure 1: Patient Survey Results Q1-3 2014

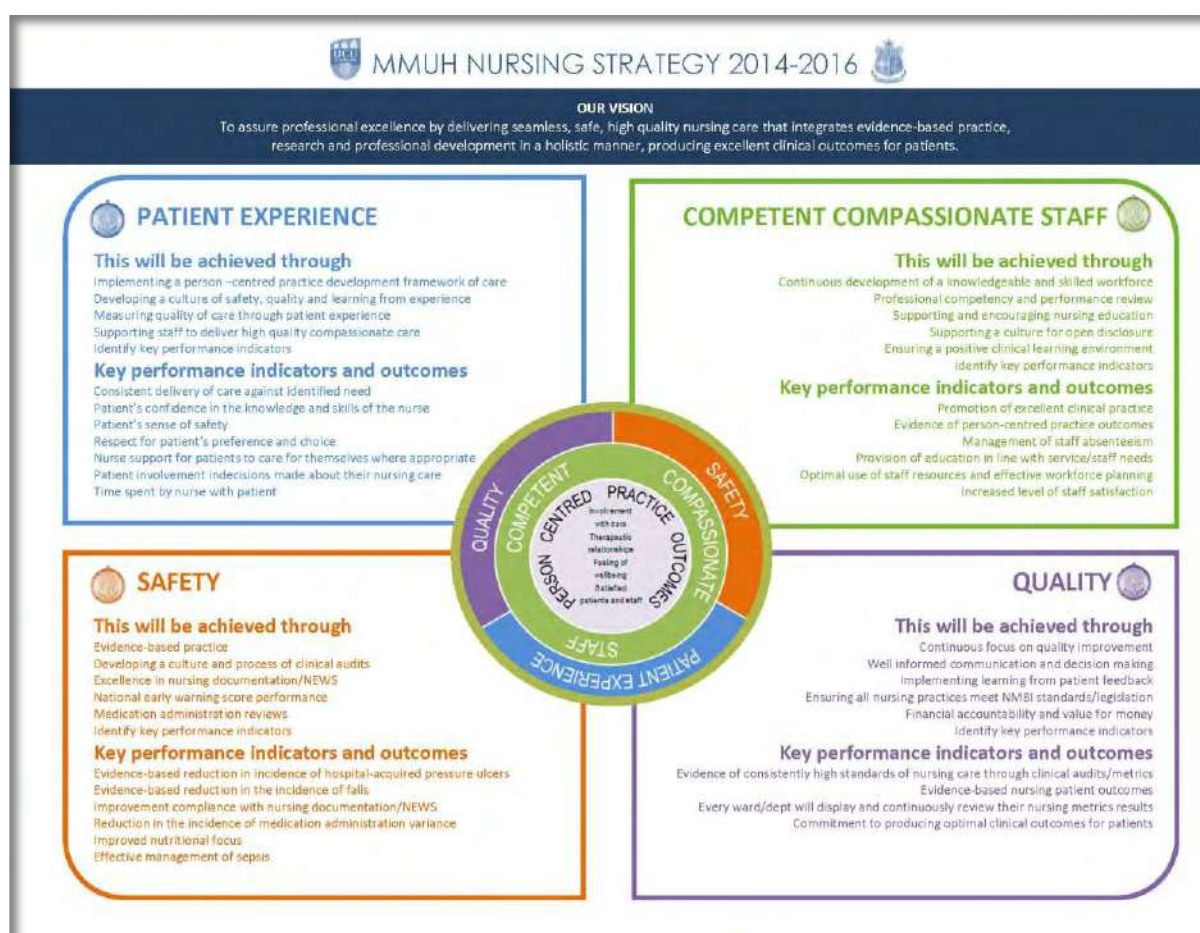
Question	Indicator				
	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014
Do you feel that the care you required was delivered each day irrespective of which nurses were on duty?	98	90	97	95	97
Do you feel confident in the skills in the nurses who looked after you?	98	92	96	96	98
Do you feel safe whilst under the care of the nurses?	98	90	97	99	99
Do you feel the nurses involved you in decisions about your care/treatment?	89	91	89	91	88
Do you get enough help from staff to eat your meals?	97	83	94	93	99
Do you feel that nurses had enough time to give you the care which you needed?	73	80	86	90	88
Do you feel that you have been treated with respect and dignity while you are on this ward?	97	92	99	98	99
Do you feel the nurses respected your choices and preferences?	87	89	96	97	99
Do you feel that the nurse encouraged and supported you to do things for yourself in order to promote your recovery?	90	92	96	97	99
Do you feel the nurses understand the things that are important to you during your time in hospital/under their care?	85	83	94	92	96
Do you feel you have been given enough privacy when discussing your condition or treatment with staff?	73	81	96	97	97
How clean is this ward (including toilets)?	76	89	84	82	*
When you use the call buzzer is it answered?	90	78	94	98	98
Have nursing staff on the ward talk to you about your discharge plan from the hospital?	58	81	25	21	28
When did the nurses speak to you about your discharge plan?	45	66	35	48	64
How would you describe the quality of care you received from nursing staff?	98	93	96	98	98
As far as you know, do the nursing staff wash or clean their hands between touching patients?	New/Revised question				94
How clean is this ward?	New/Revised question				*97
How clean are the toilets?	New/Revised question				*94
How likely are you to recommend this ward to friends and family if they needed similar care or treatment?	New/Revised question				98
Patient Experience Tool Indicators	84	86	87	88	91

Mater Nursing Strategy

In early 2014 the Department of Nursing launched a new Nursing Strategy that is built around 4 pillars:

▶	Quality.
▶	Competent Compassionate Staff.
▶	Safety.
▶	Patient Experience.

The core focus of the strategy is to deliver a patient centred approach to nursing at the Mater Hospital.

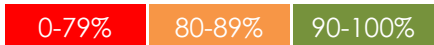


Measuring Care

The hospital performs a bi-monthly audit of care delivered and the 21 wards/units of the Mater. The audit measures the quality and safety of nursing care delivered in the hospital. The results are collated and reviewed with action plans formulated to address problem areas.

The information is pivotal in assessing performance, highlighting areas for improvement, providing evidence for process change, and ultimately supporting the constant reviewing and renewing care practices for the benefit of patients.

Nov-Dec 2014 MMUH Nursing Metrics



Wards: All, Department: All, Groups: All		AGN	ANNES	BERNA	BRASC	BRIGID	CECS	ELIZ	GABS	HEART	JOHNS	JOS	MONIC	OLADY	RASYNGE	TERES	VIN	YEATS	Total	
	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	Nov 2014 to Dec 2014	
Patient Observations including VIEWS	71	78	77	60	69	42	67	70	76	96	78	50	96	30	78	94	62	71	71	
Pain Management	71	38	100	44	36	54	58	75	96	89	62	72	80	45	56	100	51	66	66	
Tissue Viability	96	91	83	56	52	28	100	86	88	100	63	92	96	94	100	88	71	81	81	
Nutritional Management	46	96	79	66	73	53	92	52	89	98	72	41	79	80	95	100	55	76	76	
Continence Assessment	66	64	30	68	69	22	69	60	48	96	63	20	41	77	63	90	51	59	59	
Discharge Planning	41	88	74	84	69	15	60	67	50	32	38	40	78	65	52	46	57	57	57	
Infection Prevention & Control	74	87	75	76	74	72	93	93	74	97	62	92	100	90	90	94	97	84	84	
Medication Storage & Custody	100	100	100	100	100	100	100	100	100	100	100	65	100	100	95	100	75	96	96	
Medication Documentation	100	92	100	100	100	93	100	100	93	100	100	93	100	100	100	100	100	100	98	98
Total	74	82	80	77	73	53	82	78	79	90	67	67	86	76	81	89	69	76	76	
Nursing Care Metrics Audit Count	10	10	5	5	5	10	10	10	10	10	10	10	10	0	10	10	10	10		
Nursing Care Metrics Excl Count																				

Tertiary Care

Cardiology
Clinical Genetics
National Centre for Inherited Metabolic Disorders
Oncology & Haematology
Breast Surgery
Colorectal Surgery
Ophthalmology
Gynaecology





CARDIOLOGY

Centre of Excellence

The Cardiology Department at the Mater Hospital bring the full complement of the most sophisticated, comprehensive cardiovascular services to our patients. The opening of two new state of the art Cardiac Catheterisation Laboratories in June 2014 is the latest development in the long history of cardiovascular care at the hospital.

The hospital is a National Referral Centre for Congenital Heart Disease, Sudden Adult Death Syndrome (SADS) and is the National Transplant Centre for Heart and Lung. In addition the hospital is a tertiary referral centre for interventional cardiology, electrophysiology and heart failure.

Our cardiology team work closely and in collaboration with Beaumont Hospital, James Connolly Memorial Hospital and Our Lady of Lourdes Hospital in providing integrated care to the patients of the north east. That service is available 24 hours a day with all out of hours cardiac emergencies being treated in the Mater Hospital.

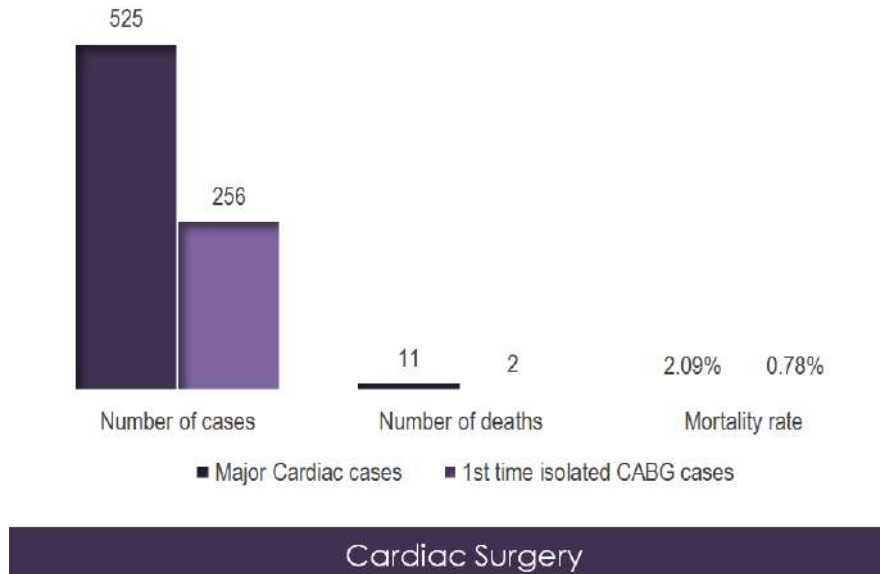
Cardiothoracic Surgery

In 2014 over 580 open heart surgeries were performed at the Mater Hospital including coronary artery bypass graft surgery, aortic valve replacement and mitral valve repair and replacement. All cardiac surgery outcomes data is sent to the Society of Cardiothoracic Surgery for Britain and Ireland for external review and audit.



People who have advanced (end stage) heart failure, but are otherwise healthy, may be considered for a heart transplant. Most patients referred to heart transplant unit at the Mater Hospital have end-stage heart failure. Their heart failure might have been caused by:

▶	Coronary heart disease.
▶	Congenital heart disease.
▶	Viral infections of the heart.
▶	Damaged heart valves and muscles.



National Centre for Congenital Heart

Congenital Heart Disease (CHD) is the most common inborn defect, with a worldwide incidence of 1%. Progress in paediatric cardiac surgery, over the last three decades, has produced a large population of adults with congenital heart disease that survive. About 90% of those born with CHD now survive into adult life, compared with 20% in the 1950s.

In 2014, the Mater performed the first heart transplantation in a patient with congenital heart disease.

The Mater Hospital is the National Adult Centre for Congenital Heart Disease. The multi-disciplinary team works in conjunction with the teams in Our Lady's Hospital for Sick Children, Crumlin and the Rotunda Hospital. The centre receives over 350 referrals per year with a new cross border initiative with Northern Ireland expected to increase that number further.

Repeat Surgery or Transplant

The goal of the team at the Mater Hospital is to provide best in class care and clinical outcomes for patients with congenital heart issues. The hospital provides advanced sub-speciality care encompassing congenital heart disease, structural heart and cardio-thoracic surgery for its patients.

Our multi-disciplinary team provides integrated management for patients with Grown Up Congenital Heart Disease (GUCH). The care provide at the hospital includes:

▶	Cardiac Resynchronization Therapy (CRT) for GUCH patients that suffer with Congestive Heart Failure.
▶	Specialist expertise in delivering ablation therapy for Arrhythmias.
▶	Implantable Cardiac Defibrillators for Sudden Cardiac Death.
▶	Cardiac Surgery.

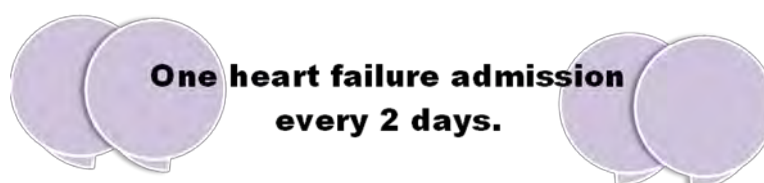
Maternal Medicine

The Mater Hospital also provide a maternal cardiology joint service with the Rotunda Hospital, for women who are pregnant or planning to be pregnant and who have congenital or acquired heart disease. Monthly multidisciplinary meetings ensure the optimal plan for labour is in place with regular cardiac screening and foetal ECG to check the babies heart.



Heart Failure

Heart failure affects approximately 90,000 people in Ireland and is the number one reason for hospital admission in people over 65 years of age. Accounting for 16,000 acute decompensate heart failure admissions in Ireland every year. The Mater Hospital runs a dedicated Heart Failure Clinic and Services for patients with heart failure. At the Mater cover the entire spectrum of care from medical management through device implantation and structural heart care to finally heart transplantation, if required. It is the provision of the complete range of services in one centre that make the Heart Failure services at the Mater unique.



Heart Failure Clinic

Heart failure is a chronic disease needing lifelong management. However, with treatment, signs and symptoms of heart failure can improve, and the heart sometimes becomes stronger. The purposes and benefits of heart failure clinics are:

▶	Provide support and education for heart failure patients and their relatives.
▶	Improve uptake of evidence-based medications.
▶	Improve quality of life.
▶	Reduce hospital readmission rate.
▶	Reduce length of stay for those patients who are hospitalised.
▶	Improve survival.

Advances in medicines have enabled our doctors to manage their heart failure patients better with medication. These newer medications have reduced the need for patients to progress on to heart transplant than previously. However for most people, the treatment of heart failure involves a balance of the right medications and, in some cases, use of devices that help the heart beat and contract properly. Getting the balance of medicines correct is labour intensive and is done in conjunction with the consultant and heart failure nurse specialist.

Structural and Congenital Heart

Ventricular Assist Devices (VAD): Some heart failure patients, who are waiting for a heart donor or are too ill to wait for a heart donor benefit from Ventricular Assist Devices. The main purpose of a VAD is to unload the failing heart and maintain blood flow to vital organs. The surgery takes between 6-10 hours, with patients then spending another 4-6 days in the intensive care unit. Most patients see a significant improvement in their quality of life with symptoms of advanced heart failure reduced significantly.

Electronic Device Management

Some patients with advanced heart failure may benefit from the use of electrical devices. One type of therapy is cardiac resynchronization therapy (CRT) with biventricular pacemakers. These devices can improve heart function and quality of life. Implantable cardioverter defibrillators (ICDs) may be used to prevent life-threatening heartbeats, to reduce the risk of death.

150 devices were implanted in heart failure patients in the Mater's Cardiac Catheterisation laboratories in 2014.

Structural Heart

The Structural Heart Disease team at the Mater Hospital provides innovative multidisciplinary care for patients with advanced and complex structural heart disease. From evaluation to treatment, the service is designed to deliver the best possible outcomes for every patient.

The Structural Heart Team specialises in providing minimally invasive treatments for patients who don't qualify for the conventional open procedures. While Cardiothoracic Surgery continues to be the preferred method for treating structural heart disease, interventional cardiology provides a number of alternatives for patients for whom conventional surgery is considered to be too risky – and offers the potential benefits of less scarring, less blood loss, less pain and a quicker recovery.

The hospital's multidisciplinary team of specialists, representing cardiology, interventional cardiology, cardiac surgery, cardiovascular imaging and cardiac anaesthesia, all working together to provide structural heart services for patients with:

▶	Advanced structural and valvular heart disease.
▶	Patent foramen ovale (PFO) – a hole in the heart that didn't close as it should after birth.
▶	Atrial and ventricular wall defects.
▶	Valve leaks.

In addition to evaluation and diagnosis, our multi-disciplinary team offer a range of advanced procedures, including:

Transcatheter Aortic Valve Implantation (TAVI)

TAVI is an advanced innovative treatment for patients with aortic valve disease. The procedure involves the replacement of a patient's diseased aortic valve with a specifically designed artificial heart valve and is a good alternative for patients who are too high risk for cardiothoracic surgery.

Left Atrial Appendage

Is a treatment for patients at risk of developing clots in the left atrium. This catheter based procedure seals off the Left Atrial Appendage using the Watchman device and prevents the LAA from releasing clots. Reducing the patient's risk of stroke and eliminating the need to take blood-thinning medication.

Patent Foramen Ovale (PFO) Closure

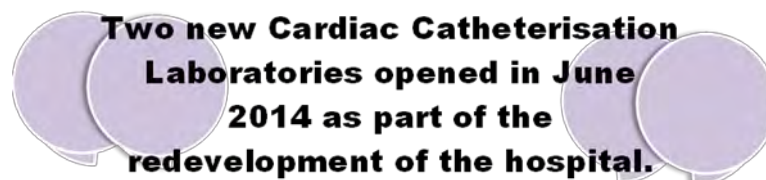
This is a minimally invasive catheter based procedure where the hole in the heart is closed using a device called the Amplatzer® PFO Occluder.

Atrial Septal Defect Closure

This is also a minimally invasive catheter based procedure where an ASD closure device is allowed to expand its shape to straddle each side of the hole in the heart. The device remains in the heart permanently to stop the abnormal flow of blood between the two atria chambers of the heart.

Interventional Cardiology

There are two types of heart attacks - ST elevation myocardial infarction (STEMI) and Non ST elevation myocardial infarction (NSTEMI). The STEMI's are the major heart attacks caused by a blockage in the arteries supplying blood to the heart muscle. They require urgent treatment by either the use of a clot-busting drug (thrombolysis) or by insertion of a wire into the artery to open it using a balloon to allow the blood to flow to the heart muscle again. This is known as a primary percutaneous coronary intervention (PPCI).



This is sometimes referred to as an angioplasty and can only be done in a hospital equipped with an emergency catheterisation laboratory.

Primary PCI centre hospitals are designated based on having available catheterisation laboratories with the required number of cardiologists that are trained in PPCI. There are 5 designated 24/7 PPCI centres in the country with the Mater Hospital as the designated hospital for the north side of Dublin and the north-east of the country. In 2014 the hospital treated approximately 400 primary PPCI.

The hospital is recognised as a PPCI centre of excellence and collaborates closely with cardiologists in Beaumont Hospital, James Connolly Memorial Hospital and Our Lady of Lourdes Hospital in Drogheda.

Chronic Total Occlusion (CTO)

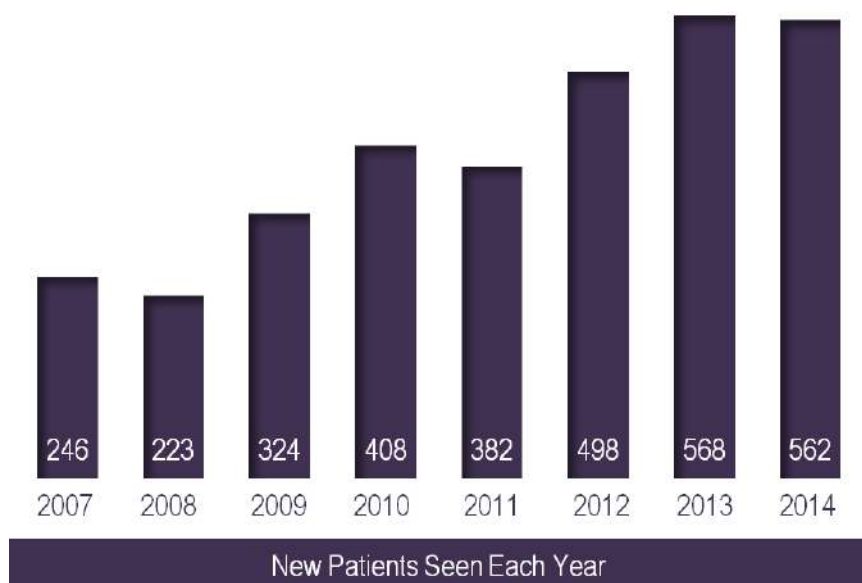
Chronic Total Occlusion is the most severe form of coronary atherosclerosis (complete blockage of the coronary artery). These blockages are the most complex and challenging to deal with. Most patients with Chronic Total Occlusion (CTO) traditionally required coronary artery bypass surgery to treat the blockage.

