



THE PILLAR

Centre for transformative healthcare



The Pillar Centre Report 2021

MATER MISERICORDIAE UNIVERSITY HOSPITAL

Dec 2021

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EXECUTIVE SUMMARY

The Pillar Centre for Transformative Healthcare was launched in 2019 to establish the Mater Hospital as a leading centre in education, research and innovation in healthcare. The first Phase of the project was the creation of a unique interdisciplinary and multidisciplinary space for practical skills training, simulation and team based learning. This coincided with establishing the DERI Directorate for Education, Research and Innovation within the management structure of the hospital.

Our aim at the Pillar Centre is to be a leader in education, research and innovation with a particular emphasis on developing the potential of co-location on a hospital clinical campus.

In order to develop our Academic, Research and Innovation Programmes, there is a fundamental need to develop infrastructure, and support a culture that enables these activities to flourish.

Since its foundation, the Pillar Centre has actively supported the Mater team in fostering an ecosystem of learning, development, research and device innovation and continues to provide significant support to groups eager to develop postgraduate education and training events.

The Pillar Centre for Transformative Healthcare is central to the Mater Hospital's strategic vision for 2022-2025 in education, research and innovation. A four year plan includes creation of a high fidelity simulation suite within the centre, development of added value postgraduate education, new collaborative research projects, strengthened research governance structures and appropriate infrastructure and IT to facilitate rapid progress across all programmes.

The COVID-19 pandemic was a challenge for us all. Hopefully 2022 and beyond will see momentum restored to allow us to achieve our goals.

Our commitment to supporting education, research and innovation for all staff and students at the MMUH is fundamental to the work of the Pillar Centre.

Reflecting on 2021, the Pillar Centre team would like to take the opportunity to thank all those who engaged with and supported the Pillar Centre in its ambition to enable our educators, researchers and innovators. We would also like to acknowledge the leadership and unwavering support offered by our CEO Mr Alan Sharp as well as the Mater Executive team and the Mater Board of Directors.

We see exciting and challenging times ahead as we deliver on our strategy and programmes. We look forward to the building of new relationships and creating novel and impactful outcomes in education, research and innovation.

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INTRODUCTION

1.1 THE PILLAR CENTRE – OUR LIVING LEGACY

The Mater Misericordiae University Hospital (MMUH) is an active, acute level 4 teaching hospital with a significant historical legacy situated in the heart of Dublin city. The hospital was opened in 1861 by the Sisters of Mercy. In addition to the local services to its catchment area, MMUH provides a range of frontline and specialist services on a regional and national level. The Pillar Centre for Transformative Healthcare is located in the magnificent setting of the Mater Hospital's 1861 building.

Today the Pillar Centre for Transformative Healthcare comprises a total of 400 sq m (1,300 sq ft) arranged over one floor in the 1861 Misericordiae building. It complements the existing educational facilities within the Mater Hospital and University College Dublin. It offers;

- 5 flexible hi-spec teaching rooms with natural daylight and natural ventilation in all rooms.
- State-of-the-art audio visual system including projectors and screens.
- Bed head trunking in rooms 1, 2, 3 and 4 and live medical gases in rooms 2 and 3.
- Free WiFi.
- OSCE exam facilities.
- Demonstration and basic simulations.
- Lecture / class / break-out rooms.
- Car parking facilities and hotel accommodation in close proximity.
- Technical support and ancillary services support on site.
- Central location – 20 minutes from Dublin airport and just minutes from the city.
- Locker space and WC's (male, female and disabled WC provision).
- Cafés on hospital campus.
- ATM facilities on hospital campus.
- CCTV in public areas.