Recent techniques now enable cardiologists to treat Chronic Total Occlusions in a much less invasive manner. The development of advanced micro catheters and dedicated CTO wires have enabled cardiologist to approach the blocked segment of the coronary artery from the retrograde side. This approach is associated with much greater success rates than previous interventional cardiology approaches and has significant benefits to the patient, who no longer requires open chest surgery.

Family Heart Screening Clinic

The Family Heart Screening Clinic at the Mater Heart House has been providing comprehensive cardiac evaluation of families affected by sudden cardiac death due to SADS (Sudden Arrhythmic Death Syndrome) or an inherited cardiac disease its opening in 2007.

The clinic provides families with access to expert evaluation in an appropriate, family-based setting, away from the busy general cardiology clinics. Demand for the service has soared and the remit of the clinic's activities has broadened to include not just initial screening but follow-up of families diagnosed with inherited cardiomyopathy (chronic disease of the heart muscle) or channelopathy.
Patient population



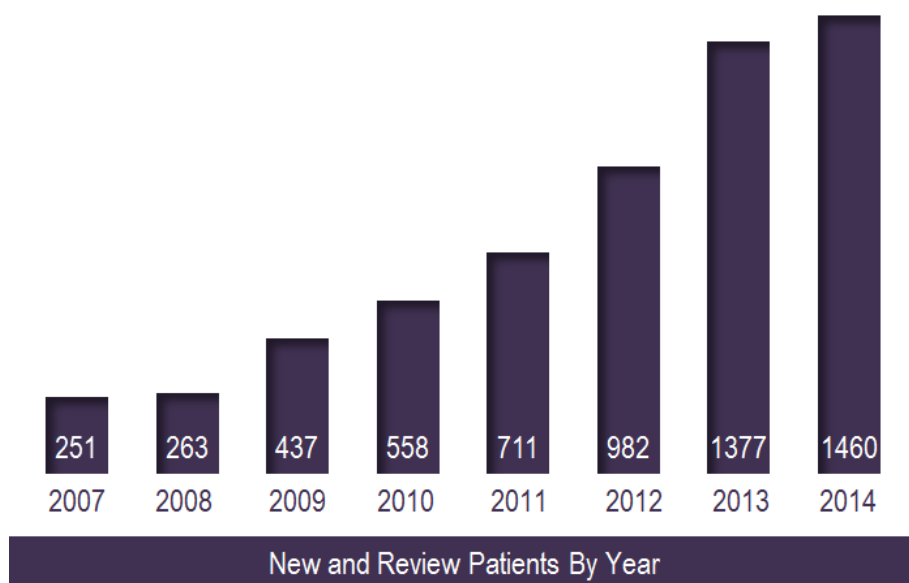
Patient Population

The clinic accepts GP, consultant, and other hospital referrals on the following different groups of patients:

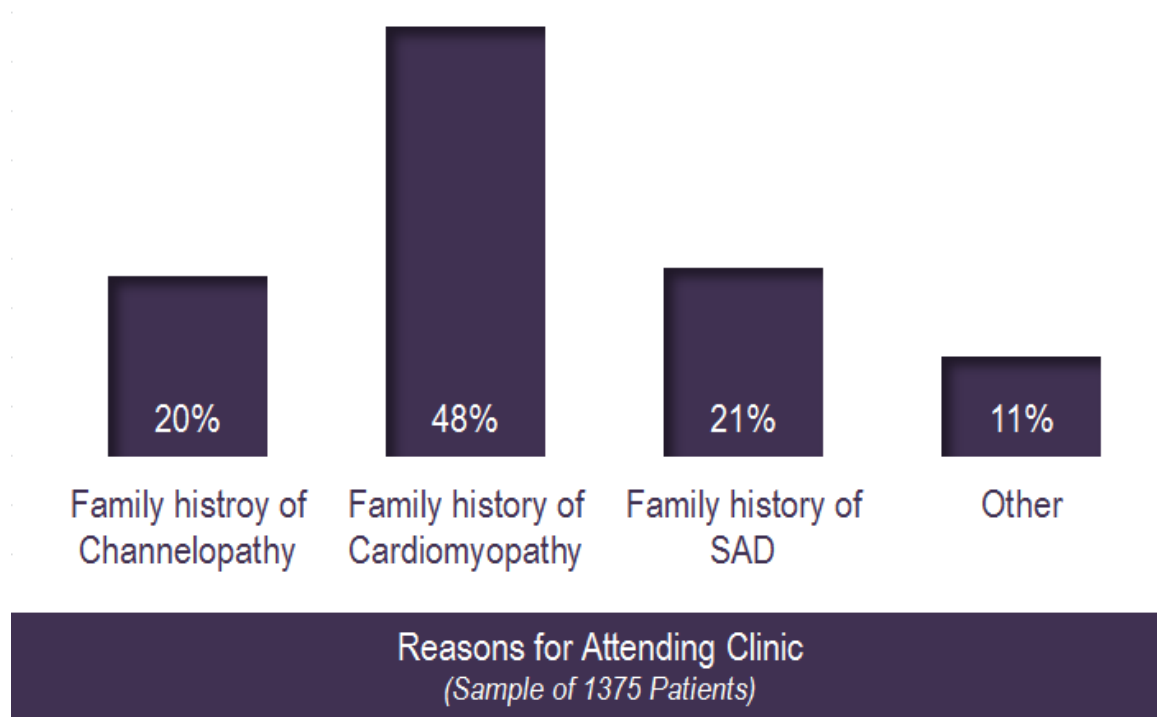
▶	Families of victims of SADS.
▶	Families with a member who had a sudden cardiac death aged under 40.
▶	First degree relatives of patients with cardiomyopathies which may be inherited.
▶	Relatives of persons with a confirmed genetic cardiac disorder.
▶	Families with metabolic or neuromuscular disorders which may have associated cardiac abnormalities.
▶	Survivor of unexpected cardiac arrests, who have not had a cause identified for their arrest or who are suspected of having a channelopathy or cardiomyopathy.

Activity

There are three consultant-provided and one senior registrar clinic sessions every week. Electrophysiology studies are performed one day a week and Implantable Cardiac Defibrillators (ICDs) twice per week. There is a monthly case conference using a video link with Health in Code who provide genetic test results for each of the family or individual phenotype presentations. This meeting is attended by clinic consultants, the arrhythmia fellows, cardiology specialist registrars, pathologists, paediatric cardiologists, geneticists, genetic counsellors and medical students.



New patient numbers attending the clinic have increased by on average 14% per year over the last 7 years and total numbers attending the clinic have increased just under 30% per annum over the last 7 years .





CLINICAL GENETICS

Genetic Mutations

There are two basic types of genetic mutations: acquired and germline. Acquired mutations are the most common cause of cancer. These mutations occur from damage to genes during a person's life, and they are not passed from parent to child. Tobacco use, exposure to ultraviolet (UV) radiation (such as sunlight or from tanning beds), viruses, and age can damage genes and cause these mutations.

Less commonly, a mutation can be in every cell of a person's body from birth. These mutations are typically passed from a parent to a child. This is called a germline mutation. Because this type of genetic change is in every cell of the body, including the reproductive sperm cells and egg cells, it can be passed from generation to generation. Cancer caused by germline mutations is called inherited cancer.

Cancer Genetics

The National Cancer Control Programme recognised the need for incorporating cancer genetics into Irish cancer centres and initiated a demonstration project in the Mater Misericordiae University Hospital in 2011. Their goal was to utilise advances in genomic knowledge and technology for the benefit of patients.

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

Cancer Genetics now has weekly subspecialty involvement in the breast, prostate, ovarian and gastrointestinal cancer multidisciplinary meetings (MDMs) at the hospital.

Research

A cancer genetics research programme has been established in the Mater and St James' Hospitals that to date has resulted in 37 abstracts being presented at international meetings in the past 3 years, and through which an Oncology Specialist Registrar is completing an MD, the focus of which received a merit award from the American Society of Clinical Oncology in 2014.

A germline DNA Biobank has been developed to collect DNA for research. A research protocol has been approved by national ethics committees and adopted by the Irish Clinical Oncology Research Group. Three international clinical trials have been opened in both hospitals through the Cancer Genetics Service, and research collaborations have been established with DCU, UCD and TCD in Dublin, in addition to the Royal Marsden in London and Memorial Sloan Kettering Cancer Centre in New York.

Cardiology and Genetics

The Family Heart Screening Service at the Mater Hospital provides a genetics service for patients. The hospital has partnered with Health in Code laboratories in A Coruna, Spain who perform the gene sequencing for the hospital. Genetic counselling is performed by the cardiologists at the Mater Heart House and phlebotomy and DNA extraction is carried out by the Department of Pathology. There are monthly teleconferences between Dublin and A Coruna with the participation of members of the Mater Cardiology and Pathology Departments, a clinical Geneticist and a Paediatric Cardiologist from Our Lady's Children's Hospital in Crumlin.



NATIONAL CENTRE FOR INHERITED METABOLIC DISORDERS (ADULT SERVICE)

The National Centre for Inherited Metabolic Disease (NCIMD) – Adult Service is based at the Mater Misericordiae University Hospital. The Unit is designed to address the specific needs of patients diagnosed with inborn errors of metabolism (IEM) that are over the age of 18.

Fifteen ladies with Phenylketonuria (PKU) were supported by the Adult Service in 2014 as part of planning, during, and post-delivery phases of pregnancy. Intense dietary management, medical and nursing support is required throughout to facilitate the best outcomes for the patients and their developing babies. This is as a consequence of the teratogenicity effects of high phenylalanine levels. In addition 6 PKU mothers also chose to breast feed post-delivery which required extra dietary adjustments, closer monitoring and a high level of motivation from the patients involved.

Other initiatives in 2014 included collaborative work with the Metabolic Service in Temple Street on the development of 'MPKU Management Guidelines' and the update of a patient information booklet, 'A Guide to Planning for your Pregnancy with PKU'.



Celebration Event, Pillar Room, Rotunda Hospital: Marking the birth of healthy children born to women with (PKU), a Mother and Baby afternoon tea event took place on the 17th of December 2014.



ONCOLOGY & HAEMATOLOGY

Oncology

Cancer care at the Mater Hospital is based on the multidisciplinary team principle. This means that each patient's tailored treatment plan will be developed by a range of specialists, including a surgeon, medical oncologist, radiotherapist, pathologist, radiologist, nurse and allied health professionals – all of whom specialise in that specific cancer. Together, they consider all possible treatment options and recommend those that they believe will achieve the best possible outcome.

As each patient's treatment progresses the multidisciplinary team will monitor progress, adjust each care plan, if necessary, to ensure that every patient receives the best treatment at every stage of their journey. The Hospital is one of the eight nationally designated cancer centres and our multidisciplinary teams treat all the major cancers.

Medical Oncology

The Medical oncology team provide comprehensive medical (non-surgical) service for patients with cancer. Each patient with a suspected or confirmed diagnosis of cancer has his/her case discussed at a multidisciplinary team meeting, where an individual treatment plan is agreed. The hospital provides inpatient and outpatient chemotherapy, non-surgical treatment of cancer and supportive and palliative care.

In addition patients may also be eligible to take part in a clinical trial of a new cancer treatment and avail of the cancer genetics service at the hospital.

Genetics

The Cancer Genetics Service at the Mater Hospital offers individuals and families the opportunity to make informed decisions with regard to cancer risk assessment, early detection, prevention and treatment. Individuals assessed to have a higher than average risk of cancer can discuss potential options, like having screening to detect any signs of cancer as early as possible thereby ensuring prompt treatment and more successful outcomes. Cancer Genetics is part of the breast, prostate, ovarian and gastrointestinal cancer multidisciplinary meetings at the hospital.



Diagnosis

Appropriate treatment for cancer starts with an accurate diagnosis. The Mater Hospital Radiology Department provides patients with the latest technologies in magnetic resonance imaging (MRI), computed tomography (CT) scanning, nuclear medicine and ultrasound imaging. The many tests/scans that are offered include bone scans, myocardial perfusion imaging, gallium scanning, SPECT imaging and PET/CT exams. A PET/CT exam helps to better diagnose your condition, determine what course of treatment is right for you and monitor your progress.

The hospital provides a range of cancer specific clinics specially tailored to the needs of the patients. These clinics include the Triple Assessment Clinics where a woman may receive her clinical examination, radiological investigation and, if necessary, tissue sampling on the same day.

Tissue samples taken during a biopsy are examined using state-of-the-art technology to provide most answers within 24-hours, with many specimens examined on the same day. As members of a multispecialty team, they provide valuable insight that helps guide the team in making treatment decisions.

Multidisciplinary Care

Treating cancer can involve chemotherapy, radiation therapy, surgery or interventional treatments. The team at the Mater Hospital provides a comprehensive treatment service and a number of options that are only available at the hospital including:

▶	Trans-anal minimally invasive surgery for early stage colorectal cancer.
▶	Cytoreductive Surgery and Heated Intraperitoneal Chemotherapy (HIPEC) for certain peritoneal malignancy cancers (stage IV colon cancer and other gastrointestinal cancers).
▶	Spinal surgery in the treatment of spinal cord compression caused by metastatic cancer.
▶	Lung Transplantation.

In addition interventional radiologists at the Mater Hospital provide Interventional Oncology that utilises the latest image-guided technology to diagnose and treat cancers in ways that are precisely targeted and minimally invasive.

Haematology

Haematological cancers include various types of blood cancers and related diseases including acute and chronic leukemia, myelodysplastic syndromes, myeloproliferative disorders, aplastic anaemia, Hodgkin's and non-Hodgkin's lymphoma, multiple myeloma and plasma cell disorders. Blood cancers and related diseases primarily affect the bone marrow or blood cells.

The Mater Hospital provides specialised care to patients with lymphoma, leukaemia and multiple myeloma and in 2014 provided regular care to patients with these disorders. As part of the redevelopment of the hospital a new 33 single room ward was opened in 2014 for haematology patients. In addition the new Carney Ward is a day ward with 20 bays for patients.

The Haematology team run a busy clinical trials programme at the UCD Catherine McCauley Clinical Trials Centre at the hospital. In addition through links with the Dana Fabre Cancer Institute in the US and Dr Peter O'Gorman in his capacity as National Haematology Modality Clinical Trials Co-ordinator with the Irish Cooperative Clinical Oncology Group the Mater Hospital are in a unique position to provide access for Irish patients to the latest clinical trials of new Blood Cancer treatments.



BREAST SURGERY

Overview

The Mater Misericordiae University Hospital is one of the eight nationally designated cancer centres. Its Specialist Breast Centre (BreastHealth) is staffed by a team of specially trained breast cancer surgeons, radiologists, pathologists, medical oncologists and other healthcare professionals.

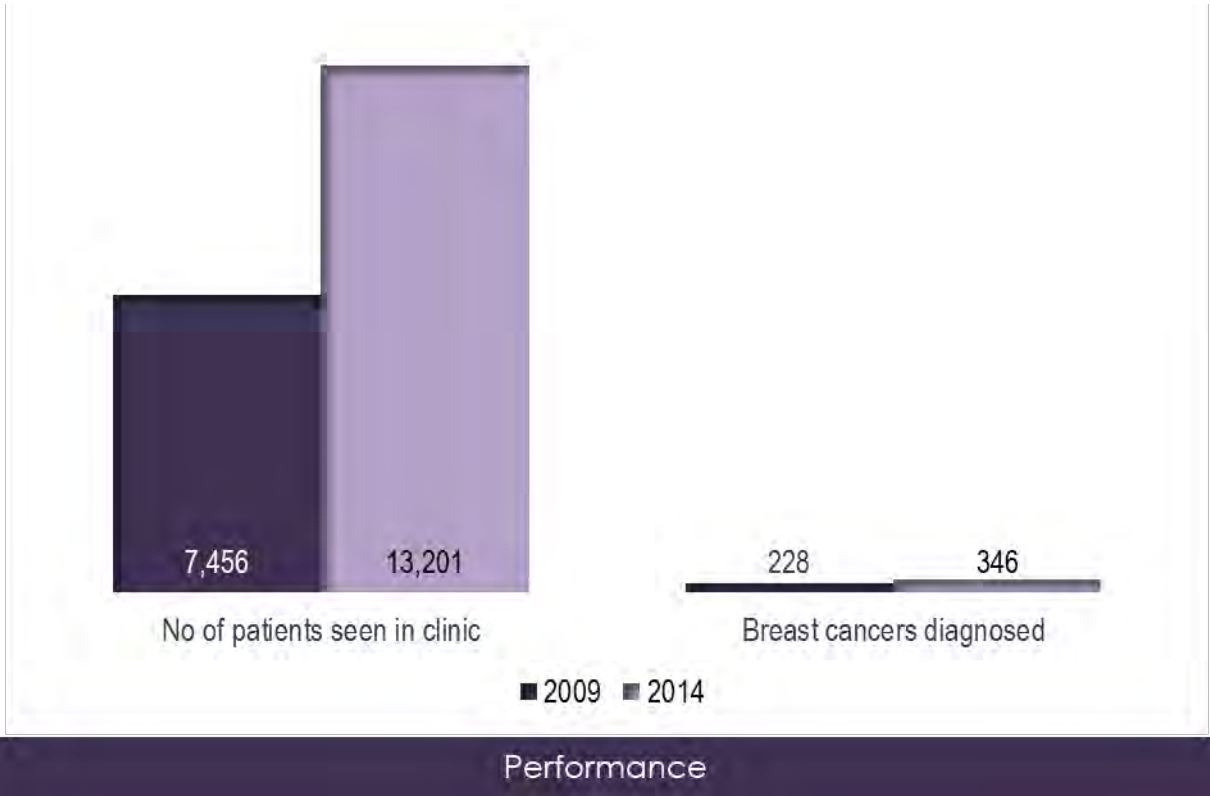
The Specialist Breast Centre is focused on ensuring that patients can get their results in an accurate and timely manner and if required, proceed to treatment in a timely manner. The numbers attending clinics in the Mater Hospital have increase significantly over the last 5 years with the numbers of breast cancers diagnosed reaching almost 350 in 2014.

Patient cases are reviewed at multi-disciplinary meetings, where a number of specialists review and discuss the condition and treatment options for a patient. The multidisciplinary breast cancer meeting is designed to evaluate patients with known breast cancer in a comprehensive, single-day setting to minimise the time between diagnosis and treatment.

Breast Imaging

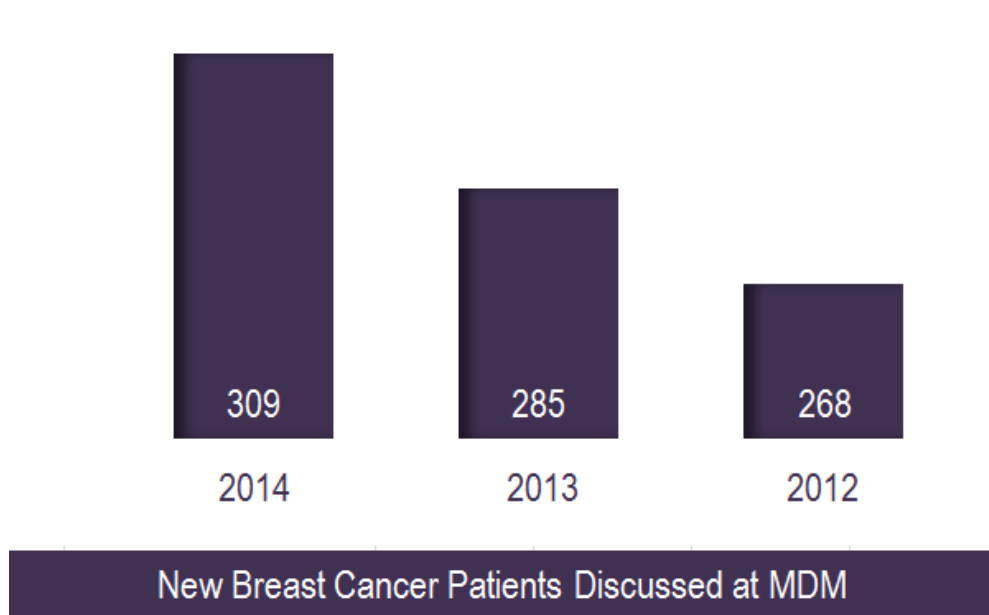
BreastCheck

BreastCheck is the National Breast Screening Programme that provides free mammograms to women aged 50 to 64. The programme screens on an area-by-area basis with the screening programme in the North East, East, Midlands and parts of the South-East is managed by the BreastCheck Eccles Unit, located on the campus of the Mater Misericordiae University Hospital. It provides a high quality effective screening service with the purpose of detecting the maximum number of breast cancers at the earliest possible stage.