The Pillar Centre for Transformative Healthcare (Mater Misericordiae Building)



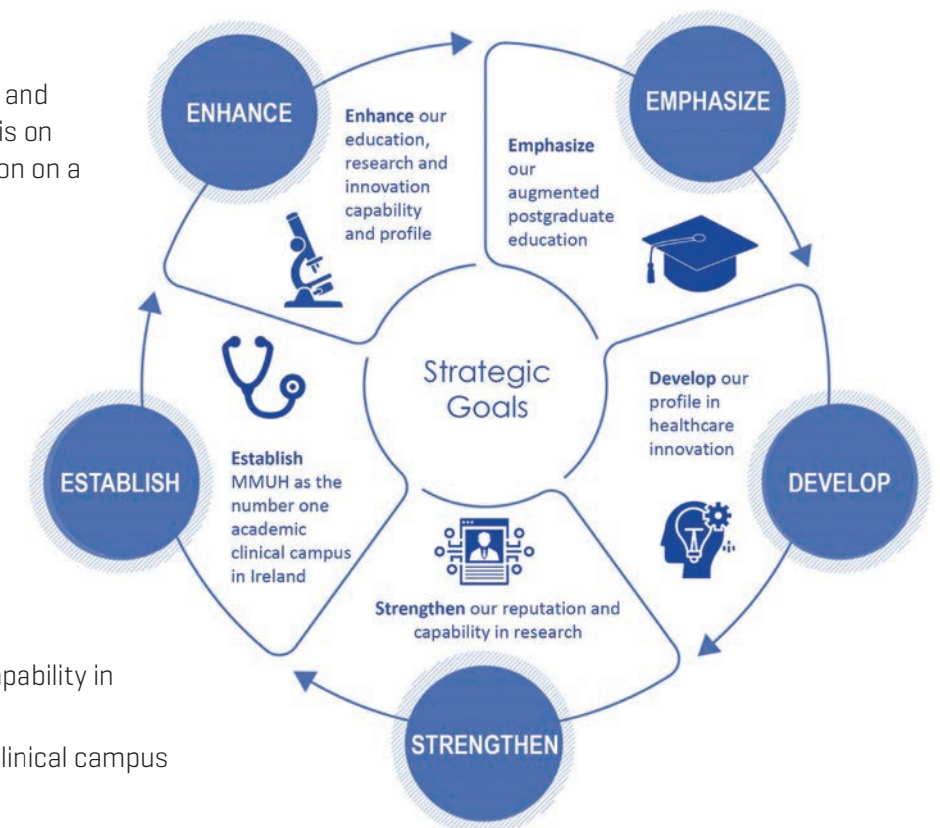
THE PILLAR CENTRE - STRATEGIC OVERVIEW

Vision

To be a leader in education, research and innovation with a particular emphasis on developing the potential of co-location on a hospital clinical campus

Our strategic goals

1. To enhance education, research and an innovation capability and profile as outlined in *Doing What Matters* the MMUH Strategic Plan 2018-2021.
2. To emphasise 'added value' postgraduate education.
3. To develop a profile in healthcare innovation.
4. Strengthen our reputation and capability in research.
5. To be the number one academic clinical campus in Ireland.



THE MATER HOSPITAL – STRATEGIC OVERVIEW

In 2021, The Pillar Centre team contributed to the Hospital Strategic Plan 2022-2025 “Leading innovation to transform patient care”. Due to be launched in Q1 2022, the strategic plan outlines 15 key strategic initiatives, one of which is the **further development of the Pillar Centre for Transformative Healthcare**. The Pillar Centre will be “key to positioning the hospital at the leading edge of medical science, research, innovation and education”. The ambitious four year plan includes;

- Developing a high fidelity simulation suite within the centre.
- Establishing the first dedicated early phase clinical trials unit in Ireland [START].
- Developing future focused, innovative “value added” postgraduate education with partners in industry, academia and other healthcare institutions.
- Participating in collaborative research with partners nationally and internationally.

- Reviewing and remodelling the research governance and management structures in the Mater Hospital and developing a focused research strategy for the hospital.
- Developing a best practice model of design-led clinical innovation within the hospital environment with clear pathways for triage, development and commercialization of these innovations.
- Put in place the required infrastructure to support the development of this Centre [IT, staff, policies].

It is anticipated that the impact of this plan will;

- Improve patient safety and quality of patient care and optimise training of those healthcare workers who provide this care.
- Improve research governance and leadership with comprehensive support and monitoring of research activity and funding.
- Establish a leading site for postgraduate education, translational research and digital & device innovation.

Key Milestone/Deliverable	Status	Targeted Delivery Date							
		2022				2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Build High fidelity Simulation Suite	In progress								
Early Phase Clinical Trials Unit [Admin/Research/Ed]	In progress								
Research Strategy & Governance Framework	In progress								
Clinical Research Support Office [CRSO]	Not Started								
Medtech Innovation Model & Hub	In progress								
New Education Programmes	Ongoing								
Chief Resident in QPE in place	In progress								
National Trauma Research & Education Centre	Not Started								
Gene Therapy & Precision Medicine [Research & Education]	Not Started								

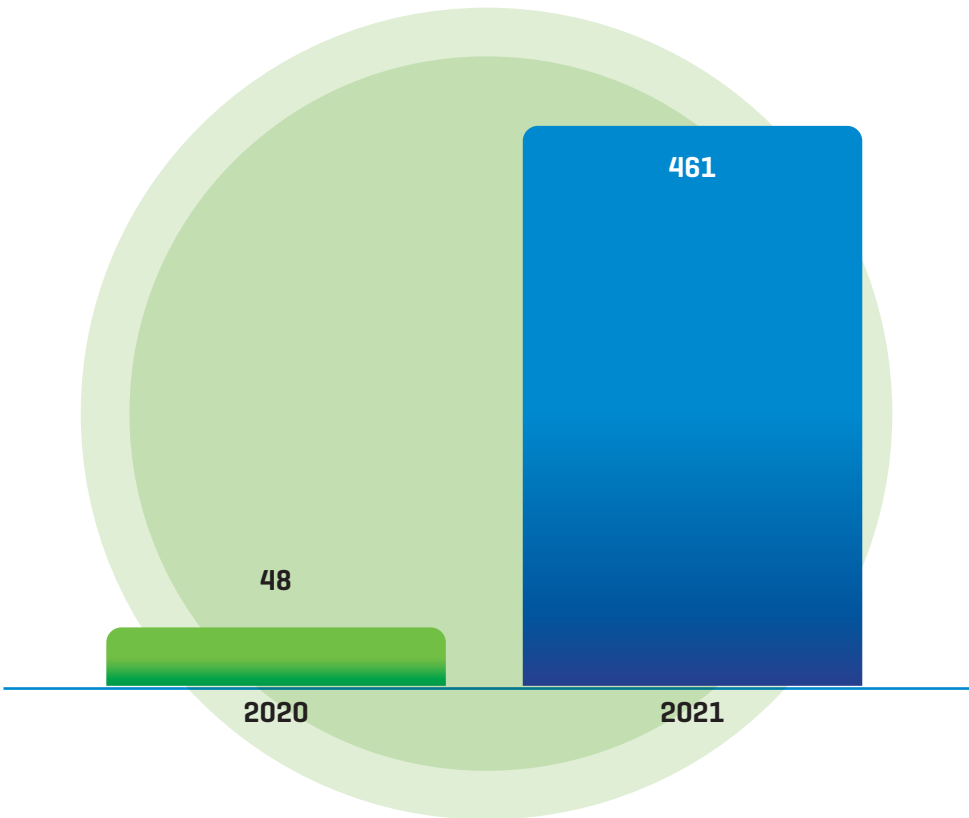


1.3 PILLAR CENTRE ACTIVITY JAN 2021 TO DEC 2021

1.3.1 Profile of Pillar Centre bookings:

The following is an overview of the bookings facilitated by the Pillar Centre between January 2021 and December 2021.

The number of bookings accommodated: 461 in 2021



Usage by specialty

- | | | | |
|-------------------------------|-----------------------|------------------------------------|---------------------------------|
| • Anaesthetics | • Health & Safety | • Oncology | • Simulation |
| • Cardiology | • Human Resources | • Ophthalmology | • SLT |
| • CEO office | • ID | • OT | • StrokeLINK |
| • Clinical Pastoral Education | • IEHG Grand Rounds | • OSCEs | • MMUH Strategic Projects Group |
| • Daffodil Centre | • IMS | • Pathology | • Dept. of Surgery |
| • DERI Directorate | • Lean Academy | • Pharmacy | • Transformation Office |
| • Dietetics | • Metabolics | • Physiotherapy | • Transport & Logistics |
| • EOLC | • Mission Office | • Plastics | • Trauma |
| • Emergency Medicine | • NCHDs | • POCUS (Point Of Care UltraSound) | • UCD |
| • Estates & Facilities | • Neurology | • Radiology | • VTE |
| • Finance | • NIU | • Renal | • & Others |
| • GI | • NRDO | • Respiratory | |
| • GIM | • NSIU | • Risk Management | |
| • Gynae | • Nursing | • Security | |
| | • Occupational Health | | |