Surgery

The breast surgeons at the Mater Hospital are specialists in breast cancer surgery. Recent studies published in the British Medical Journal and the British Journal of Cancer confirm that patients of breast surgeons who perform a high number of breast cancer surgeries have a higher rate of survival than patients of those who do a lower number of breast surgeries. The National Cancer Control Programme has set a minimum figure of 50 breast cancer surgeries per surgeon each year. This is a measured and reported key performance indicator and all 4 breast surgeons in the Mater Misericordiae Hospital exceed this criteria.



Reconstructive Breast Surgery

The Mater Hospital's Breast and Plastic Surgeons work closely to ensure that each breast cancer patient has the reconstructive surgery option that best suits them. Major achievements have been made in breast reconstruction following mastectomy surgery. Advanced techniques enable our surgeons to provide patients with access to the latest innovations. Fat grafting is a new breast reconstruction technique that involves removing fat tissue from other parts of the body (usually the thighs, belly, and buttocks) and rebuilding the breast with it. The technique has the advantage of using the person's own tissue instead of an implant and removing fat from an unwanted area. In addition surgeons at the Mater have completed almost 30 cases with the TIGR® Matrix Surgical Mesh. The mesh is the first long-term resorbable synthetic mesh product that provides temporary reinforcement in patients undergoing breast reconstruction or breast surgery revisions. It is used for reinforcement of soft tissue where weakness exists, has high strength during the first 6 months following implantation, and is completely degraded and resorbed after approximately three years.

COLORECTAL SURGERY

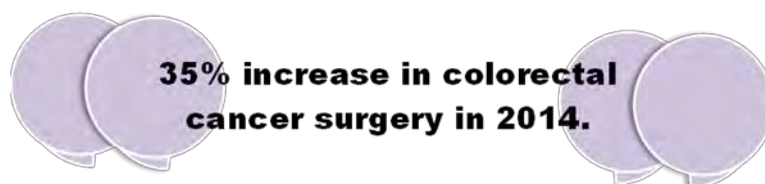
Colorectal surgery is used to repair damage to the colon, rectum, and anus, caused by diseases of the lower digestive tract, such as cancer, diverticulitis, and inflammatory bowel disease. The Mater Hospital has 4 colorectal surgeons, with a special interest in colorectal cancer, and is one of the National Rectal Cancer Centres.

Colorectal Cancer

In 2014 over 250 colon cancers were diagnosed and treated at the Mater Misericordiae University Hospital. Approximately 180 of those patients went on to have surgery. The National Colorectal Screening Programme accounts for about 20 surgeries annually. The vast majority of cancers identified through the national screening programme are for early stage colorectal cancers.

Innovative Treatment

New innovative techniques have led to the development of organ preserving strategies for patients with early stage rectal cancers. Trans-anal minimally invasive surgery provides a less invasive surgical option for patients with early stage cancer. Techniques like Trans-anal endoscopic microsurgery (TEM) reduces pain and recovery time for patients. Previously, surgery to remove these tumours' required an abdominal incision. Now using innovative approaches certain early stage cancers or benign rectal polyps may be removed without a surgical incision.



All Ireland Expertise

The Mater Misericordiae University Hospital is the only centre on the island of Ireland offering Cytoreductive Surgery and Heated Intraperitoneal Chemotherapy (HIPEC) for certain peritoneal malignancy cancers such as stage IV colon cancer and other gastrointestinal cancers. The unit has been recognised by the National Cancer Control Programme (NCCP) and the Irish Association of Coloproctology (IACP), an all-Ireland body representing colorectal surgeons. Previously Irish patients needed to travel to either Basingstoke or Manchester in the UK for surgical treatment.

The technique is a two-step process:

- ▶ Surgically removing any visible tumour.
- ▶ Delivery of heated chemotherapy drugs to the affected area.

During the second phase of treatment a heated chemotherapy solution is circulated in the abdominal cavity to treat any cancer cells that may remain. Recent studies have shown that this combined technique is beneficial for certain patients with late-stage gastrointestinal cancers.



As the chemotherapy is delivered internally, some of the traditional side effects of oral or intravenous chemotherapy drugs are avoided. It is estimated that up to fifty patients per year on the island of Ireland may benefit from this treatment. International best practice estimates that one centre per 6 million population is required.

Integrated Care

Some patients will develop a metastatic tumour from their original colorectal cancer. For those patients the expertise of National Spinal Unit and the specialties of Urology, Gynaecology and Thoracic Surgery are part of the integrated care team that will treat the patient. Spinal surgery is not curative but can provide local control of the cancer while allowing the patient to return to other treatments such as chemotherapy or radiation therapy. While pelvic exenteration is used if the cancer has spread to other organs near the rectum.

OPHTHALMOLOGY

The Mater Misericordiae University Hospitals is one of two eye specialist hospitals (the other being the Royal Eye and Ear) serving the people of Leinster. The Ophthalmology Team provides emergency, specialist and sub specialist expertise for all types of eye conditions. The Mater Hospital works as a hub for ophthalmology care in conjunction with the Children's University Hospital Temple Street, Beaumont Hospital and the James Connolly Memorial Hospital, Blanchardstown.

Approximately 35,000 patients attended the Outpatient department in 2014.

These specialties are provided through the following services:

▶	Eye Casualty.
▶	Out Patient Department.
▶	Pre – Operative Assessment.
▶	Inpatient and Daycase Surgery.
▶	Intra-vitreous injection service.
▶	Eye LASER service.
▶	Diabetic Retinopathy Treatment programme.

Eye Casualty

The Eye Casualty Department saw over 12,000 patients in 2014. The service currently works on a Monday to Friday basis from 8am to 8pm with the consultant team on call outside of those hours. The Mater provides accident and emergency treatment for urgent, sight-threatening problems and for issues that cannot wait for a routine appointment. Patients are assessed, on arrival, by a nurse who will determine the seriousness of the condition with patients treated in a clear and prioritized manner. Attendances at Eye Casualty have increased by over 25% in the past 5 years, and it is anticipated that we will soon be looking after 15,000 patients a year. In order to ensure that the ophthalmology service is able to continue to provide a responsive service as the number of patients grows, the team completed a review to consider how we should organise and resource our urgent care services.

As a result a new standalone Eye Casualty is being constructed at the hospital and will open in September 2015. The new unit will improve patient flow through the Eye Casualty, while improving patient experience and quality of care.

Demand for ophthalmic investigations increased by over 16% in 2014.



Ophthalmic Imaging & Diagnostics

Ophthalmic diagnostics are an essential and vital part of the Ophthalmology Department and are integral to the delivery of appropriate care to patients. The Ophthalmic Diagnostic service provides a range of visual field tests including,

▶	Ophthalmic photography.
▶	Fundus fluorescein angiography.
▶	Visual fields testing.
▶	Ophthalmic ultrasound.
▶	Ocular coherence tomography (OCT).
▶	Electrophysiology.
▶	Corneal topography.

Investigations are carried out by clinical/ophthalmic photographers and technicians with the primary goal of providing all diagnostic investigations on the same day as the clinic review.

Tertiary Referral Centre

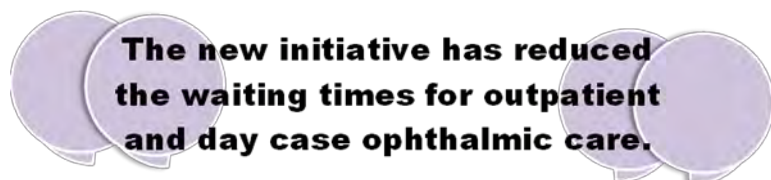
The specialist team at the Mater Hospital provides a comprehensive Ophthalmology service and specialist tertiary referral expertise in:

▶	Retina.
▶	Glaucoma.
▶	Cornea and External Eye Disease.
▶	Eyelid, Lacrimal and Orbital Disease.
▶	Neuro-Ophthalmology.
▶	Strabismus.
▶	Cataract and Refractive Surgery.

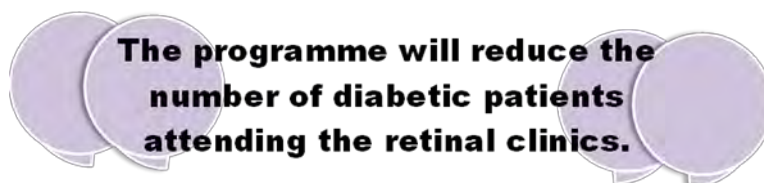
With referrals for those services coming from Ophthalmology departments in hospitals around the country.

Expansion of Community Based Services

In a drive to ensure that patients are seen at the most appropriate level of care the hospital has developed a care model with Medical Optics to meet the increasing demands for ophthalmology services. The initiative facilitates GP and Optometry referrals to a service equipped to manage non-surgical and chronic eye conditions outside of the hospital setting.



Patient requiring access to the team at the Mater Hospital for surgery or treatment for more complex or acute eye care can do so in a streamlined and timely manner. This initiative is currently funded by the HSE outsourcing initiative.

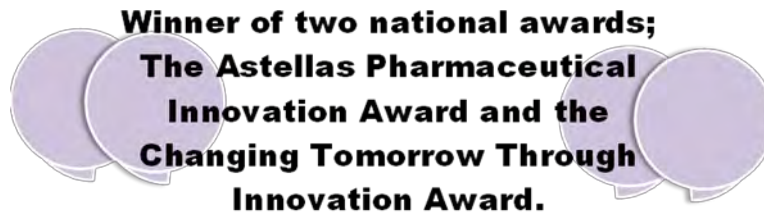


Diabetic Retinopathy Treatment Programme

The Mater Misericordiae University Hospital is a fast track treatment centre for the National Diabetic Retinal Screening Programme. Diabetic Retina Screen is the programme that offers free, regular diabetic retinopathy screening to people with diabetes. Diabetic retinopathy is the most common cause of blindness in working age individuals in Ireland and there are approximately 190,000 people in Ireland with diabetes and 10 per cent of them are at risk of sight threatening retinopathy.

Innovation

Age-related macular degeneration (ARMD) is a sight-threatening ocular condition with an increasing incidence and is the leading cause of vision loss in those over 50 years of age in the developed world. Treatment options for this condition were very limited until the arrival of anti-VEGF medicines in 2007. Anti-VEGF therapy made the condition treatable, with the injections only being carried out in theatre. Patients required 12 injections annually and the mushrooming of the numbers of patients requiring treatment consumed large amounts of theatre and manpower resources. To address this issue the Ophthalmology Service at the hospital undertook an innovative project to initiate, establish and implement a team-based intra-vitreous ward-based injection service for ARMD patients.



The new initiative meant that patients were treated in a more timely fashion, their time in hospital was reduced with surveys showing a 90% improvement in patient satisfaction. Significantly, it quadrupled the number of injections that the service could carry out, to 80 per week.

Philanthropic Donations

The Ophthalmology Department have benefited from significant philanthropic donations that have improved the team's ability to care for patients. Oliver Brady and Rita Shah's Shabra Charity donated an Optical Coherence Tomography (OCT) scanner and a Valon TT Multispot Laser. Such donations enable the ophthalmology service to better diagnose and treat patients with serious eye conditions and make a significant difference to their care.

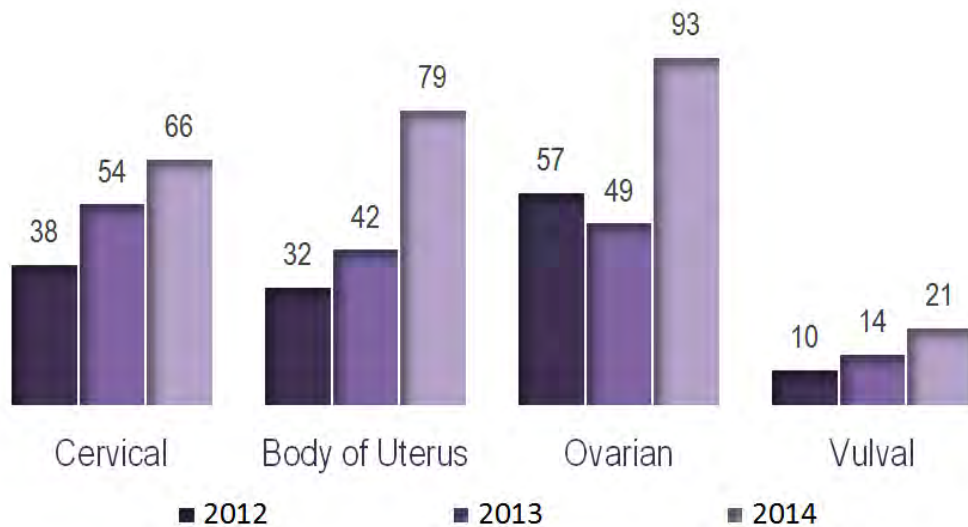
Education

The Mater Ophthalmology Department is the main Ophthalmology teaching hospital for University College Dublin. It is one of the main post-graduate training units in Ophthalmology and Ophthalmic surgery at both Basic Specialist Training and Higher Surgical Training levels. It also provides training for optometry students from DIT, Kevin Street.

GYNAECOLOGY

Gynaecology

The Mater Hospital's Gynaecology Cancer service is one of the largest providers in the country for treatment for malignancy of the reproductive organs: cancer of the womb (uterus), cervix, ovary, vagina and vulva. The centre provides a regional and tertiary service and is accredited by the National Cancer Control Programme.



Gynaecological Cancers by Site

The multi-disciplinary team provides comprehensive care to over 300 women with gynaecological cancer that are referred to the centre annually.

For gynaecological cancers the hospital provides:

▶	A diagnostic and assessment clinic, providing ultrasound, colposcopy, hysteroscopy and biopsies.
▶	Fertility preserving surgery for women of reproductive age with early cervical and ovarian cancers.
▶	Advanced laparoscopic surgery (key hole surgery).
▶	Complex radical surgery for recurrent gynaecological cancers.

Cancer Referrals

The service at the Mater Hospital saw almost 3,500 patients in 2014 with 1,500 of those being new patients. The numbers of cancers treated has increased significantly in the last 3 years, with 289 new cancers being diagnosed in 2014 alone. The marked increase in numbers in 2014 appears to be due to a considerable rise in referrals from the Northwest, East and Midlands catchment areas.

Ovarian cancer accounts for almost 1/3 of all cancers diagnosed by the team at the Mater and when combined with Uterus and Cervical cancer they represent 82% of all gynaecological cancers.

Cancer Surgery

The Multi-Disciplinary Team at the Mater Hospital provides a comprehensive surgical care for patients with gynaecological cancers. Surgeons at the hospital utilise minimally invasive techniques such as laparoscopic surgery when appropriate. Minimal invasive approach allows treatment of complex problems with smaller incisions and improved recovery. The range of surgical services includes:

▶	Minimally invasive laparoscopic surgery.
▶	Fertility-sparing surgery.
▶	Advanced radical pelvic surgery for the treatment of ovarian, cervical, endometrial and vulvar cancer.

Laparoscopic Surgery

Minimally invasive surgery (laparoscopic surgery) is performed through one or several small incisions as opposed to larger incisions used in open surgery.

Traditional minimally invasive surgery involves a video camera and surgical instruments that are inserted into the patient's abdomen through several small incisions. This method allows the surgeon to remove the cancerous tissue, affected mass or compromised organ without cutting the stomach muscle. The camera transmits images to a computer screen in the Operating Theatre, which allows our surgeons to properly position the instruments and remove the tumor or affected organs.

Women often seek minimally invasive laparoscopic surgery because of the advantages it offers. Laparoscopic surgery generally provides patients distinct advantages including a faster recovery, shorter hospital stay and less scarring, however, not all women are candidates for this type of surgery.

Minimally invasive (laparoscopic) surgery can be used to treat gynecologic cancers including ovarian, cervical and uterine cancers. Minimally invasive surgery may be used to help diagnose a cancer or to treat the cancer by removing a mass or pelvic organs compromised by cancer. When appropriate, minimally invasive surgery may be used in conjunction with other treatments.

Cytoreductive Surgery for Advanced Ovarian Cancer

Cytoreductive Surgery is the surgical removal of part of a malignant tumour which cannot be completely excised, so as to enhance the effectiveness of radiation or chemotherapy. It is used only in specific malignancies, like ovarian carcinoma. The team at the Mater Hospital comprising of general surgeons and gynaecologists provide this service for patients with advanced ovarian cancer.

There are a number of benefits to Cytoreductive surgery for advanced stage ovarian cancer including that it can mediate the adverse metabolic effects of a large tumour burden, remove chemotherapy resistant clones of cells and improve the chances of responding to adjuvant treatment. But most importantly there is a powerful and consistent inverse relationship between the amount of residual disease and subsequent survival outcome



Emergency Care

Emergency Department
Stroke
Acute Myocardial Infarction



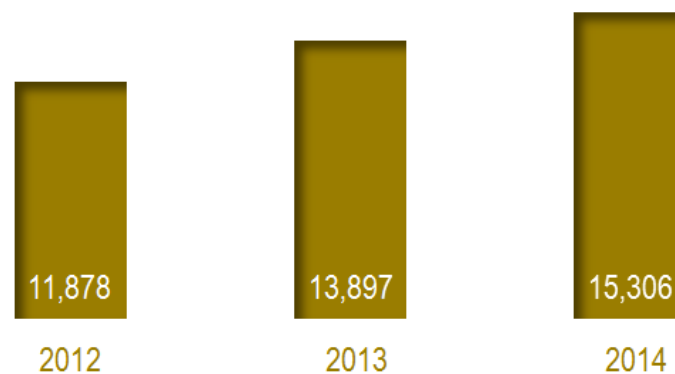


EMERGENCY DEPARTMENT

The Mater Misericordiae University Hospital Emergency Department is a full service, state-of-the-art facility that is equipped to handle any emergency. The department provides a 24-hour emergency service, 365 days a year for the broadest spectrum of patients from minor injuries to most acute complex patients. Patients presenting to the department undergo an initial assessment (triage) soon after arrival to determine the nature and severity of their problem. Acuity levels and triage categories are increasing all the time. Patients are then treated according to clinical need as soon as possible.

Patients attending the Emergency Department:

▶	70% are seen and discharged within 6 hours
▶	87% are seen and discharged within 9 hours.
▶	Average time in ED is 4.6 hours.



Emergency Department Admissions

In addition the Assessment Medical Unit (AMU) manages acute medical admissions for a variety of patients with:

▶	Respiratory conditions.
▶	Endocrine conditions.
▶	Renal conditions.
▶	Neurological conditions.
▶	Cardiology conditions.

This short stay ward utilises the Multidisciplinary Team and Community Services to facilitate a safe and early discharge.

About 52% of all attendances are triaged as Urgent and 10% as Very Urgent.

In 2014 ED attendances increased by 8% with a corresponding increase in admissions. In order to ensure a sufficient supply of beds for those additional admissions the Mater Hospital is funding transitional units at Saint Vincent's Hospital in Fairview and 120 patients now undergoing community rehab would previously have been in the hospital.



STROKE

Hyper Acute Stroke Unit (HASU)

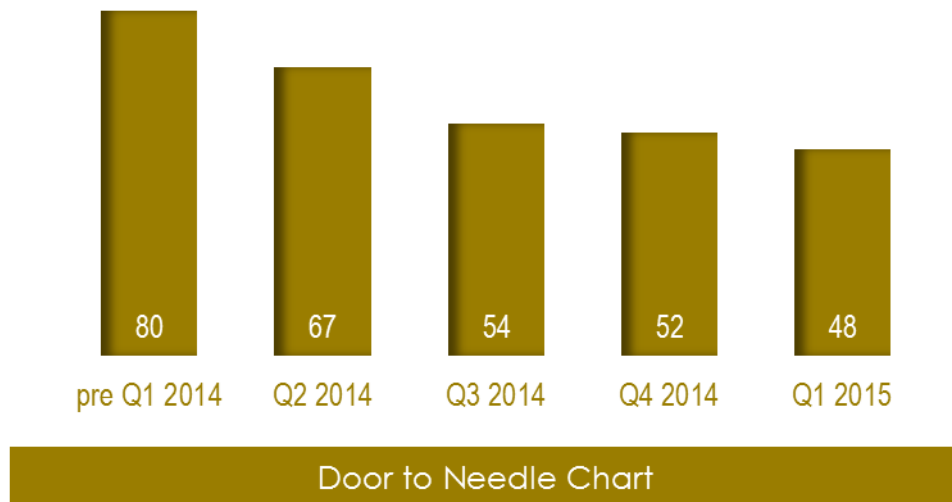
Acute stroke is the 2nd leading cause of death and the leading cause of disability in adults. Each year there are 6-8,000 strokes in Ireland.

The earlier stroke thrombolytic therapy is given in acute ischaemic stroke the better the outcomes for the patient. 'Door to Needle Time' is an important key performance measure in the management of suspected hyper -acute stroke cases. Approximately, 2 million brain cells die during each minute delay to treatment!

In 2014 the hospital's Hyper Acute Stroke Unit, in conjunction with the Mater's Lean Academy, initiated a project to reduce the median Door to Needle Time from 80 minutes to 60 minutes in line with international best practice guidelines. Following a full review of the patient's pathway and the identification of key barriers to quicker treatment a revised Acute Stroke Thrombolysis Pathway was developed. Some of the key elements were:

▶	Pre-notification of an incoming stroke positive patient by the ambulance crew.
▶	On-call Stroke Consultant, Stroke nurses and Stroke and ED registrars and CT Radiographer immediately alerted.
▶	All FAST positive patients go straight to CT. Pre-notification by the ambulance crew allows the CT scanner to be cleared for the incoming patient.
▶	Rapid patient assessment now takes place in tandem with CT Scanning.
▶	Telemedicine equipment is now provided in order to expedite off site assessment by the Stroke Consultant during the 'out of hours' period.

The new streamlined Acute Stroke Thrombolysis Pathway was implemented on the 10th March 2014. The median door to needle time 'in hours' now is 28 minutes and 58 minutes for 'out of hours'.



Rapid Injury Clinic

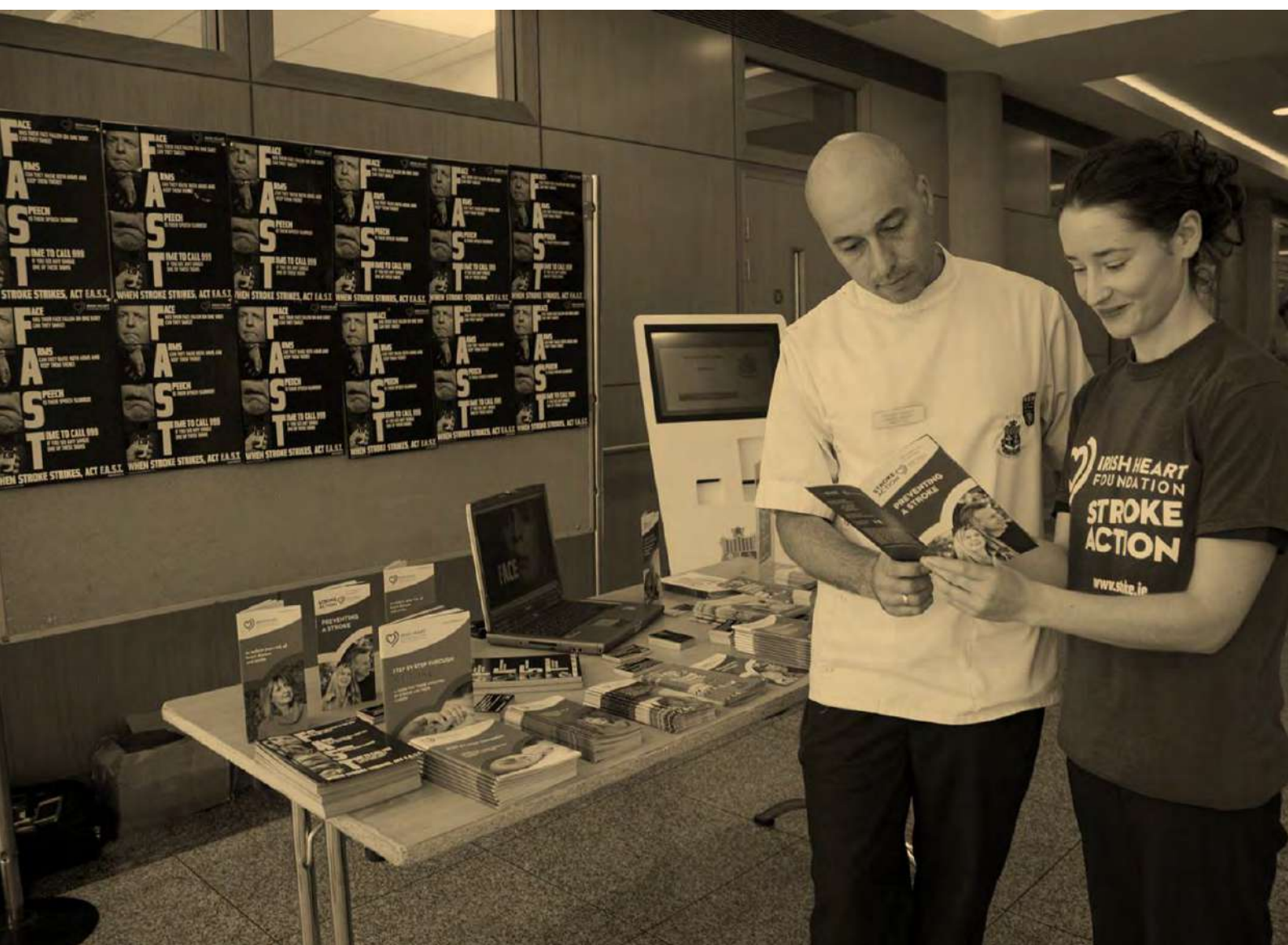
In April 2010 the Mater University Hospital Emergency Department opened Dublin's first public Rapid Injury Clinic. The Clinic provides high quality, expert and timely care to patients presenting with non-life threatening injuries and illness. It is open Monday to Friday from 8am to 6pm and is staffed by a Registered Advanced Nurse Practitioner and a Doctor.

Based in Smithfield the Rapid injury Clinic now treats approximately 8,000 patients annually for injuries such as fractures, acute wounds, falls and assaults. The volume of patients is about 15% of total Annual Mater ED attendance.



Early Supported Discharge for Stroke (ESD)

The Stroke Service provides specialised stroke rehabilitation/support in the person's home for patients who have had a stroke. Appropriate patients are selected at a weekly multidisciplinary stroke meeting and each patient has a key worker assigned. Patients receive up to 5 visits/treatments per week per discipline as required for up to 8 weeks. Working in the home setting means that the team can target therapy to meet patient's individual needs, setting goals that are specific to their set of circumstances and meaningful in their day to day lives. Patients leave the hospital, under the Early Supported Discharge programme, on average 7 days earlier than other stroke patients. 65 patients benefitted from the programme in 2014. Satisfaction levels, from both patients and their carers, are very high, with the programme improving the patients functional and quality of life outcomes.



ACUTE MYOCARDIAL INFARCTION

The hospital is the designated primary PCI (percutaneous coronary intervention) centre for north Dublin and the North East of the country treating over 400 major heart attacks each year. Percutaneous coronary intervention (PCI) is used to treat patients with narrowed or blocked arteries that supply the heart muscle with blood. The procedure mechanically improves blood flow to the heart. Initially a coronary angiogram is performed to diagnose the extent of the blockage. The majority of patients (4 in 5) will be treated by PCI (and about 1 in 5 will be treated by coronary artery bypass surgery).

National and international guidelines for the emergency treatment of patients with STEMI (ST elevated heart attack), recommend that primary PCI treatment should be performed within 90 minutes of arrival of the patient.

The use of the radial artery instead of the femoral artery, by the interventional cardiology team, for delivery of the PCI, has been one of the factors responsible for driving down complication rates at the Mater.



Regional Care

Care of the Elderly
Ear, Nose & Throat
Gastroenterology
General Surgery
Hepatology
Nephrology
Radiology
Respiratory
Rheumatology
Plastic Surgery
Urology
Vascular Surgery





CARE OF THE ELDERLY

The Mater Misericordiae University Hospital provides comprehensive Care of the Elderly services including admission, rehabilitation and continuing care wards and a day care service that provides medical and rehabilitation services to patients on a day attendance basis. The service has a busy outpatient department with a care team that work closely with the community services to provide the most appropriate care for patients.

Geriatric Rapid Access Clinic

The Mater Hospital provides a Geriatric Rapid Access Clinic in partnership with Charter Medical and St Mary's Hospital. It is a GP referral based service that caters for individuals 70 years and older with urgent but stable medical conditions and guarantees access to patient appointments within 72 hours.

The service is provided in Charter's state of the art medical facility and utilises the expertise of Consultant Geriatricians and a specially trained medical and nursing team.



The service is aimed at suitable patients with the following conditions:

▶	Unexplained weight loss.
▶	Investigation of Transient Ischemic Attacks (TIA's).
▶	Falls.
▶	Fainting and dizziness.
▶	Specific and non-specific pain.
▶	Any medical condition requiring urgent geriatric opinion.

Mater Community Medicine for Older Person

The Mater Community Medicine for Older Person (MCMOP) was set up in May 2009 to meet the growing healthcare needs of frail older persons in the community, where attendance at the day hospital and outpatients might not be possible. The service provides an outreach specialist geriatric consult service to the general practitioner for their patients in nursing homes and in the older persons' homes in the North Dublin City region. The service collaborates closely with the multidisciplinary team in the community and provides follow up for the frail older patients who have been discharged from the hospital.

The service enables patients to be treated at the most appropriate point of care for their medical needs and:

▶	Facilitates appropriate hospital avoidance through collaboration of hospital, primary care, long term care staff and admissions to an intermediate care bed at St Mary's Hospital.
▶	Reduces the number of nursing home transfers to hospitals Emergency Department for end of life care.
▶	Facilitates appropriate discharge from Emergency Department and early discharge from hospital ward.
▶	Provides specialist geriatrician opinion for some frail older patients in the community through domiciliary visits.

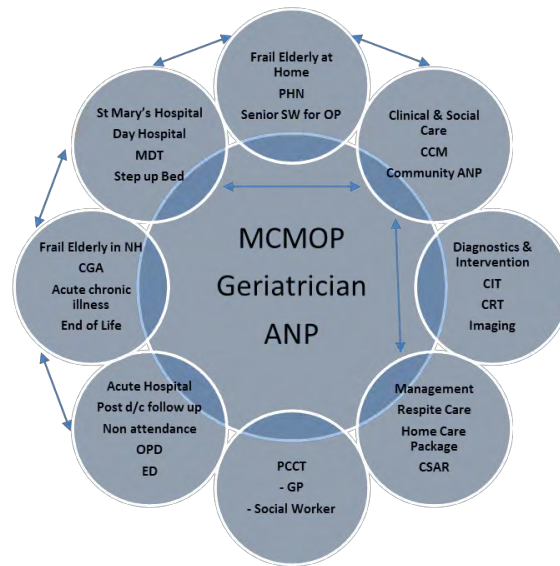
**The service was expanded in
2012 to cover frail older adults in
their homes**



The value of the service can be seen in the reduced number of nursing home residents attending the Mater's Emergency Department. That figure has reduced from 1,008 visits in 2008 to 592 in 2014. That is despite the number of nursing home beds in the catchment increasing in the last 6 years by 27%.

**The service operates as a bridge
between the hospital and the
community**

POA



HSE – Dublin City Older Persons Steering Group

Abbreviation: POA= psychiatry of old age, MDT – multidiscipline team, PHN=public health nurse, OP= older person, CCM= clinical case manager, CIT=Community Intervention Team, CRT= Community rehabilitation team, CSAR= Common Summary Assessment Report, MCMOP = Mater Community Medicine for Older Person, ANP = advanced nurse practitioner, PCCT = Primary care, Continuing care Team, GP= general practitioner, OPD= outpatients department, ED= emergency department, NH= nursing home, CGA= comprehensive geriatric assessment

Post-Acute Care Service

In 2014 the Care of the Elderly service at the Mater utilised a total of 50 beds based off the main campus at the Fairview Community Unit in St Vincent's Hospital, Fairview. The unit provides a nursing led service, caring for patients, who have finished the acute phase of treatment but cannot be discharged for various reasons, which can be waiting for the Fair Deal Scheme or community funding. The care is focused on developing and implementing individualised discharge plans away from the acute hospital setting.

The Post-Acute Care Service provides frail elderly patients with the environment, time and focus that the discharge destination is the right destination for them. In addition there are 2 direct community admission beds, with the aim of preventing patients presenting to the emergency department and 2 palliative care beds. In 2014, 414 patients used the service with an average length of stay of 18.8 days. Readmission to hospitals were 10.8%.

Interim Care Pilot Project

Between 35-65% of older patients in the Mater Hospital undergoing care for an acute illness experience functional decline. For some patients, by the time their medical condition is stabilised, other issues like the ability to undertake basic self-care, their social circumstances or access to home-care packages and nursing home beds arrangements are the key delays in their discharge from hospital.

The team, at the Mater Hospital, have piloted a novel alternative model of Interim Care, delivered directly into a patient's own home, supported by use of remote monitoring equipment and supervised by a specialist geriatric team. In the project 13 patients used the service, for an average of 6 weeks.

Over the period of the pilot:

▶	5 patients were discharged without any other formal support.
▶	3 were discharged with a Home Care Package.
▶	4 patients required geriatrician domiciliary visits during the pilot.
▶	2 required re-admission to hospital.
▶	2 were admitted for further rehabilitation.

The home-based model appears to be an acceptable alternative to traditional Interim Care by providing a safe, effective trial of supported home discharge and has the advantages of not requiring expensive infrastructure to deliver the care.



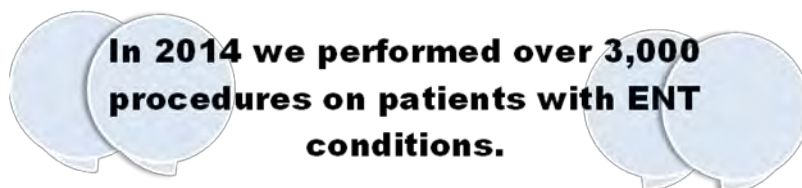
OTOLARYNGOLOGY (EAR, NOSE & THROAT)

The team at the Mater Hospital is a centre of excellence for the treatment of ear, nose and throat conditions. Our Consultant ENT surgeons are experts in their field and tailor treatments to the unique needs of each individual patient. Subspecialty interests include head and neck masses, paediatrics, rhinology, endoscopic sinus surgery and congenital hearing loss.



Clinical Services

Our Otolaryngologists provide comprehensive evaluation and medical/surgical treatment for patients with all Ear Nose and Throat conditions. We deal with all aspects of ENT from minor procedures such as the removal of tonsils or adenoids to major complex head and neck surgery. The ENT out-patient department provides both routine and specialist clinics including some nurse-led clinics.



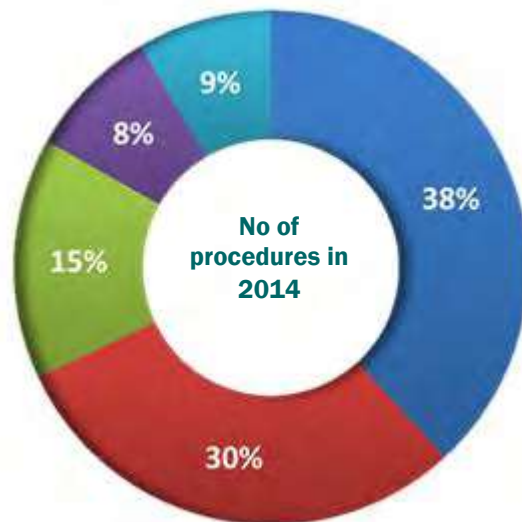
In 2014 we performed over 3,000 procedures on patients with ENT conditions.

Together with its partner University College Dublin the Mater Misericordiae Hospital is a major national centre for specialist training and research.

GASTROENTEROLOGY

The Gastrointestinal Unit uses endoscopic procedures to diagnose and treat all disorders of the gastrointestinal tract. The team of four consultant gastroenterologists and a consultant clinical endoscopist diagnoses and treats the full spectrum of upper and lower gastrointestinal diseases.

The Mater Hospital provides a comprehensive GI service in both an inpatient and day case setting. The centre is a tertiary referral centre and one of the National Leads in ERCP (Endoscopic Retrograde Cholangio-pancreatography). ERCP is used to evaluate and manage conditions of the biliary and pancreatic ducts, including stones and tumours. It is a technically demanding procedure with the National Guidelines recommending between 200-300 procedures performed annually by each endoscopist.



3,163	Gastroscopy
2,470	Colonoscopy
1,258	Flexible Sigmoidoscopy
692	Endoscopic Retrograde Cholangiopancreatography (ERCP)
700	Endoscopic Ultrasound (EUS)



The hospital is one of 14 hospitals nationally to provide the colonoscopy service as part of the new national screening programme. The programme offers free screening to men and women aged 60 to 69 years. Bowel Screen will be introduced in time to all men and women aged 55 to 74, who will be screened every two years.

The service is accredited by the Joint Advisory Group on Gastrointestinal Endoscopy (JAG). JAG's purpose is to ensure that each endoscopy services have the skills, resources and motivation necessary to provide the highest quality, timely, patient-centred care. They do this through:

▶	Setting standards for individual endoscopists.
▶	Setting standards for training in endoscopy.
▶	Quality assure endoscopy units.
▶	Quality assure endoscopy training courses.

Family Screening Clinic

Cancer genetics is becoming an increasingly important area in cancer prevention and detection. Early diagnosis leads to better outcomes for patients. The GI Units runs family screening programmes for Hereditary Non-Polyposis Colorectal Cancer (Lynch Syndrome) and Familial Adenomatous Polyposis (FAP).

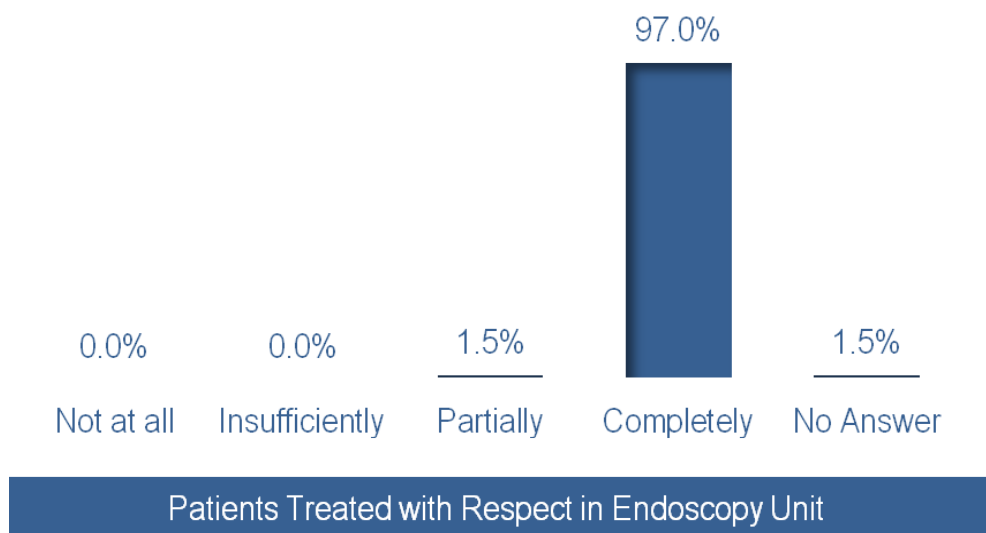
Hereditary non-polyposis colorectal cancer is the most common form of hereditary colorectal cancer that presents at an earlier age than in the general population and has an increased risk of other cancers. FAP is also an inherited disorder, with carriers having a significantly higher risk of developing colon cancer and rectal cancer. The average age of colorectal cancer onset for familial adenomatous polyposis is 55 years.



The Mater Hospital strives to put the patient at the centre of everything that we do. Measuring patient satisfaction is an important part of that process. It allows us to be constantly improving the care we deliver.

“Your unit is well run and your staff are excellent. Continue the good work; this is a flagship unit that the Mater can be proud of”

The GI Unit runs patients satisfaction surveys that cover many areas including hygiene, courtesy to patients, privacy and their overall satisfaction with the service.



GENERAL SURGERY

A comprehensive General Surgery service is provided at Mater Misericordiae University Hospital, encompassing emergency care, inpatient care and day surgical practice. The team of general surgeons provide emergency surgery on an on-call rota basis.

Hepato-Pancreato-Biliary (HPB) Surgery

The Hepato-Pancreato-Biliary (HPB) surgical team provides both a local and tertiary referral service. The team serves is one of the four tertiary referral centres nationally for HPB diseases along with Cork University Hospital, Galway University Hospital and St. Vincent's University Hospital. The unit has specialist expertise in the management of liver, pancreatic and biliary disease. This includes treatment of both benign and malignant conditions.

The HPB team includes surgeons, diagnostic/interventional radiologists, hepatologists, gastroenterologists, oncologists, and pathologists with special interest in biliary, liver and pancreatic diseases. They use innovative techniques to provide quality care to patients including a 2 Stage Hepatectomy Procedure combined with Portal Vein Embolization for Colorectal Liver Metastases. These tumours were previously unresectable with only 10% of colorectal metastatic patients being suitable for surgery. With new advances, now between 30-40% of patients are suitable for this surgical option.