The Pillar Centre supported the following Committees:

- Quality & Patient Safety
- Drug Safety
- Executive
- Nursing Executive
- Hip Fracture
- MMUH Research Governance Review Report Implementation Working Group
- Falls Prevention and Management Committee
- EWE Steering
- Delirium Working Group

During the pandemic, the Pillar Centre facilitated in-house mandatory training including fire prevention training, nurse adaptation, breaking bad news, manual handling, CPR, ECMO, ACLS, POCUS and MAPA. [Rooms 4 and 5 remained occupied by IEHG due to the COVID-19 pandemic until September 2020 when the Pillar Centre returned to use of all 5 rooms].

The Pillar Centre has also collaborated on events with external partners:

- The Rotunda Hospital.
- The Royal College of Surgeons in Ireland (RCSI).
- The Royal College of Physicians of Ireland (RCPI).



- HSE Digital Transformation Team.
- Irish Endocrine Society.

Other memorable occasions include hosting the ceremony for the naming of the Rock Wing and supporting the Mater COVID-19 vaccine clinics.

Education in 2021

- Point of Care Ultrasound (POCUS) training, led by Mater Emergency Medicine Consultants Dr Tomás Breslin and Dr Cian McDermott, continued for RCSI with a number of dates confirmed for POCUS Qtr 1 2021. The POCUS team commit to developing a POCUS day for ANPs and community midwives through collaboration with Prof Sean Daly Consultant in Obstetrics & Gynaecology, Rotunda Hospital.



Using the Butterfly IQ teleguidance platform, additional POCUS courses, in collaboration with RCSI and RCPI, commenced in Q2 2021.

- POCUS Instructor Dr Cian McDermott is published in Intensive Care Medicine as part of an international multicenter observational study in 20 US and European hospitals, looking at Lung ultrasound for the early diagnosis of COVID-19 pneumonia.
- The Use of Point of Care Ultrasound in Hand Surgery is published in the Journal of Hand Surgery. This was a collaboration between the Plastics Academic Team, Radiology in SVUH, the Mater Trauma Team and the Pillar Centre.
- Representatives from MMUH and UCD visited ICAPSS [Irish Centre for Applied Patient Safety and Simulation] NUIG. Dr Dara Byrne Director of Simulation Education in Healthcare for the Saolta Group and her team welcomed the group with a number of presentations around developing a simulation suite and a tour of the building site for the new simulation suite. A visit to the RCSI SIM Centre was also arranged and was most helpful in determining the requirements are needed to establish a high fidelity simulation suite at the Pillar Centre, MMUH.
- Qtr 1 2021 saw the further development of the Pillar Centre's ability to host virtual events such as conferences following the successful Irish Endocrine Society's annual meeting.
- The Prospectus for the Pillar Centre for Transformative Healthcare was launched. The Prospectus is available online at <https://thepillarcentre.ie/about-us/pillar-centre-strategy/pillar-centre-prospectus/>.
- Development of a Mater Simulation programme continued. Workshops with simulation user groups commenced to inform the development of the Simulation Suite in the Old Theatre block, located in the Pillar Centre. Mr Ger O' Connor National Lead for Simulation Training in Emergency Medicine and Consultant Emergency Medicine, MMUH was appointed as Simulation Lead for the Mater Hospital. Caoimhe Fitzsimons was appointed as Nurse Simulation Lead for the Mater Hospital. Both are longstanding members of the Simulation Committee whose aim is to progress the development of a simulation suite and simulation programmes at MMUH.
- The Pillar Centre receives the first delivery of equipment for simulation training. Two sessions of training on the SimMan ALS manikin are held in June.
- Simulation equipment was purchased with the support of the Nursing and Midwifery Planning and Development Unit [NMPDU] Dublin North, National Doctors Training and Planning, HSE [NDTP], the Ireland East Hospital Group [IEHG] and the National Office for Trauma Services [NOTS].

- Director of Education, Director of Research and Director of Innovation were advertised with a view to appointing in Q3 2021.
- The Department of Anaesthesiology, in collaboration with the Department of Emergency Medicine, launches a combined 'Anaesthesiology and Emergency Medicine Bootcamp' for new Anaesthetics and Emergency Medicine Trainees in the Pillar Centre.
- A business case for the development of a Chief Resident in Quality, Patient Safety and Education [CRQPSE] is submitted for funding support. It is anticipated that this role will deliver on its core objectives to establish morbidity and mortality meetings at MMUH, improve teaching and training but also to develop and foster a Quality Improvement and Patient Safety continual improvement strategy. This role is expected to provide valuable information on the feasibility of a National Chief Resident Programme for Quality Improvement, Patient Safety and Education in the Level 4 teaching hospitals.



- A project scope is developed with MMUH Estates & Facilities for establishing a high fidelity simulation suite to be located in the old theatre block, level 3 Misericordiae Building.

Research in 2021

- The Clinical Director and Operations Manager of the Pillar Centre and DERI were invited to participate in the **HSE Research Governance Implementation Working Group**. Chair of the group is Ana Terres, Head of Research and Development for the HSE. The Working Group was established to collaborate on the development of a HSE Health Research Governance Framework for health service delivery organisations. The final draft would be subject to broad external consultation in Q1 2021.
- A review of research governance (including research ethics) at the Mater Hospital is completed by a professional services firm. The report is expected to be finalised by the end of Q1 2022.
- A **Research Governance Working Group** is established to implement the recommendations of a review of research governance (including research ethics). The recommendations are in line with National development in the area of research governance.
- The Pillar Centre collaborates with Prof Austin Duffy MMUH, Prof Peter Doran UCD CRC and **South Texas Accelerated Research Therapeutics (START)**, to establish the first early phase clinical trials unit in Ireland. The UCD Clinical Research Centre [CRC] will relocate to the main Mater campus. as part of this initiative.
- The Pillar Centre continues to support the publication of research conducted by MMUH

colleagues. Publications are made available at <https://thepillarcentre.ie/news/blog/>.

- The HSE National Framework for the Governance, Management and Support of Health Research [RGMS Framework] is launched on the 9th of September. The Pillar Centre team participated in developing this document by representing MMUH on the HSE Research Governance Implementation Working Group. An invitation is also issued to participate in the evaluation team for the new ERMS [Electronic Research Management System] for the HSE and other health institutions.
- [www.thepillarcentre.ie](https://thepillarcentre.ie/providing-post-lung-transplant-care-during-the-time-of-covid-19/) continues to be a source of MMUH research publications e.g. Sara Winward, Iain Lawrie, Susan Talbot Towell, Nina Sheridan and Patricia Ging recently published "Providing post-lung transplant care during the time of COVID-19". <https://thepillarcentre.ie/providing-post-lung-transplant-care-during-the-time-of-covid-19/>.
- The Pillar Centre has developed a business case to establish a Clinical Research Support Office [CRSO] in MMUH in alignment with the HSE National Framework for the Governance, Management and Support of Health Research [RGMS Framework]. A Clinical Research Support Office [CRSO] supports investigators and clinical research study teams to conduct clinical research. The office aims to reduce administrative burdens, enhance compliance, and help remove barriers to enable efficiency, internal/external collaboration, cost recovery, and growth of clinical trials at site.
- The Pillar Centre and the Mater Hospital are engaged in a review of research management and governance and the subsequent implementation of a bespoke research management framework in MMUH.
- The HSE Electronic Research Management System [ERMS] evaluation and procurement Working Group commences with participation from the Pillar Centre team.

“ We aim to define a clear research policy for the Mater that is aligned to our core areas of expertise. To enhance our reputation and capability in research is a key strategic goal of the Pillar Centre”.