Gallbladder and Biliary disease

The HPB unit is involved in the management of gallstone disease along with benign and malignant diseases of the gallbladder. Their expertise extends to management of benign and malignant diseases involving the bile duct system that drains bile from the liver to the intestine.

Pancreatic disease

Benign pancreatic diseases like cystic tumours including intraductal papillary mucinous neoplasms (IPMN) are reviewed by the team, who also have a broad experience in the management of acute and chronic pancreatitis. Following evaluation, the surgical team offers total pancreatectomy and islet auto-transplantation for a select sub-set of patients with chronic pancreatitis.

Our Lady's Hospital, Navan

As part of an initiative to carry out lower complexity/risk procedures in non-tertiary care hospitals, the Mater Hospital has commenced a pilot with Our Lady's Hospital, Navan. The project has the dual benefits of utilising the skills and capacity of smaller hospitals while at the same time releasing some of the pressure on the services of the Mater Hospital. Mr Gerry McEntee is the lead surgeon in the project, with the team focusing on low complexity, low risk day cases.





HEPATOLOGY

Centre for Liver Disease

The Centre for Liver Disease at the Mater Hospital treats a wide range of conditions including:

▶	Alcoholic Liver Disease.
▶	Fatty Liver Disease.
▶	Hemochromatosis.
▶	Hepatitis A.
▶	Hepatitis B.
▶	Hepatitis C.
▶	Non-alcoholic Steatohepatitis (NASH).

Alcoholic Liver Disease

Alcohol-induced liver disease (ALD) is caused by drinking too much alcohol. It is a common, but preventable, disease. The last 15 years have seen a significant increase in acute pancreatitis with hospital admissions increasing by 35%. Mortality due to ALD has been.

More patients are presenting with advanced liver disease, with some developing end stage liver disease in their 20s and 30s. Once patients with cirrhosis experience decompensation (end stage liver disease), early mortality risk increases sharply. The level of care they require to treat complications such as jaundice and encephalopathy also increases significantly.

Liver transplantation can however dramatically change the course of the disease in decompensated cirrhosis.





NEUROLOGY

The Department of Neurology provides a multi-disciplinary, high-quality and compassionate service to all patients suffering from Neurological conditions in a timely and efficient manner. It is a leader in the treatment of diseases of the nervous system, and the leading academic department in Neurology in Ireland.

The Mater Hospital's multi-disciplinary team are committed to providing compassionate, comprehensive, timely and high quality service to our patients. The team comprises of:

▶	Prof Timothy Lynch, Consultant Neurologist, Clinical Director.
▶	Prof Peter Kelly, Consultant Neurologist.
▶	Dr Killian O'Rourke, Consultant Neurologist.
▶	Dr Martin Ruttledge, Consultant Neurologist.
▶	Prof Sean Murphy, Consultant Physician.
▶	Dr Eamon Dolan, Consultant Physician.
▶	Dr John Sheehan, Consultant Liaison Psychiatrist.
▶	Dr Damien Lowry, Psychologist.
▶	Dr John McKinley – Dublin Academic Medical Centre Fellow in Movement Disorders.

Dublin Neurological Institute

The Dublin Neurological Institute (DNI) at the Mater Misericordiae University Hospital, is Ireland's first dedicated Neurology Institute. The Institute, which opened in September 2008, provides an academic centre for the diagnosis, treatment and information for people with neurological conditions.

The Institute will provide a centre of excellence where clinical care and research thrive together linking clinical service with the basic sciences at the Conway Institute, UCD to study Neurological degenerative diseases including Stroke and Multiple Sclerosis. The Institute provides a framework to a network of Neurological Institutions both nationwide and internationally.

Specialist Clinics

Diagnostic tests for all patients is carried out on the day ward, which also specialises in the administration of IV medication for neurology patients. In addition the team also run the following specialist clinics:

▶	Headache Clinic.
▶	Neuropsychiatry Clinic.
▶	Stroke / Hypertension Clinic.
▶	Neurovascular /Stroke Prevention.
▶	Young Brain & Vascular Clinic.
▶	FAST / Rapid Access Clinic.
▶	Complex Parkinsonism / Deep Brain Simulation Clinic.
▶	Movement Clinic.
▶	Multiple Sclerosis Clinic.
▶	Neurodegeneration Research Clinic.
▶	Neuropsychology Clinic.
▶	Parkinson's Clinic.
▶	Stroke / Epilepsy Clinic.
▶	Family Care Support Clinic.
▶	Neuroimmunology Clinic.



Service Philosophy

The team provide specialised, responsive, sensitive and seamless service that promotes self-management and self-referral. The promotion of patient independence is continually advocated and the team continue to mobilise the necessary resources in order to achieve this. By encouraging patients to participate in their management they become empowered with a sense of control which in turn facilitates the psychological adaptation to their Neurology disease. Team and patient relationship is an active, collaborative partnership in the treatment and decision process.

Research & Clinical Trials

Research interests of the Neurology Department include the clinical, radiological and genetic aspects of movement disorders and other neurodegenerative conditions. In particular the department is busy assessing families with neurodegenerative disorders including Parkinson's disease and frontotemporal dementia.

Research into Movement Disorders

Over the last five years Prof Tim Lynch has developed a project looking at gene expression profiling in multiple sclerosis to identify specific patterns in the different forms of multiple sclerosis. There are ongoing collaborations with the Mayo Clinic, University College London and the National Institute of Health. In addition, recent research in collaboration with Dr Mary King, Children's University Hospital Temple Street identified particular clinical profiles of children with tremor and jerks.

Research into Stroke

Dr Killian O'Rourke's Cochrane review of 'Percutaneous vascular interventions for acute ischaemic stroke' has received editorial approval and is currently being prepared for publication in The Cochrane Library.

RADIOLOGY

The Radiology Service at the Mater Misericordiae University Hospital provides advanced imaging services to all disciplines and specialties within the hospital. The Department is fitted with state of art imaging equipment and offers a comprehensive imaging service to the north Dublin and north east region.

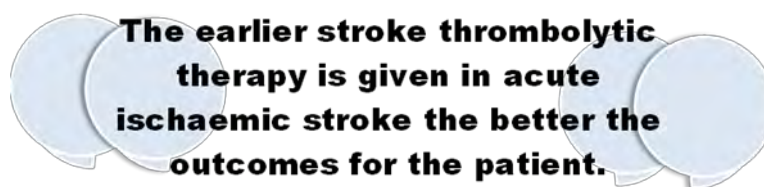
Radiology Services

▶	Chest X-rays.
▶	CT (Computerised Tomography).
▶	General X-rays.
▶	Ultrasound.
▶	Interventional Radiology.
▶	Nuclear Medicine.
▶	PET CT (Positron Emission Tomography).
▶	MRI (Magnetic Resonance Imaging).
▶	Dexa.
▶	BreastHealth Unit (Breast Imaging).

The Mater Hospital provides sub-specialty expertise in contemporary imaging modalities for diagnostic and therapeutic procedures. The team provide a clinical imaging approach which puts the patient is at the centre of the process. Our Consultant Radiologists provide a range of services for emergency, elective and urgent care for all areas of the hospital including cancer, cardiovascular, spinal trauma and stroke.

Emergency Department Diagnosis

The team at the hospital provide high quality patient centred radiology services to the Emergency Department 24 hours a day, 365 days a year. The service enables quick, accurate diagnosis and enables clear prioritisation of care based on medical need. In 2014 the Stroke Unit, working closely with the Emergency Department and the Mater's Lean Academy, initiated a project to reduce the median Door to Needle Time from 80 minutes to 60 minutes for stroke patients.



One of the key components of the project was reducing the Door to CT time, the diagnostic scan. In 2013 the median Door to CT time for stroke patients was 47 minutes. Following a thorough review of the process and the introduction of a new Acute Stroke Thrombolysis Pathway the Door to CT time reduced from 47 minutes to 16 minutes. A major component of the reduction in the average the Door to Needle time from 80 minutes to 47 minutes.

Breast Imaging

The Symptomatic Breast service provides a range of clinics specially tailored to the needs of the patients. These include Triple Assessment Clinics where a woman may receive her clinical examination, radiological investigation and, if necessary, tissue sampling on the same day, with subsequent early medical and surgical treatment if required.

The Clinic was established in 2000 and is located beside the Eccles Unit of the National Breast Screening Programme (BreastCheck) with our consultants providing their expertise in both centres. The unit also offers dedicated Family History Clinics for women with a strong family history of breast cancer.

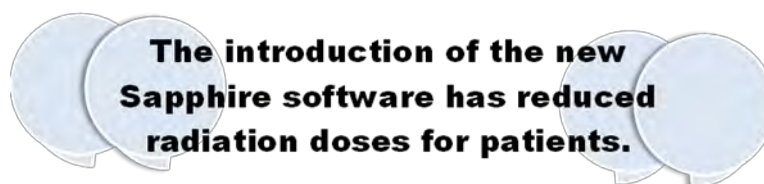


MRI-Guided Breast Biopsy

Our specially trained radiologists use MRI-guided breast biopsy to precisely locate and remove cells from a suspicious area in the breast for diagnosis and treatment planning. This minimally invasive, image-guided procedure, allows our radiologists to position the coils as close to the breast as possible to achieve higher quality images and faster scan times. During the biopsy, the needle rotates positions without having to withdraw and reinsert it, allowing us to collect additional tissue samples.

Nuclear Medicine

Nuclear medicine is a branch of medicine that uses small amounts of radioactive material to diagnose and determine the severity of a variety of diseases. This branch of radiology is often used to help diagnose and treat abnormalities very early in the progression of a disease. Because X-rays pass through soft tissue, such as intestines, muscles, and blood vessels, these tissues are difficult to see on a standard X-ray. Nuclear imaging allows visualisation of organ and tissue structure as well as function.



A new state of the art gamma camera is now available at the Mater Hospital. The SPECT/CT provides true 3D information and improves diagnostic sensitivity. The introduction of this technique provides improved detailed anatomical images for:

▶	Bone/Orthopaedic Imaging: Lower back pain-facet joint assessment / Joint Prosthesis assessment/ Bone and Joint infections / Occult fractures.
▶	Tumour Imaging: Bone metastases / Tumour receptor imaging.
▶	Parathyroid localisation and other endocrine tumours.

Cardiac MRI

At the Mater Hospital our 1.5 Tesla and 3 Tesla MRI allows state of the art Cardiovascular Imaging. Cardiac MRI imaging is performed to help detect or monitor cardiac disease by:

▶	Evaluating the anatomy and function of the heart chambers, valves and blood flow through major vessels and surrounding structures such as the pericardium.
▶	Diagnosing a variety of cardiovascular (heart and/or blood vessel) disorders such as tumours, infections, and inflammatory conditions.
▶	Evaluating the effects of coronary artery disease such as limited blood flow to the myocardium and scarring within the heart muscle after a heart attack.
▶	Planning a patient's treatment for cardiovascular disorders.
▶	Monitoring the progression of certain disorders over time.

In particular, the provision of high quality cardiac MRI by the Radiology Department at the Mater is essential in allowing the hospital to function in its role as The National Centre for Adult Congenital Heart Disease. Owing to advances in paediatric cardiovascular medicine and cardiac surgery, there are a steadily increasing number of patients with adult congenital heart disease (ACHD) in Ireland.

Over the last 50 years, survival of children with congenital heart disease has improved dramatically and many of these patients have complex cardiac defects that necessitate lifelong monitoring and follow-up. Adults with these relatively complex conditions should ideally be imaged in a specialist ACHD centre, where dedicated cardiovascular MRI services are a necessary facility.

The strengths of cardiac MRI over other imaging modalities in this patient population include comprehensive access and coverage, providing imaging of all parts of the right ventricle, the pulmonary arteries, pulmonary veins and aorta. Cine images and velocity maps are acquired in specifically aligned planes, with stacks of cines or dynamic contrast angiography providing more comprehensive coverage. Tissues can be characterised if necessary, and MRI provides relatively accurate measurements of biventricular function and volume flow. Serial imaging of adults with ACHD is important to monitor for interval changes, as many adults with ACHD do not recognize subtle changes in exercise capacity.

Cardiac MRI has become the standard of reference for providing an accurate and reproducible measurement of right ventricular volume and function. Reproducible right ventricular assessment is of particular importance in the ACHD population, as clinical decisions are usually based on a change in serial data rather than single absolute values. MR imaging has less variability in the assessment of both left and right ventricular size and function compared with two-dimensional echocardiography. Cardiac MRI is a particularly attractive imaging technique due to its excellent tissue border delineation, tissue characterization, and quantification of ventricular volumes and valvular regurgitation that allows for serial comparisons without the need for ionizing radiation. Avoidance of the ionizing radiation is particularly important, as these patients will often undergo repeated imaging throughout their lives. The large field of view and multi-planar capacity of MR imaging are invaluable in assessing relations between intra- and extra-cardiac structures. MR imaging is non-invasive, is performed as an outpatient procedure.

Interventional Radiology

Interventional Radiology is a medical sub-specialty of radiology using minimally-invasive image-guided procedures to diagnose and treat diseases. Image guided procedures provide an adjunct or alternative to conventional care while the use of minimally invasive techniques minimize risk to the patient and improve health outcomes. These procedures have less risk, less pain and less recovery time compared to open surgery. Minimally invasive technologies are now applied to provide vascular access, perform diagnostic tests and increasingly to provide symptom relief or deliver therapeutic agents.

Portal vein embolization is a supportive therapy used to increase the size of liver segments that will remain after hepatic surgery.

These interventional radiological services continue to expand ranging from central line placements, arterial, bile duct and ureteric stenting, through to vascular and fallopian tube balloon dilatation.

Evolving embolotherapies have been introduced, including uterine artery embolisation as a treatment for fibroids through to embolisation for arterial bleeders particularly from the gastrointestinal tract. Percutaneous gastrostomy placement and percutaneous cholecystostomy is offered in the appropriate setting.

Interventional Oncology, is a specialized area of Interventional Radiology that utilises the latest image-guided technology to diagnose and treat cancers in ways that are precisely targeted and minimally invasive. At the Mater Misericordiae University Hospital, the Interventional Radiologist works as part of a multidisciplinary team that includes Medical Oncology, Surgical Oncology and Radiation Oncology.

Procedures performed can be broadly characterised as:

▶	Biopsies Image guided percutaneous biopsies for diagnosis and selection of appropriate personalised therapies.
▶	Supportive therapies Are used in many procedures including central venous access, drainage of effusions, nephrostomies, biliary drainage and stenting.

Portal vein embolization is a supportive therapy used before hepatic resection to increase the size of liver segments that will remain after surgery. This therapy redirects portal blood to segments of the future liver remnant (FLR), resulting in hypertrophy. This makes surgery safer and helps patients recover from their liver surgery.

Targeted therapies

In this rapidly expanding area of Interventional Oncology there are two main techniques —ablation and arterial interventions. Ablation is a potentially curative local therapy that uses image guidance to place probes within focal tumours in the kidney, liver, lung and bone. The cancer cells are then killed using cryoablation (freezing), or microwave or radiofrequency ablation (heating).

Arterial procedures are regional therapies that include hepatic embolisation. This is a technique that injects substances to try to block or reduce the blood flow to cancer cells in the liver. It involves threading a catheter under x-ray guidance through the femoral artery and into the hepatic artery to reach the tumour. Embolisation is an option for some patients with liver tumours that cannot be removed by surgery and are too large or numerous to be treated with ablation. The liver is unusual in that it has 2 blood supplies. Most normal liver cells are fed by branches of the portal vein, whereas cancer cells in the liver are usually fed by branches of the hepatic artery. Blocking the branch of the hepatic artery feeding the tumour helps kill off the cancer cells, but it leaves most of the healthy liver cells unharmed because they get their blood supply from the portal vein. Chemoembolisation uses this strategy to deliver microscopic beads containing high doses of chemotherapy to the liver tumour.

Radioembolisation is a burgeoning technology that allows delivery of microbeads that release high doses of radiation from blood vessels within the tumour thus killing cancer cells selectively and sparing most of the surrounding normal liver parenchyma.

These procedures are also frequently used in combination with other therapies provided by other members of the cancer team.

MRI Ultrasound Fusion Biopsies

Ultrasound and MRI are the two main types of imaging used to aid prostate cancer diagnosis, and the use of multi-parametric 3T MRI presents a major advancement in prostate cancer detection and diagnosis. Fusion is a process that blends these technologies to create a detailed, 360° prostate map by merging previously captured MRI images with live ultrasound TRUS images. The Mater Hospital is one of the few centres in the country using this new technique.

Musculoskeletal Radiology

Musculoskeletal Radiology uses MRI and CT scanners to obtain high-resolution, cross-sectional imaging of muscles, joints and bones. They create detailed, 2-D or 3-D images for planning surgery of complex fractures, joint reconstruction and bone tumour's. The team at the Mater also perform CT-directed biopsies and tumour ablation, including radiofrequency ablation (RFA) and cryoablation.

Radiographer Education & Research

The last few years has seen an increase in activity in radiographer continual professional development (CPD). Currently, the department has 2 CPD Officers. Their role entails developing new initiatives and supporting our current initiatives that progress the role of the radiographer in the department and indeed the hospital as a whole.

One such initiative is our education afternoons which are held five times a year. The CPD officers coordinate speakers from both inside and outside of the hospital to present on topics that include new protocols and interesting case studies.

Another interesting development is the educational group, which acts as a think tank for the educational afternoons. This group focuses on identifying areas that can be improved upon and developing innovative solutions to improve the overall service.

2014 saw the formation of a radiographer journal club. Whose purpose is to focus on topics within general radiography leading to a more informed and educated department. In addition to the above initiatives the team initiated the interesting cases sessions in Interventional Radiology and Ultrasound. Aimed specifically at continually learning from interesting cases performed in the hospital.



RESPIRATORY

The Mater Misericordiae University Hospital is a National Referral Centre for patients with Pulmonary Arterial Hypertension and Lung Transplantation. The hospital is also a regional referral centre for many other respiratory services.

To provide the best care for all respiratory conditions, the Mater's respiratory physicians, thoracic surgeons and critical care specialists collaborate with physicians in other specialties, such as allergies, cardiology, ear, nose and throat medicine, endocrinology, neurology, oncology and radiology. The hospital offers a wide range of services including investigation and treatment of many lung conditions.

Specialist services offered include investigation and treatment for:

▶	Pulmonary hypertension (national centre).
▶	Lung cancer.
▶	Lung transplantation (national centre).
▶	Chronic Obstructive Pulmonary Disease.
▶	Severe asthma.

Pulmonary Hypertension

The Mater is the National Centre for Pulmonary Hypertension (PH). Pulmonary Hypertension is a rare lung disorder in which the arteries that carry blood from the heart to the lungs become narrowed, making it difficult for blood to flow through the vessels. It is a severe disease with untreated patients surviving on average between 2-3 years.

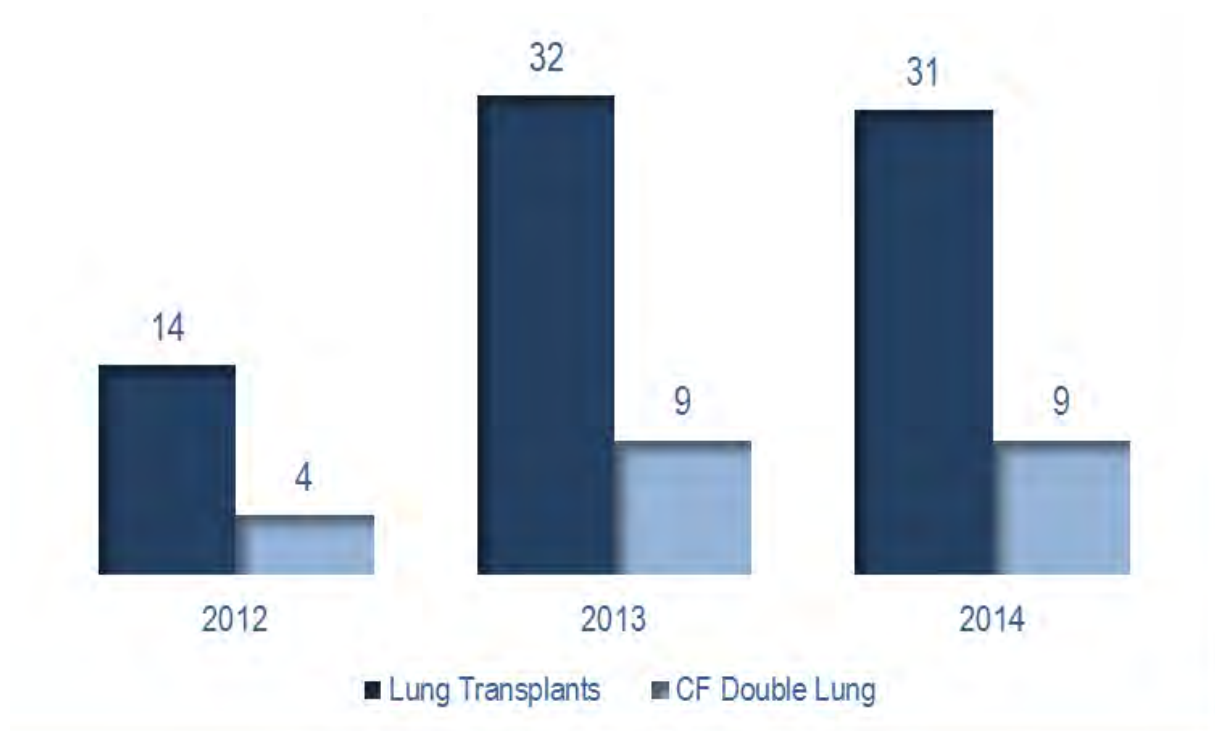
The estimate prevalence (total number of people with PH) in Ireland is 26 per million with the number of new cases annually (incidence) of 7.6 per million.