Prof Joseph Butler, Director of Research.



In 2022 the Pillar Centre and the Mater Hospital will appoint a Chief Resident in Quality, Patient Safety & Education; a first in Ireland!

Prof Joseph Duggan, Director of Education



Innovation in 2021

- Four teams successfully completed the first **Pillar Centre Innovation Sprint**. Two of the teams chose to progress their ideas and completed an Enterprise Ireland funding application.
- A **Working Differently Group** met to reassess ward rounds with a view to introducing technology and reducing the gathering of teams on wards.
- An **IP [Intellectual Property] Policy** on behalf

of MMUH was drafted and underwent review. This Policy seeks to support an environment where Staff Members, Students, and Visitors become Creators and where inventions and innovations are used in ways that ensure maximum benefit can accrue to the Creators, Institution and society-at-large. This IP Policy also seeks to establish the framework for the translation of the IP arising from activities at the Institution into products, services and processes.

- A **Mater Living Lab Steering Group** was

created with HSE Digital Transformation to establish a Living Lab in the Pillar Centre. With locations across Ireland, Living Labs look to accelerate the co-creation and adoption of digital health solutions in Ireland by providing test beds for new digital technologies through high-impact projects. Initial projects include Point of Care Ultrasound (POCUS) and AI in Radiology.

- The Pillar Centre continued to develop a core group of Innovators, across all staffing areas of the hospital, who are interested in developing innovative products as solutions to the practical problems they face on a daily basis. Director of Innovation Mr Seamus Morris launched the Mater Staff Innovation Survey to assess areas of interest for Mater staff.
- As part of the Innovation programme, the Pillar Centre virtually hosted **Masters and Undergraduate Medical Device Design / Biomedical Engineering** students from DCU, TCD, and UCD. The students were required to develop a medical device as part of their course. Integral to this is attachment to a clinical mentor who will advise them about the clinical problems and needs they face.
- A team of MMUH Innovators committed to mentor a group of medical device design students at the Pillar Centre in Q1 2022. The programme organised by Director of Innovation Seamus Morris comprised 25 engineering and science post graduate students who are undertaking a medical device design course in Trinity College Dublin. Teams would work to develop a novel medical device over the course of the year.
- The Pillar Centre Operations Manager participated in the project team for the selection and implementation of a **Learning Management System, (LMS)** in MMUH, led by the Operations Manager for Organizational Design and Development.

Industry collaborations:

- Heads of Terms were agreed with Medtronic to fund the supply of equipment to support surgical research in the Pillar Centre.

Agreement was in collaboration with Prof Ronan Cahill Professor of Surgery at UCD & MMUH and the Digital Surgery Unit MMUH.

- Funded by the Enterprise Ireland Disruptive Technologies Innovation fund, MMUH partnered with UCD on the Medical Imaging Ireland [Med-I] project entitled "computer model to automate the detection and quantification of carotid artery calcification on the CT". This project was led by Prof Peter McMahon Clinical Director of Radiology.
- The Pillar Centre partnered with Mr Marcus Timlin, Consultant Spinal Surgeon, Prof Joseph Butler, Director of Research at the Pillar Centre and Tekno Surgical on a grant proposal to support spinal research in MMUH for a period of 4 years.
- Consultant Cardiologists Prof Gavin Blake and Prof Ivan Casserly collaborated with Edwards Sciences SA and the Pillar Centre to support the TAVI Fellowship Programme in MMUH with a Fellowship Training Grant Proposal.



The Pillar Centre is developing a core group, across all staffing areas of the hospital, who are interested in developing innovative solutions to the practical problems they face on a daily basis. We can offer you the opportunity for training and mentoring in product development and advice as how to proceed on with further commercial development and funding”.

Prof Seamus Morris, Director of Innovation

- Daiichi Sankyo Ireland funded research with Prof. Fionnuala Ni Áinle, Consultant Haematologist, MMUH.
- Leo Pharma UK contributed to a VTE fellowship with Dr Tomás Breslin.
- Bayer Ltd. funded a VTE Registrar within the Emergency Department with Dr Tomás Breslin, Consultant in Emergency Medicine. Bayer Ltd. also funded a Cardiology Fellow with Dr John Keaney Consultant Cardiologist.