Treatment of patients with Pulmonary Hypertension requires a high level of integrated care across several specialities. The specialties most frequently involved in patients care are:

- ▶ Rheumatology for Connective Tissue Disease service.
- ▶ Thoracic Surgery for Lung Transplant and Pulmonary Endarterectomy.
- ▶ Cardiology for Adult congenital heart disease.

National Lung Transplant Programme

The Hospital is also the National Heart and Lung Transplant Centre. Nearly half of all patients receiving lung transplantation in Ireland have Cystic Fibrosis. This figure is driven by Ireland having the highest incidence of Cystic Fibrosis in the world. 19% of patients have emphysema and 15% idiopathic pulmonary fibrosis, with the remaining having a variety of diagnoses including pulmonary hypertension.



National Lung Transplantaiton Programme

The service is built around a dedicated and highly experienced team drawn from a wide range of experts, including: cardiothoracic surgeons, cardiologists, respiratory physicians and anaesthetists, as well as transplant coordinators, nurses, physiotherapists and social workers. Working in close co-operation, this multidisciplinary team manages all aspects of patient care from initial assessment of potential transplant patients through to the long term post-transplant care required. The new structure in the Mater Misericordiae University Hospital enhances the programme with the various specialties involved all working in the same directorate.





RHEUMATOLOGY

The Mater Misericordiae University Hospital provide a comprehensive range of specialist services for patients with diseases and conditions affecting their bones, joints, tendons and muscles and ligaments. Our team use state of the art technology and pioneering drug therapies to give our patients the best care possible.

The team is led by four consultant rheumatologists with specialist interest in the following areas:

▶	Dr Conor McCarthy: Osteoporosis. Rheumatoid Arthritis. Spondylitis, Back pain, Shoulder.
▶	Prof Geraldine McCarthy: Crystal-Induced Arthritis. Osteoarthritis. Osteoarthritis and Calcium Crystal Desposition. Rheumatoid Arthritis. Systemic Lupus Erythematosus.
▶	Dr Suzanne Donnelly: Pregnancy and connected tissue, Medical education and Pulmonary Hypertension (in conjunction with Dr Sean Gaine).
▶	Prof Gerry Wilson: Inflammatory Arthritis. Osteoarthritis. Epigenetics in Rheumatic Diseases.

Patient Complexity

In the last decade the number of treatment options for patients with rheumatoid arthritis, lupus, gout, ankylosing spondylitis has improved significantly. These welcome advances have also come with increasing complexity in the delivery of care.

Monitoring of these new biologics is required to ensure optimal outcomes for patients. The team at the Mater Hospital utilise several strategies to maintain therapeutic levels of these TNF inhibitors.



They include scheduled dosing, loading doses and concurrent use of immunomodulators. In cases where there is an incomplete or lost response, drug and antibody levels are checked just before the next dose. If the drug level is low and the patient doesn't have antibodies, then an increased dose of the anti-TNF is required. If the patient already has antibodies, then switching drugs is necessary.

The hospital provides a dedicated Nurse Advice Line for its rheumatology patients. It is a rapid contact service that helps patients manage their care in the most appropriate setting and frees up the hospital resources to treat only patients that need to attend the Mater.

Quaternary referral centre

The Gout and Crystal Arthropathy service at the Mater Hospital provides individualized, high-quality care to patients with gout, pseudogout, and other crystal arthropathies. Our team of experts is dedicated to providing excellence in patient care through early diagnosis, personalised treatment, and research in these conditions.

Gout prevalence is increasing. Driven by a number of factors, specifically genetic predisposition, alcohol and the increasing number of people with metabolic syndrome.

Gout is the most prevalent form of inflammatory arthritis and is associated with a significant reduction in a person's quality of life. Diagnosis requires a joint fluid test, where a needle is used to draw fluid from the affected joint. The sample is then examined under a special polarised light microscope for the presence of urate crystals. However the absence of such microscopes in most primary and secondary care centres means that gout is poorly diagnosed at every level of care.

Inflammatory Arthritis Service.

It is now recognised that the best outcome for patients with rheumatoid arthritis are achieved when it is treated early. The Mater Hospital provides an emergency review clinic that aims to quickly assess, and if appropriate, start treatment for patients with suspected inflammatory arthritis (IA).

The clinic performs clinical assessments, laboratory investigations and imaging, including ultrasound examinations where indicated. This can be more sensitive than clinical examination alone for picking up the presence of inflammatory arthritis.

The information from these investigations is used to optimise treatment, and identify patients who are at high risk of developing erosive disease. These patients are offered treatment as early as possible, ideally within four months of their symptoms starting.

Month	Joint Injection	Early Arthritis	Infusions	Emergency Review
JAN	22	5	16	20
FEB	21	2	14	24
MAR	18	2	11	22
APR	22	5	9	15
MAY	18	6	9	26
JUN	14	2	8	25
JUL	21	7	13	23
AUG	14	5	7	26
SEP	12	4	9	29
OCT	16	5	7	10
NOV	22	5	11	20
DEC	11	2	8	26
TOTALS	211	50	122	266

Research

European Gout Genetics Consortium (Eurogout)

The Mater Hospital is part of a Europe wide study that identifies genes that contribute to hyperuricemia and are linked to gouty arthritis and with other metabolic conditions. The study has been initiated by the department of Genetics in the University of Otago and is studying the genetic make-up of 3,000 people with the condition.

New Targets for the Treatment of Osteoarthritis

Consultants at the Hospital have initiated a study to validate the role of the tyrosine kinases and damage associated molecules in the pathogenesis of inflammatory Osteoarthritis. The study will evaluate whether blocking these pathways will be an effective treatment approach for this disease which is the most prevalent form of arthritis in the world.

mHealth Technology in Rheumatoid Arthritis

MobiMate is a potential disruptive mHealth technology that will enable a smartphone to be used in home-based monitoring of the therapeutic response of patients with rheumatoid arthritis (RA). The technology will enable detection of disease biomarkers (from a sample of patient blood) using smartphone technology. This potential patient-centric model of healthcare delivery would provide significant reduction in disease management costs, while improving the quality of care and enhancing the patients quality of life.



PLASTIC SURGERY

The Mater Misericordiae University Hospital is a regional centre of excellence in plastic and reconstructive surgery. The service one of the largest in the country and provides a highly specialised team experienced in the most complex cases. Its core specialities are:

▶	Hand surgery.
▶	Lower limb.
▶	Breast reconstruction.
▶	Skin cancer.
▶	Soft tissue sarcoma.
▶	Head and neck cancer.

Plastic surgery (also known as reconstructive surgery) is used to repair and reconstruct damaged tissue and skin, to restore normal function or appearance.

The co-location of breast surgery and orthopaedics alongside plastics makes the Mater Hospital a key centre with access to experts in complex cases. Patient care is a focus for the department with specialists offering support for patients following surgery as well as a rehabilitation programme. The core team of consultant, nursing, clinical psychologist as well as speech and language therapists provide a holistic service for patients.





UROLOGY

The Urology service at the Mater Hospital offers sophisticated, compassionate care and the most innovative treatments for patients with a whole range of urological conditions. The team at the hospital provide a comprehensive urological service from general urology to national specialist services that are only available at the Mater Hospital.

Urethra Reconstruction Centre

The Mater Hospital is the major referral centre for urethral reconstruction surgery (urethroplasty) and accounted for over 90% of all cases performed in the country in 2014. The service is a consultant to consultant referral service with the vast majority of patients referred to the hospital by urologists from around the country.

Urethroplasty is the surgical procedure that repairs an injury or a defect within the walls of the urethra. The two main sources of patients for surgery are:

- | | |
|---|---|
| ▶ | Urethral stricture: A narrowing of the urethra most commonly from injury, previous surgery, infection and some non-infectious inflammatory conditions of the urethra. Patients can suffer with a range of complications with some patients suffering acute urinary retention. |
| ▶ | Pelvic bone fractures from motor vehicle trauma or crush injuries which result in urethral tears or disruptions. Often the urethra is completely torn. |

The urethra reconstruction may involve surgery to remove the involved segment and re-attach the two normal ends. This procedure is best suited for short strictures. When this repair is not possible, tissue can be transferred to augment and therefore widen the narrow segment to normal with other tissues being used to reconstruct the urethra sometimes including a graft.



Patients who suffer traumatic urethral injuries (from road traffic accidents) often have associated vascular and nerve damage affecting the penis and urethra, and over half suffer erectile dysfunction as a result of the injury.

Prostate Cancer

The hospital is one of the 8 prostate cancer diagnostic centres and 6 prostate cancer treatment centres in the country. In conjunction with the Mater Private Hospital, our surgeons have carried out over 800 robotically assisted prostate cancer surgeries in the last number of years. Patients travel from all over the country to avail of this innovative surgical technique and the advantages it can offer to recovery, which include a shorter hospital stay, less blood loss and a quicker return to normal activities. The Mater is looking at developing this service to include bladder and kidney cancer.

Stress urinary incontinence is common in men who have undergone a prostatectomy or radiotherapy for prostate cancer. Patients who have significant urinary incontinence may benefit from an Artificial Urinary Sphincter (AUS). An AUS, is a mechanical device, which replaces the function of the non-functioning sphincter. The Mater Hospital is a tertiary referral centre for the service.

Renal Cancer

In addition to the prostate cancer programme the team treat large complex renal tumours that have spread to the inferior vena cava. These tumours are usually associated with significant mortality and morbidity. Urologists at the Mater Hospital work in collaboration with their colleagues in cardiac surgery, general surgery and anaesthesiology in caring for these patients.

Penile Cancer

In 2014 a multidisciplinary team was set up for the management of penile cancer, under the lead of Mr Paul Hegarty. This is a rare malignancy affecting 25-30 men in Ireland each year. The team now receives tertiary referrals for the management of these patients and in the first year they have seen over 50% of the new cases in the country. This programme now includes organ preserving surgery to achieve optimal functional, cosmetic and psychological outcomes.

The first Sentinel Node Lymph Node Biopsy for penile cancer in Ireland was performed at the Mater Hospital and the team have set up Dynamic Sentinel Lymph Node biopsy for the management of regional lymph nodes.

Stones Unit

The Urology Service provide a tertiary referral service for complex or exceptionally large kidney stones. Treatment is with a thin fibre-optic telescope that is introduced into the kidney from the bladder via the urethra. The stones are pulverised in situ using a laser that is part of the telescope. The procedure effectively fragments the stones, and gives better clearance for the patient. The lifetime risk of developing stones is estimated to be around 10% and can be higher in certain populations. As stones tend to recur, surveillance is an important for any person with a history of stones. For non-complex patients treatment usually consists of breaking up the stones with non-invasive shock waves (lithotripsy).



VASCULAR SURGERY

The Mater Hospital's Vascular Unit is a specialist unit providing diagnosis and surgical treatment of disorders of the blood vessels. The Department provides a round the clock on-call service in conjunction with colleagues in Beaumont Hospital serving the Northern half of the country.

The Hospital is tertiary referral centre for complex aortic disease specialising in endovascular and open surgery for aneurysms and aortic dissection. The Department of Vascular Surgery is a busy unit, averaging over 80 Carotid Endarterectomies and over 60 Abdominal Aortic Aneurysm Repairs per year. Advances in surgical technology and technique have led to a revolution in Aneurysm repair with now greater than two-thirds of all Aneurysm Repairs in the Mater Hospital being performed via an Endovascular Approach.

The move to the new Theatre Suite in 2014 and in particular the opening of the Maurice Neligan Hybrid Theatre which contains a fixed, floor-mounted advanced imaging system will see the proportion of patients dealt with by minimally invasive endovascular procedures increase even further.

Our colleague Kevin O'Malley left clinical practice in the Mater in 2014 to take up a role as the Chief Medical Officer of the Dublin Academic Medical Centre. We were delighted to welcome Mr. Stephen Badger as Locum Consultant Vascular Surgeon.

New Vascular Laboratory

The Department operates three full operating lists per week and three out-patient clinics adjacent to the new vascular laboratory in the Whitty Building, which opened in 2014. The vascular lab currently performs in excess of 10,000 non-invasive vascular scans per annum. The new laboratory comprises 4 high-end Diagnostic Vascular Ultrasound machines and 2 Ankle Pressure machines, functioning in 6 rooms.

Aortic Aneurysms

An aneurysm is a bulge in a blood vessel, caused by a weakness in the blood vessel wall. Aneurysms may affect the aorta in both the chest and the abdomen. Aneurysms affecting the infrarenal aorta can be treated with open surgery or with a stent graft.

Thoracic endovascular aneurysm repair

Thoracic endovascular aneurysm repair (TEVAR) is a minimally invasive alternative to major open surgery for the repair of thoracic aortic aneurysms (TAAs) that results in reduced recovery times and potentially improved survival rates. The goal of thoracic aneurysm repair is to prevent the aneurysm from life-threatening rupture.

In the open surgery method, the thoracic aneurysm is replaced with a synthetic graft. In the less invasive TEVAR procedure, a thoracic stent graft is inserted into the aneurysm through small incisions in the groin.



Health & Social Care Professions

Pharmacy
Physiotherapy
Speech & Language Therapy





PHARMACY

The Pharmacy Department at the Mater Hospital provides a suite of patient centred, safety-oriented services with cost effectiveness as a cornerstone. Service delivery is provided in five discrete services:

▶	Dispensary.
▶	Aseptic Compounding.
▶	Clinical.
▶	Medicines Information.
▶	Drug Safety.

In 2014 there was a significant change in the management structure within the department with the appointments of new managers to the Dispensary Services and Aseptic Compounding Services and a new Drug Safety Facilitator.

The department's service review programme enables a strong working relationships with pharmacy managers and service leads to ensure that service developments are coordinated, incorporated and implemented as part of the overall hospital service plan. Transition to the Whitty building of 8 wards, the entire theatre complex and other departments such as radiology was completed in 2014, required a reviewed service delivery, practice adaptation and provided an opportunity to embrace new technologies in the new location.

Procurement

The department developed a standardised Request for Tender process for Biosimilar medicines that considered the complexities of introducing a biosimilar drug for new and existing patients. This tender process was the first Dublin Academic Medical Centre (DAMC) tender and was successfully completed in 2014 for Infliximab and is now being implemented in St Vincent's University Hospital and the Mater

Misericordiae University Hospital. The process involved cooperation of Consultant, Finance and Pharmacy staff from both sites and has led to a price reduction for Infliximab which was the biggest cost saving initiative in 2014.

Dispensary Services

Stock lines dispensed increased by approximately 2% in 2014 and the dispensary now incorporating Wi-Fi technology advances into everyday practices with the use of electronic tablets to transmit real time top up data from the wards to the Pharmacy Department. This change has saved approximately 115 minutes per Wi-Fi generated top-up versus the previous methodology.

In addition a review of Pharmacy Robotics, that store and supply drugs, took place in 2014 leading to a time saving of 721 minutes (12 hours) for picking time alone over the 3 week period. There has been national interest in the hospitals automated dispensing processes with site visits from the Pharmacy Departments of St Vincent's University Hospital, St. James' Hospital and the HSE Estates Team.

In 2014 the Dispensary engaged in a Lean Green Belt project to review the supply of controlled drugs in the hospital. 'Lock, Stock & Flow' identified a number of wastes in time, motion, waiting, over production and over-burden, and set about removing non-value add steps. The project has led to a revised process and savings of up to 40 hours in nurse time and 8 hours of pharmacist time each month.

Clinical Pharmacy Services

The patient medicines education service provided by the Mater's Clinical Pharmacists impacts on patient care and welfare. Selected drugs and / or patient groups are chosen for a specific formal counselling process on the basis of safety and administration issues associated with drugs. Approximately 500 patients were counselled on medicines such as warfarin and transplant immunosuppressives in 2014. In addition Clinical Pharmacists in the Infectious Diseases Out-Patient Clinic also counsel the 800 patients receiving complex drug treatments for HIV and Hepatitis C at each of their clinic visits.

Development of pharmacy services to the Post-Acute Care Service (Synge and Yeats Wards) was a priority in 2014. Innovations in these services include:

▶	Development of a Long Stay Drug Chart - the drug chart reduces the number of transcriptions required for long stay patients, thereby reducing the risk of transcription errors and ensuring that medical staff time will be available for direct patient contact.
▶	In 2014, the Medicines Information (MI) service responded to 1,248 enquiries which was an increase of 15% in total time spent answering enquiries.

Introduction of Individualised Drug Storage Units – these storage units at the patient's bedside facilitate patient-assisted drug administration, improve stock control, remove unnecessary drug orders and reduce pharmacy and nursing time spent ordering and returning unnecessary orders.

Medicines Information

The service is involved in drafting protocols / prescribing guidelines and content for the hospital's Prescribers' Guide, which serves to optimise the safe, effective and efficient use of medications and directly enhance patient care. In 2014, 48 drug protocols / prescribing guidelines were developed by the service of which 32 (67%) were developed in liaison with Mater Consultant staff or the Mater Drugs & Therapeutics Committee. 42% of protocols / prescribing guidelines developed in 2014 were new. All drug protocols and prescribing guidelines are readily accessible to all frontline staff via the hospital intranet (MaterNet).

Emergency Preparedness

In 2014 the Medicines Information services was heavily involved in emergency preparedness for Ebola Virus Disease (EVD). As no drug therapies or vaccines are currently licensed for the treatment of EVD globally, access to and potential use of investigational drug therapies poses complex logistical and ethical challenges. Furthermore, there is no national strategy for obtaining such therapies. The Pharmacy led the research into the availability and access mechanisms to investigational therapies and developed for the use of such investigational therapies. This was achieved in conjunction with the Mater Hospitals Infectious Diseases multidisciplinary team and through external expert advice and assistance from the Health Products Regulatory Authority (HPRA).

Drug Safety

There was a 46% increase in medication variances reported in 2014 compared to 2013. Variance reporting is the cornerstone of safety. These reports detail medication-related incidents which are then collated, analysed and used as the basis for developing quality improvement initiatives. The following are some of the Drug Safety initiatives undertaken hospital-wide in 2014:

▶	National Hospital survey of New Oral Anticoagulants (NOACs) conducted by the hospital via the Irish Medication Safety Network (IMSN).
▶	Medication Safety Alerts on NOACs & Medication Variance Reporting.
▶	High Risk E-learning programme updated to include information on NOACs.
▶	NOAC quiz developed, disseminated to all staff and completed by 250 staff members.
▶	Two new IV Insulin Charts developed– IV Insulin Infusion and GKI Infusion.
▶	'One pen, one patient' insulin poster distributed throughout hospital.
▶	Safety alert 'Confusion risk with Trastuzumab emtansine (Kadcyla®) and Trastuzumab' developed in collaboration with the Irish Medication Safety Network (IMSN).

Antimicrobial/Severe Acute Respiratory Infection

2014 saw the development of a smartphone app for antimicrobial guidelines. This was a 6 month project that was launched in July 2014, following a challenging six months of technical formatting and successful engagement with Apple. The app provides antimicrobial recommendations for the treatment of infections in hospitalised patients. The recommendations reflect our approach to managing infections in the Mater Hospital and allow us to deliver hospital guidelines and clinical care bundles to medical staff on their own devices at the point of patient care.

Aseptic Compounding Services (ACS)

The Aseptic Compounding Service serves Haematology and Oncology and other non-oncology areas such as Ophthalmology, Rheumatology, Surgery and Neurology. The service experienced significant change in 2014 with increased workload as patient numbers, compounding, workload and consultants increased over the last number of years. During 2014 the team took on a significant project in the building of a state of the art clean room facility on Level 7 of the Whitty Building. This new facility is fitted with high specification isolators containing scales and internal computer screens that will allow staff to work more independently. It will use an electronic double check by gravimetric compounding rather than a visual double check by volumetric compounding. ACS staff are working closely with the Projects Office to ensure a successful move to this facility in 2015.

Infectious Diseases (ID) Pharmacy Services

The primary focus of the ID Pharmacy service is the delivery of highly specialist clinical care to patients with HIV and Hepatitis C. The numbers of patients being treated for HIV in the Mater Misericordiae University Hospital has more than doubled in the last seven years. In addition, the number of patients dispensed HIV Post Exposure Prophylaxis is increasing (190 patients in 2014).

In 2013, the Infectious Diseases Pharmacy Service was expanded to incorporate the dispensing of Directly Acting Antivirals for patients with Hepatitis C attending either the Hepatology or the Infectious Diseases Departments. Since late 2014, there has been a major advancement in access to high cost and highly effective treatments, leading to a significantly higher rate of cure for those patients who were previously not suitable for treatment due to advanced disease or those patients who had previously failed treatment. In 2014, 31 patients were treated with these drugs costing approx. € 1.1m. In November 2014, the HSE approved treatment for all patients with advanced decompensated cirrhosis and the hospital treated 9 of these very unwell patients.

Education and Training

In 2014 a Belgian Pharmacist undertook a six month Clinical Fellowship in the department. The aim was to give an overview of Clinical Pharmacy in the Mater and to provide training on the delivery of a ward based clinical Pharmacy service.

A new memorandum of understanding was signed between Royal College of Surgeons in Ireland and the pharmacy department further developing the existing partnership for the next three years. The Mater Hospital now have ten staff members who are honorary lecturers in the RCSI.

Brid Ryan, Aseptic Compounding Services Manager was honoured as the Aseptic Compounding Pharmacist of the Year at the annual Hospital Pharmacist News awards.

In 2014 Pharmacy Department staff were selected to feature in two video productions for national and international dissemination representing:

- | | |
|---|---|
| ▶ | Hospital pharmacy practice and education in conjunction with RCSI. |
| ▶ | Antimicrobial stewardship in conjunction with the Irish Institute of Pharmacy (IIOP). |



PHYSIOTHERAPY

The physiotherapy department provides extensive services to inpatients and outpatients in all areas of the Mater Hospital. Physiotherapy aims to restore well-being to people following injury, illness, pain or disability through the delivery of patient centred, high quality accessible care.

New Services

In 2014 the hospital initiated a new pain programme (the Mater Act Pain Programme (MAPP)) initially on a one-year pilot basis. The 8 week programme is delivered by Clinical Psychology and Physiotherapy in conjunction with the department of Pain Medicine.

Quality

In March 2014 a departmental quality, patient safety and clinical effectiveness committee was established. The purpose of the committee is to embed a continuous Quality Improvement Framework in the department. A number of quality initiatives, have followed the establishment of the committee including:

▶	Process Improvements and Lean Six Sigma Training: White Belt training completed by 10 staff and Green belt training completed by 2 senior staff members.
▶	Postgraduate education: Postgraduate programmes (MSc and Diploma) undertaken by three staff members.
▶	Journal Club: Monthly meetings where new research is presented and discussed.

Quality improvement projects / 2014

▶	Analysis of Heart failure patients on prolonged bed rest & advanced support- best practice physiotherapy intervention.
▶	Analysis of Physiotherapy Management of The Patient with a Primary or Secondary Spinal Tumour causing spinal cord compression.
▶	Physiotherapy led Neurology Multi-disciplinary Team Education and Training programme.
▶	Establishment of upper limb exercise class on the rehabilitation ward.
▶	Establishment of Parkinson's disease pathway of care – Mater Hospital/Dublin North City Community initiative.

National Clinical Strategy & Programmes Directorate

Several Mater Hospital staff are therapy leads or physiotherapy representatives in the National Clinical Strategy and Programmes Directorate for the following programmes: Rehabilitation Medicine, Acute Medicine, Critical Care and Acute Surgery programmes.

Research

Research studies undertaken in 2014 include:

▶	Set-dancing trial for Parkinson's disease (a cross centre trial with University of Limerick).
▶	Effectiveness and patient satisfaction with hydrotherapy treatment.
▶	RESTORe Trial- a Pelvic Floor rehabilitation trial.
▶	Publication: A systematic review of neuromuscular electrical stimulation in critical care (in conjunction with UCD) in Clinical Respiratory Journal.

In addition there have been poster /presentation at the following conferences:

▶	Irish Gerontological Conference.
▶	HSCP National Conference.
▶	RISCI Conference.
▶	Association of Continence Advisors conference.
▶	GAA medical conference.
▶	HSCPs AMP forum.
▶	Annual ISCP professional conference/scientific meeting.

Audit & service evaluations

Continual auditing of the service in the Mater Hospital is seen as key to delivering the highest possible care to patients. In 2014 the audits included:

▶	Musculoskeletal outpatient department survey.
▶	Patient global impression of change scale questionnaire.
▶	Analysis of use of Australian Therapy Outcome Measures as an outcome measure in rehabilitation.
▶	Average Length of Stay audit for orthopaedic inpatient service.
▶	Surgical outcome measures for post-op inpatients.
▶	Chart documentation audits and routine monthly hygiene/health and safety audits.

Recognition

Senior physiotherapist, Irene Byrne and the Irish Lung Fibrosis Association (ILFA) won the Best Patient Organisation Project of the Year at the Irish Healthcare Awards for their 'ILFA 2000 Steps a Day Challenge' for Lung Fibrosis Patients .



SPEECH & LANGUAGE THERAPY

The Mater's Speech and Language Therapy Department works with patients to assist them in reaching their maximum potential for communication and swallowing with a focus on evidence driven holistic intervention. In 2014 Speech and Language Therapists at the Mater Misericordiae Hospital provided over 5,300 appointments to patients. The equivalent of 190 people seen by each speech and language therapist every month.

Early Supported Discharge

The department is a core element in the Early Supported Discharge for Stroke patients. This multidisciplinary team initiative, developed at the Mater Hospital, provides rehabilitation at home for people who have suffered a stroke. Speech and Language Therapists provide high quality level of rehabilitation and support to stroke survivors with specific treatment aims of:

▶	Restoring lost function.
▶	Identifying and capitalising on remaining skills and abilities.
▶	Teaching new skills to the patient and their communication partners in order to facilitate successful conversation.

The team also provides support to patients as they adapt to life after stroke which for some will mean living with a long term disability.

Conference

The Speech & Language Therapy (SLT) Department in conjunction with the department of Otolaryngology Head & Neck Surgery hosted a multi-disciplinary swallowing conference titled 'Dysphagia-Unravelling the Complexities' on the 14th April 2014.

The purpose of the conference was to enhance understanding and dissemination of knowledge between specialities that are involved in the management of swallowing difficulties. Speakers from the key disciplines involved (SLT, ENT, Gastroenterology and Radiology) presenting on the day. With key speakers coming from the Mater Hospital, Adelaide and Meath Hospital, University of Limerick, as well as from the United Kingdom and United States of America.

Education

Some key activities include:

▶	44 students completed clinical placements, observation or tutorials in the department.
▶	Several therapists involved in LEAN development projects.
▶	One therapist graduated from University of Limerick with an MSc in Clinical Therapies (Speech and Language Therapy).
▶	Mater Hospital Therapists lectured in University of Limerick, National University of Ireland Galway and Trinity College Dublin.

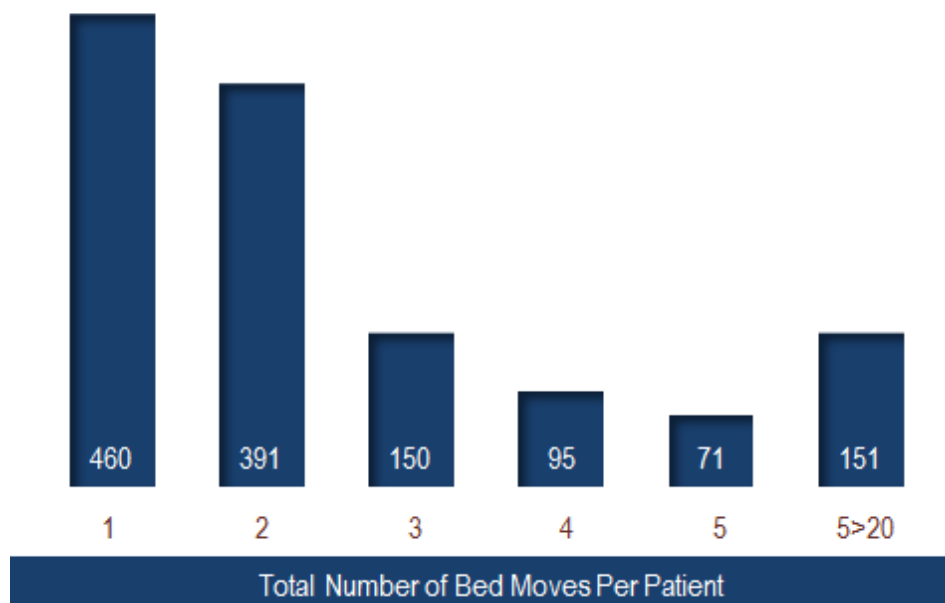


INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT)

Hospital information systems can help improve quality of care that is delivered to patients. It is a core component of delivering the right intervention to the right patient at the right time. In 2014 the ICT department at the Mater Misericordiae University Hospital undertook two key projects to address the flow of inpatients across the hospital and the storage of healthcare data.

AURA

In 2014 the ICT team delivered a project to improve the patient journey within the hospital. A review of over 1,300 patients showed that patients moved bed on average 2.75 times and moved ward on average 1.1 times.



A deeper investigating of the situation found that:

▶	Staff do not have access to one centralised, up-to-date view of bed status & availability.
▶	Excessive phone calls take place to/from each Department.
▶	Each move required communication with approx. 7 other disciplines.
▶	An average of 6.6 phone calls took place per patient move.

Project Aims

▶	Reduce patient moves by allocating patients to the right bed, the right specialty, the "first time".
▶	Reduce 'non value add' communication & thereby allow staff focus on their core job.
▶	Replace current manual recording on whiteboards with integrated, hospital-wide, electronic solution.

The project went live in April 2014 with a minimum of 1 touchscreen installed in all wards. In addition a PC monitor was installed at nurse's stations. The implementation of the Aura system hospital-wide has led to the following benefits:

▶	Staff can view "Real Live Time Data", enabling managers make bed capacity decisions.
▶	Data can be recorded quickly and easily via touchscreen technology, (no keypad, and no mouse at the screens).
▶	Patient discharge status can be reviewed with KPIs on an electronic white board at ward level.
▶	Enhanced communication and minimised interruptions.
▶	Facilitate multi-disciplinary team input and feedback.
▶	Eliminating waste like repeat visits to wards to determine what beds are available/occupied.

And most importantly the system has reduced the number of times a patient is moved from one bed to another.

Implementation of Private Cloud

In 2014 the Mater Hospital replaced and expand its existing ICT hardware that supports all the hospital's computer applications. This ICT hardware used up to this change had been located primarily in the Data Centre in 58 Eccles Street and included processors, storage and a solution to backup and secure data.

The hospital changed to a managed service solution, where the Mater would no longer buy and own fixed assets. This is well established in ICT industry. The proposal for this service model received approval from HSE ICT governance and also approval from Department of Expenditure and Public Reform as required by the Department of Finance.

The solution provides for the roll out a new model of ICT service delivery that will significantly improve the user experience with the hospital's computer applications. The project was designed to be cost neutral and uses the existing resources to achieve a more robust and sustainable storage solution for the hospital. It allows the hospital to provide an improved and secure ICT service without additional funding.

The Mater is the first hospital in Ireland to have such a facility. With the HSE looking for access to the hospital's fully commissioned, state-of-the-art Data Centre, to house their national solution "Healthmail".



Research & Innovation

Lean Academy
Dublin Academic Medical Centre (DAMC)
Publications





LEAN ACADEMY

The Mater Lean Academy is based within the Mater Misericordiae University Hospital and is part of the new Mater Transformation Office. The Academy applies Lean Sigma to reduce waste (such as long diagnostic or Emergency Department waits, redundant paperwork, and duplicative diagnostic tests). The mission of the academy is to improve healthcare quality, safety, and efficiency by applying the principles of Lean engineering, management and science.

The Academy, through its Lean Six Sigma Green Belt courses, offers quality improvement projects that incorporate consulting, coaching, and training services for Mater Hospital healthcare professionals, support services and staff. All of the courses are accredited by the Mater Hospital's Academic Partner, University College Dublin.

Lean Six Sigma in healthcare strives to:

▶	Provide better patient care.
▶	Improve the patient experience.
▶	Offer better value for money processes.
▶	Ensure quicker access to diagnostics.
▶	Provides earlier effective treatment.
▶	Minimise queues and waiting times.

The Mater's Lean Academy is a key part of the hospitals response to the Health Service Executive's demand for quality healthcare at affordable prices. The Academy works to improve care, manage margins, and facilitate compliance with national guidelines.

All projects have one or more of three core goals:

- ▶ Providing a direct patient benefit.
- ▶ Improving patient outcomes.
- ▶ A focus on cost savings.

Acute Stroke Thrombolysis Pathway

Hyper Acute Stroke Unit (HASU)

Earlier intervention with stroke thrombolytic therapy leads to better outcome for patients. One of the key performance measure in the management of suspected hyper acute stroke cases is "Door to Needle Time". Approximately 2 million brain cells die every minute treatment is delayed!

Acute stroke is the second leading cause of death and the leading cause of disability in adults. Each year, there are 6-8,000 strokes in Ireland.



In 2014 the hospital's Hyper Acute Stroke Unit, in conjunction with the Mater's Lean Academy, initiated a project to reduce the median Door to Needle Time from 80 minutes to 60 minutes in line with international best practice guidelines. Following a full review of the patient pathway and the identification of key barriers, a revised Acute Stroke Thrombolysis Pathway was developed.

The new streamlined Acute Stroke Thrombolysis Pathway was implemented on 10th March 2014.

Some of the key elements were:

▶	Pre-notification of an incoming stroke positive patient by the ambulance crew.
▶	On-call Stroke Consultant, Stroke nurses, Stroke and ED registrars and CT Radiographer immediately alerted.
▶	All FAST positive patients go straight to CT. Pre-notification by the ambulance crew allows the CT scanner to be cleared for incoming patients.
▶	Rapid patient assessment now takes place in tandem with CT Scanning.
▶	Telemedicine equipment is now provided in order to expedite off site assessment by the Stroke Consultant during the 'out of hours' period.

The median door to needle time 'in hours' now is 28 minutes and 58 minutes for 'out of hours'.

This project won the 2014 Irish Healthcare Award for Best Hospital Project.





DUBLIN ACADEMIC MEDICAL CENTRE (DAMC)

UCD Academic Partnership

The Mater Misericordiae University Hospital has been the largest teaching hospital for its academic partner University College Dublin for well over a century. In 2006 the Mater Hospital came together with UCD and St Vincent's Healthcare Group to create the Dublin Academic Medical Centre (DAMC). The purpose of the DAMC is to improve the health of patients and provide excellent training to health professionals by linking treatment, teaching and research. The Mater Hospital is a patient centric academic medical centre that focuses on:

- | | |
|---|--------------------------|
| ▶ | Education and training. |
| ▶ | Research and innovation. |

Undergraduate Education

Three of the four main stages of the medical practitioner's journey – undergraduate, intern, postgraduate education and training, take place at the Mater Hospital in close collaboration with the School of Medicine at University College Dublin and other specialist post-graduate bodies. The recruitment of more specialist lecturers has been specifically undertaken to improve the student experience and the quality of the teaching with the overall goal of being nationally recognised as the medical centre that best prepares healthcare professionals for their roles.

Post-graduate Education

Intern training is a crucial formative stage in the development of doctors. At the Mater it is a highly supervised period which many doctors will complete immediately following the award of their medical school degree. The training is completed under the supervision of intern tutors who have a close working relationship with the medical school. Interns are registered doctors and contribute towards the provision of clinical care and service at the hospital, although there is a strong emphasis on supporting the development of interns' competencies through a mix of practical instruction and formal and informal teaching sessions.

Postgraduate specialist medical education and training is undertaken by doctors who wish to be registering in the Specialist Division of the Medical Council's Register. Specialist training is provided by the relevant postgraduate training bodies (Royal College of Surgeons in Ireland, Royal College of Physicians in Ireland and the College of Anaesthetists) and takes place at the Mater Hospital. The training is typically delivered in two stages with the initial (basic specialist training) stage providing a foundation for the higher specialist training. Successful completion enables doctors to register and practise as medical specialists.

Clinical Research Centre (CRC)

The purpose of the Clinical Research Centre at the Mater Misericordiae University Hospital and St Vincent's University Hospital is to discover ways to improve medical care and to establish new treatments to improve the quality of life of patients. The CRC provides a range of core scientific services, which directly support its extensive portfolio of clinical trials, basic science and educational activity.

The centre supports the hospitals research priorities and has a specific focus on personalised medicine. It works as a bridge into translational medicine and clinical sites with over half of all CRC's clinical research carried out in clinical sites. The hospital has over 40 principle investigators who are engaged in advanced research work in their given speciality. In addition the School of Medicine runs Masters Courses in clinical and translational research.

Health Research Board Award: Work carried out the Irish Stroke Clinical Trials Network, led by Prof Peter Kelly and the team at the Mater Hospital and UCD was one of four major recipients of research funding in 2014. The selection was based on their potential for having outstanding health, scientific, societal and economic potential and will give Irish patients access to cutting edge new treatments with the potential to prevent strokes, or to improve emergency treatment and recovery after stroke.

Mater Initiated Research Activity: Another innovative research project that was initiated at the Mater Hospital has kicked off a flurry of research around the world. Prof Donal Buggy and his team assessed whether anaesthetic and perioperative interventions during cancer surgery influence recurrence or metastasis. Strong initial evidence from experimental and clinical data has gained traction worldwide and now tops a research setting exercise among perioperative physicians.



PUBLICATIONS

PUBLICATIONS

Anaesthesia

Special issue on anaesthesia and cancer.

Buggy DJ, Hemmings HC.

Br J Anaesth. 2014 Jul;113 Suppl 1:i1-3. doi: 10.1093/bja/aeu261. No abstract available.

PMID: 25052940

Differential effects of serum from patients administered distinct anaesthetic techniques on apoptosis in breast cancer cells in vitro: a pilot study.

Jaura AI, Flood G, Gallagher HC, Buggy DJ.

Br J Anaesth. 2014 Jul;113 Suppl 1:i63-7. doi: 10.1093/bja/aet581. Epub 2014 Jul 9.

PMID: 25009197

Effect of anaesthetic technique on the natural killer cell anti-tumour activity of serum from women undergoing breast cancer surgery: a pilot study.

Buckley A, McQuaid S, Johnson P, Buggy DJ.

Br J Anaesth. 2014 Jul;113 Suppl 1:i56-62. doi: 10.1093/bja/aeu200. Epub 2014 Jul 9.

PMID: 25009196

Xenon decreases cell migration and secretion of a pro-angiogenesis factor in breast adenocarcinoma cells: comparison with sevoflurane.

Ash SA, Valchev GI, Looney M, Ni Mhathuna A, Crowley PD, Gallagher HC, Buggy DJ.

Br J Anaesth. 2014 Jul;113 Suppl 1:i14-21. doi: 10.1093/bja/aeu191. Epub 2014 Jul 6.

PMID: 25001620

Pendulum swings again: crystalloid or colloid fluid therapy?

Kelleher MC, Buggy DJ.

Br J Anaesth. 2014 Sep;113(3):335-7. doi: 10.1093/bja/aeu015. Epub 2014 Mar 14. No abstract available.

PMID: 24633662

Propofol and bupivacaine in breast cancer cell function in vitro - role of the NET1 gene.
Ecimovic P, Murray D, Doran P, Buggy DJ.
Anticancer Res. 2014 Mar;34(3):1321-31.
PMID: 24596379

Book Chapter was submitted:

S. Ash, DJ Buggy.

"Outcomes after perioperative interventions"

Oxford textbook of Anaesthesia 2015 (Eds Cor Kalkmann, Phil Hopkins, Simon Howell).

"Is local anaesthesia the optimum strategy in retrograde transcatheter aortic valve implantation; A systematic review and meta-analysis" O'Sullivan KE, Bracken-Clarke D, Sequardo R, Barry M, Sugrue D, Flood G, Hurley J. Thorac Cardiovasc Surg 2014; 62: 489-97

"Differential effects of serum from patients administered distinct anaesthetic techniques on apoptosis in breast cancer cells in vitro: a pilot study" Jaura AI, Flood G, Gallagher HC, Buggy DJ. Br J Anaesth 2014; 113: Suppl 1: i63-7

Infectious Diseases

J S Lambert, , G. Avramovic, V. Jackson, N. Sammon, S. Lally, F.J. Campbell. Investigation into the Reasons for Maternal Default from HIV Care Postpartum. A 3-Year Retrospective Review. AIDS PATIENT CARE and STDs, Volume 28, Number 1, 2014, DOI: 10.1089/apc.2013.0267

W Tinago, E Coghlan; A Macken; J McAndrews; B Doak; J S Lambert; G J Sheehan; P W G Mallon. Clinical, immunological and treatment-related predictors of normalisation of CD4+/CD8+ T-cell ratio: effect of naïve and memory T-cell subsets. Submitted PLOS ONE EMID:2915ef130169d74c

LJ Else, V Jackson, M Brennan, DJ Back, SH Khoo, S Coulter-Smith and JS Lambert. Therapeutic drug monitoring of atazanavir/ritonavir in pregnancy DOI: 10.1111/hiv.12164 HIV Medicine (2014)

W Tinago, E Coghlan, A Macken, J McAndrews, B Doak, C Prior-Fuller, J S. Lambert, G J. Sheehan, P W G. Mallon, on behalf of the Mater Immunology Study Group. Clinical, Immunological and Treatment-Related Factors Associated with Normalised CD4+/CD8+ T-Cell Ratio: Effect of Naive and Memory T-Cell Subsets. Plos One, May 2014, Volume 9, Issue 5, e97011

Else LJ1, Jackson V, Brennan M, Back DJ, Khoo SH, Coulter-Smith S, Lambert J. Therapeutic drug monitoring of atazanavir/ritonavir in pregnancy. HIV Med. 2014 Nov;15(10):604-10. doi: 10.1111/hiv.12164. Epub 2014 May 14.

A Colbers, D Hawkins, H Tenorio, M Van der Ende, Gengelmaier A, J S Lambert et al. D Burger. Atazanavir Exposure is Effective during Pregnancy, Regardless of Tenofovir Use. Antivir Ther. 2014 Jul 3. doi: 10.3851/IMP2820

V. Jackson, W. Ferguson, T. B. Kelleher, M. Lawless, M. Eogan, U. Nusgen, S. Coughlan, J. Connell, J. S. Lambert. Lamivudine treatment and outcome in pregnant women with high Hepatitis B viral loads. European Journal of Clinical Microbiology & Infectious Diseases, November 2014.

Else LJ1, Jackson V, Brennan M, Back DJ, Khoo SH, Coulter-Smith S, Lambert JS. Therapeutic drug monitoring of atazanavir/ritonavir in pregnancy. HIV Med. 2014 Nov;15(10):604-10. doi: 10.1111/hiv.12164. Epub 2014 May 14.

Orthopaedics

Post-operative complications in a dedicated elective orthopaedic hospital: transfers requiring specialist critical care support.

Dawson P, Daly A, Lui D, Butler JS, Cashman J.
Ir Med J. 2015 May;108(5):153-4.

Groin Pain in Athletes: A Review of Diagnosis and Management.

Crockett M, Aherne E, O'Reilly M, Sugrue G, Cashman J, Kavanagh E.
Surg Technol Int. 2015 May;26:275-82.

Book (July 2015): Datatrace publishing

The Hip: Preservation, Replacement, and Revision

James Cashman, MD; Nitin Goyal, MD; Javad Parvizi, MD, FRCS

Controlled release of transforming growth factor- β 3 from cartilage-extra-cellular-matrix-derived scaffolds to promote chondrogenesis of human-joint-tissue-derived stem cells.

Almeida HV, Liu Y, Cunniffe GM, Mulhall KJ, Matsiko A, Buckley CT, O'Brien FJ, Kelly DJ.

Acta Biomater. 2014 Oct;10(10):4400-9. doi: 10.1016/j.actbio.2014.05.030. Epub 2014 Jun 4.

PMID:24907658

Select item 24785365

Infrapatellar fat pad-derived stem cells maintain their chondrogenic capacity in disease and can be used to engineer cartilaginous grafts of clinically relevant dimensions.

Liu Y, Buckley CT, Almeida HV, Mulhall KJ, Kelly DJ.

Tissue Eng Part A. 2014 Nov;20(21-22):3050-62. doi: 10.1089/ten.TEA.2014.0035. Epub 2014 Jul 8.

PMID: 24785365

Select item 24521754.

Atypical stress-avulsion fracture of the Lisfranc joint complex.

O'Neill BJ, Sweeney LA, Moroney PJ, Mulhall KJ.

Foot Ankle Spec. 2014 Apr;7(2):155-8. doi: 10.1177/1938640014521832. Epub 2014 Feb 11.

PMID:24521754

Select item 24464888

One-stage versus two-stage exchange.

Lichstein P, Gehrke T, Lombardi A, Romano C, Stockley I, Babis G, Bialecki J, Bucsi L, Cai X, Cao L, de Beaubien B, Erhardt J, Goodman S, Jiranek W, Keogh P, Lewallen D, Manner P, Marczyński W, Mason JB, Mulhall K, Paprosky W, Patel P, Piccaluga F, Polkowski G, Pulido L, Stockley I, Suarez J, Thorey F, Tikhilov R, Velazquez JD, Winkler H.

J Orthop Res. 2014 Jan;32 Suppl 1:S141-6. doi: 10.1002/jor.22558. No abstract available.

PMID: 24464888

Select item 24408944.

A mountain among molehills: removing an impinging large femoral neck osteochondroma in a man with hereditary multiple exostoses.

Fitzgerald CW, Rowan FE, O'Neill SC, Mulhall KJ.

BMJ Case Rep. 2014 Jan 9;2014. pii: bcr2013202317. doi: 10.1136/bcr-2013-202317.

PMID: 24408944

Select item 24382881.

Optimizing stem cell engineering for orthopaedic applications.

Broderick JM, Kelly DJ, Mulhall KJ.

J Am Acad Orthop Surg. 2014 Jan;22(1):63-5. doi: 10.5435/JAAOS-22-01-63. No abstract available.

PMID: 24382881

Select item 24360339

One-stage vs two-stage exchange.

Lichstein P, Gehrke T, Lombardi A, Romano C, Stockley I, Babis G, Bialecki J, Bucsi L, Cai X, Cao L, de Beaubien B, Erhardt J, Goodman S, Jiranek W, Keogh P, Lewallen D, Manner P, Marczynski W, Mason JB, Mulhall K, Paprosky W, Patel P, Piccaluga F, Polkowski G, Pulido L, Stockley I, Suarez J, Thorey F, Tikhilov R, Velazquez JD, Winkler H.

J Arthroplasty. 2014 Feb;29(2 Suppl):108-11. doi: 10.1016/j.arth.2013.09.048. Epub 2013 Oct 1.

PMID: 24360339

Pharmacy

Creed M. Asthma Update. Irish Pharmacist 2014; 3 (5): 21-25

Mayers L, Ging P. Scleroderma Management. Hospital Pharmacist 2014 (6): 292-294

Ging P, Mayers L. Endothelin Receptor Antagonists in PAH. Hospital Pharmacy Europe 2014; 72: 48-52

Ging P, Shullo MA. Pharmacists take prominent role at the International Society of Heart and Lung Transplant 33rd annual meeting and scientific sessions in Montreal. Eur J Hosp Pharm 2014; 21:131-132

Rheumatology

French HP, Galvin R, Cusack T, McCarthy GM. Predictors of short-term outcome to exercise and manual therapy for people with hip osteoarthritis. Phys Ther. 2014; 94:31-9.

MacMullan PA, Madigan AM, Paul N, Peace AJ, Bagaglia PM, Alagha A, Nolan KB, McCarthy GM, Kenny D Sulfasalazine and its metabolites inhibit platelet function in patients with inflammatory arthritis Clin Rheumatol 2014 Sep 26 (Epub ahead of print)

McCarthy EM, MacMullan PA, Al-Mudhaffer S, Madigan AM, Donnelly S, McCarthy CJ, Molloy ES, Kenny D, McCarthy GM. Plasma Fibrinogen along with Patient Reported Outcome measures enhances management of Polymyalgia Rheumatica :a prospective study. J Rheumatol 2014; 41:931-7

Chhana A, Callon KE, Dray M, Pool B, Naot D, Gamble GD, Coleman B, McCarthy G, McQueen FM, Cornish J, Dalbeth N. Interactions between tenocytes and monosodium urate monohydrate crystals: implications for tendon involvement in gout. Ann Rheum Dis. 2014 ;7:1737-41

McCarthy EM, MacMullan PA, Al-Mudhaffer S, Madigan A, Donnelly S, McCarthy CJ, Molloy ES, Kenny D, McCarthy GM Plasma fibrinogen along with patient-reported outcome measures enhances management of polymyalgia rheumatic. J Rheumatol. 2014 May;41(5):931-7

MacMullan PA, Madigan AM, Paul N, Peace AJ, Alagha A, Nolan KB, McCarthy GM, Kenny D Sulfasalazine and its metabolites inhibit platelet function in patients with inflammatory arthritis. Clin Rheumatol. 2014 Sep 26. [Epub ahead of print]

Cotter AG, Sabin CA, Simelane S, Macken A, Kavanagh E, Brady JJ, McCarthy G, Compston J, Mallon PW Relative contribution of HIV infection, demographics and body mass index to bone mineral density AIDS. 2014 Sep 10;28(14):2051-60

Taylor WJ, Fransen J, Dalbeth N, Neogi T, Schumacher HR, Brown M, Louthrenoo W, Vazquez-Mellado J, Eliseev M8, McCarthy G, Stamp LK, Perez-Ruiz F, Sivera F, Ea HK, Gerritsen M, Scire C, Cavagna L, Lin C, Chou YY, Tausche A-K, da Rocha Castelar-Pinheiro G, Janssen M, Chen JH, Slot O, Cimmino M, Uhlig T, Jansen TL. Performance of classification criteria for gout in early and established disease *Ann Rheum Dis* (2014 Oct 28 e-pub).

Finckh A, Mc Carthy GM, Madigan A, Van Linthoudt D, Weber M, Neto D, Rappoport G, Blumhardt S, Kyburz D, Guerne PA Methotrexate in chronic-recurrent calcium pyrophosphate deposition disease: no significant effect in a randomized crossover trial. *Arthritis Research & Therapy* 2014, 16:458

Durkan L, Bolster F, Kavanagh E, McCarthy GM. The structural consequences of calcium crystal deposition. *Rheum Dis Clin North America* 40:311-328, 2014

Murphy CL, McCarthy GM. Why basic calcium phosphate crystals should be targeted in the treatment of osteoarthritis. *EMJ Rheumatol* 2014;1: 96-102

Vascular

Screening for Peripheral Arterial Disease and Carotid Artery Disease in Patients With Abdominal Aortic Aneurysm.

Gray C, Goodman P, Cullen P, Badger SA, O'Malley K, O'Donohoe MK, McDonnell CO. *Angiology*. 2015 Jun 8 (Epub ahead of print)

Management of appendiceal stump in laparoscopic appendectomy--clips or ligature: a systematic review and meta-analysis.

Shaikh FM, Bajwa R, McDonnell CO. *J Laparoendosc Adv Surg Tech A*. 2015 Jan;25(1):21-7

Comparison of colour duplex ultrasound with computed tomography to measure the maximum abdominal aortic aneurysmal diameter.

Gray C, Goodman P, Badger SA, O'Malley MK, O'Donohoe MK, McDonnell CO. *Int J Vasc Med*. 2014; Epub 2014 Nov 23.

Peri-anal injury following ingestion of White Spirit.

Cassidy N, Duggan E, McDonnell CO, Roche E, Moore K. *Clin Toxicol (Phila)*. 2014 Mar;52(3):236

Statins promote residual aneurysm sac regression following endovascular aortic aneurysm repair.

Gray C, Goodman P, O'Malley MK, O'Donohoe MK, McDonnell CO. *Vasc Endovascular Surg*. 2014 Feb;48(2):111-5

Serum lipids associated with inflammation-related PET-FDG uptake in symptomatic carotid plaque.

Chróinin DN, Marnane M, Akijian L, Merwick A, Fallon E, Horgan G, Dolan E, Murphy S, O'Rourke K, O'Malley K, O'Donohoe M, McDonnell C, Noone I, Barry M, Crowe M, Kavanagh E, O'Connell M, Kelly PJ. *Neurology*. 2014 May 13;82(19):1693-9

Plaque inflammation and unstable morphology are associated with early stroke recurrence in symptomatic carotid stenosis.

Marnane M, Prendeville S, McDonnell C, Noone I, Barry M, Crowe M, Mulligan N, Kelly PJ. *Stroke*. 2014 Mar;45(3):801-6

Abstract Publications

1. All three Delaney Medal papers were published in abstract form in British Journal of Anaesthesia May 2014.
2. Dr Buckley's paper was published in abstract form in European Journal of Anaesthesiology.
3. Dr Desmond's abstract was published in Anesthesiology in October 2014.

PRESENTATIONS

Anaesthesia

Delaney Medal - the Irish Young Investigators prize for research.

Three short-listed papers out of the six invited to present:

Dr Fiona Desmond:

Effect of anaesthetic technique on immune cell infiltration in breast cancer: a follow-up pilot analysis of a prospective, randomised, investigator-masked study.

Dr. Aisling Buckley:

Effect of anaesthetic technique on the natural killer cell anti-tumour activity of serum from women undergoing breast cancer surgery: a pilot study.

Dr. Simon Ash:

Effect of xenon on breast cancer cell biology in vitro.

Dr Buckley was awarded 2nd prize.

European Society Anaesthesiology ESA Congress Stockholm:

Dr Buckley's work not only selected for presentation but also was among just n=6 shortlisted for Best Abstract of the entire congress, from among >1,100 submitted.

Dr Desmond's work was presented at the American Society Anaesthesiology annual congress in New Orleans.

Pharmacy

The Annual National Pharmacy Forum on 'Advancing MI services within Hospital Pharmacy'.

The HPAI Annual Conference on 'The Emergency Management of Poisoning'

The Irish Pain Nurses and Midwives Society (IPNMS) master class in recognition of the quality of the Mater Hospital prescribing guideline 'Guidance on the Use of NSAIDs in the Mater Misericordiae University Hospital'.

POSTER PRESENTATIONS

Anaesthesia

Irish Congress of Anaesthesia Annual Meeting, Dublin, May 2014. Creaney M, Conrick-Martin I, Deegan C, Flood G, Griffin M. 'Ordering of Echocardiograms in an Anaesthetic Preoperative Assessment Clinic in a Tertiary Referral Centre'. [Presented by M Creaney]

Irish Congress of Anaesthesia Annual Meeting, Dublin, May 2014. Conrick-Martin I, Creaney M, Flood G, Deegan C, Ní Mhuircheartaigh R, Griffin M. 'Problematic Use of Cardiopulmonary Bypass During Bilateral Lung Transplantation in Cystic Fibrosis Patients – A Case Series of 3 Patients'. [Presented by M Creaney]

ICSI/ESCIM ASM - Dublin June 2015; IEMTA Scientific Meeting (Dublin April 2015)
Impact of PCI pathway on outcome of patient surviving out of hospital cardiac arrest.
M. Garstka, N. Borhan, B. Marsh

EuroELSO – Regensburg May 2015
Loss of Oxygenator Function during Prolonged VV ECLS: When should the oxygenator be changed? M. Garstka, S. O'Brien, E. Carton

Pharmacy

Research poster presentations at the Hospital Pharmacist's Association of Ireland Conference, 2014; "Innovating and Collaborating- synergy between the university and the hospital pharmacy department". Winner of the practice development prize.

Incorporation of the STOPP criteria into Clinical Pharmacy Practice.

Introduction of Antimicrobial Prophylaxis Guidelines for Interventional Radiology.

REFERENCES

- [1] Sequist TD, Schneider EC, Anastario M, Odigie EG, Marshall R, Rogers WH, et al. Quality monitoring of physicians: linking patients' experiences of care to clinical quality and outcomes. *J Gen Intern Med*. 2008; 23(11):1784-90.
- [2] Greenfield S, Kaplan HS, Ware JE Jr, Yano EM, Frank HJ. Patients' participation in medical care: effects on blood sugar control and quality of life in diabetes. *Journal of General Internal Medicine* 1988; 3:448-457.
- [3] DiMatteo, MR. Enhancing patient adherence to medical recommendations. *JAMA*. 1994; 271:79-83.
- [4] DiMatteo MR, Sherbourne CD, Hays RD, et al. Physicians' characteristics influence patients' adherence to medical treatment: results from the Medical Outcomes Study. *Health Psychology*. 1993; 12:93-102.
- [5] Greenfield S, Kaplan S, Ware JE Jr., Expanding patient involvement in care: effects on patient outcomes. *Annals of Internal Medicine*. 1985; (102):520-528.
- [6] Stewart MA. Effective physician-patient communication and health outcomes: a review. *CMAJ*. 1995; 152:1423-1433.
- [7] Fremont AM, Clearly PD, Hargraves JL, Rowe RM, Jacobsen NB, Ayanian JZ. Patient-centered processes of care and long-term outcomes of acute myocardial infarction. *J Gen Int Med* 2001; 14:800-808.
- [8] Meterko M, Wright S, Lin H, et al. Mortality Among Patients with Acute Myocardial Infarction: The Influences of Patient-Centered Care and Evidence-Based Medicine. *Health Services Research*. 2010 October; 45(5):1188-204.

Draft Financial Statements



MATER MISERICORDIAE UNIVERSITY HOSPITAL**BALANCE SHEET AS AT 31 DECEMBER 2014**

	2014 €'000	2013 €'000
FIXED ASSETS		
Tangible assets	25,968	29,026
Investments	-	-
	<u>25,968</u>	<u>29,026</u>
CURRENT ASSETS		
Debtors	40,546	40,657
Stocks	6,554	5,629
Cash at bank and in hand	295	400
	<u>47,395</u>	<u>46,686</u>
CREDITORS: (Amounts falling due within one year)		
Creditors	(48,037)	(46,501)
Bank loans and overdrafts	(13,247)	(13,814)
	<u>(61,284)</u>	<u>(60,315)</u>
NET CURRENT LIABILITIES	(13,889)	(13,629)
TOTAL ASSETS LESS CURRENT LIABILITIES	12,079	15,397
CAPITAL GRANTS	(25,968)	(29,026)
NET LIABILITIES	<u>(13,889)</u>	<u>(13,629)</u>
CAPITAL AND RESERVES		
Share Capital	1	1
Capital Reserve	-	-
Deficit	(13,890)	(13,630)
SHAREHOLDER'S DEFICIT	<u>(13,889)</u>	<u>(13,629)</u>

MATER MISERICORDIAE UNIVERSITY HOSPITAL**STATEMENT OF FINANCIAL ACTIVITIES
(Including the Income and Expenditure Account)
FOR THE YEAR ENDED 31 DECEMBER 2014**

	2014 €'000	2013 €'000
Incoming Resources		
Revenue	225,559	222,047
Other Income	49,233	43,001
Grant Amortisation on Tangible Fixed Assets	5,736	4,222
	<u>280,528</u>	<u>269,270</u>
Resources Expended - Charitable Activities		
Payroll and Related Costs	(183,464)	(180,403)
Non Pay Costs	(91,579)	(81,603)
Depreciation	(5,736)	(4,222)
	<u>(280,779)</u>	<u>(266,228)</u>
Net (Outgoing)/Incoming Resources before Interest	(251)	3,042
Interest Receivable and Similar Income	26	36
Interest Payable and Similar Charges	(35)	(58)
Net (Outgoing)/Incoming Resources	<u>(260)</u>	<u>3,020</u>

There are no recognised gains or losses other than the net (outgoing)/incoming resources for the year and all income arises from continuing activities.

MATER MISERICORDIAE UNIVERSITY HOSPITAL

**SCHEDULES TO THE DETAILED STATEMENT OF FINANCIAL ACTIVITY
FOR THE YEAR ENDED 31 DECEMBER 2014**

OTHER INCOME	2014	2013
	€'000	€'000
Patient Income		
In-patient	25,831	17,716
Out-patient	905	760
RTA receipts	1,069	1,035
	27,805	<u>19,511</u>
Other Income		
Superannuation	7,988	9,302
Pension levy	10,118	10,508
Other payroll deductions	5	5
Income from external agencies	538	415
Canteen receipts	404	491
Other income	2,375	2,769
	21,428	<u>23,490</u>
TOTAL OTHER INCOME	49,233	<u>43,001</u>
PAY		
Management/administration	(18,820)	(18,056)
Medical/dental I (NCHDs)	(22,946)	(22,750)
Medical/dental II (Consultants)	(22,633)	(22,210)
Nursing	(71,138)	(70,596)
Paramedical	(24,255)	(24,086)
Catering and housekeeping/support services	(9,026)	(8,890)
Maintenance/technical	(1,819)	(1,780)
Other - pastoral care	(484)	(453)
Sub-total	(171,121)	<u>(168,821)</u>
Pensions and refunds	(10,509)	(9,986)
Gratuities/lump sums	(1,834)	(1,596)
Sub-total	(12,343)	<u>(11,582)</u>
	(183,464)	<u>(180,403)</u>