Virtual events:

- The Pillar Centre planned to support a number of upcoming virtual events including a webinar with the Psychology Dept MMUH on long COVID-19 and its impact for staff of the Mater. This webinar was impacted by the cyber-attack on HSE systems. Presentations given by staff and patients of the Mater who have had covid / long covid symptoms, their personal experience and the impacts of long covid would be rescheduled for a later date.
- The **Inaugural IEHG Virtual Grand Rounds** “Simulation for Dummies” was supported by the Pillar Centre. The Pillar Centre will continue to support this event with the next Grand Rounds entitled “From waiting list to double lung and liver transplant within hours – a team sport and a first for Ireland”.
- The Pillar Centre coordinated a virtual study day for the Irish Endocrine Society [IES]. With both National and International speakers, the event had more than 200 attendees registered.
- A **Staff Wellbeing Lecture on Menopause** was conducted by Dr Rita Galimberti.
- The Pillar Centre supported the IEHG Virtual Grand Rounds from the Midlands Regional Hospital, Mullingar.



- The Pillar Centre was shortlisted as a finalist in the category of Educational Meeting of the Year [Webinar] in the Irish healthcare Awards 2021 for hosting the Irish Endocrine Society’s Annual Conference in November 2020.
- **VTE Dublin 2021** was hosted at the Pillar Centre. Organisers Dr Fionnuala Ni Ainle and Dr Tomás Breslin estimated that “over 1.5 million people were reached through participants and through social media [#VTEDub21 hashtag impressions], which will go very far towards raising thrombosis awareness in advance of world thrombosis day.”

- As part of the hospital’s efforts to acknowledge **Mental Awareness Week** the Pillar Centre hosted a series of stress management and mindfulness workshops. This event was a collaboration between the Mater Nursing Team, the Pillar Centre, the Psychology Dept., Occupational Therapy, General Services and was kindly supported by the Mater Foundation.
- A number of Vascular Access Workshops were held by Dr Zeenat Nawoor-Quinn. Workshops focused on hands-on practice using a combination of normal subjects to demonstrate ultrasound examination and vascular anatomy, and simulators to practice ultrasound-guided line insertion.

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PR & MARKETING

CEO update

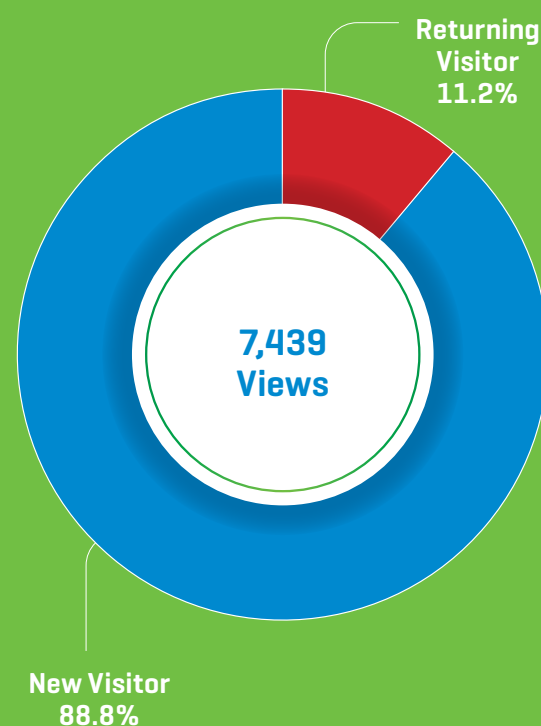
The Pillar Centre appeared in the CEO update 7 times in 2021 as well as the IEHG eZine. The launch of the Pillar Centre Strategy 2020-2023 appeared in the Irish Medical Times. In Q2 2022, The Pillar Centre will launch it's own monthly newsletter, welcoming contributions from all educators, researchers and innovators.



Website

Our website <https://thepillarcentre.ie/> was established in October 2020. Between the 1st January 2021 and the 1st January 2022, 3,082 new users visited the webpage.

The homepage was viewed 7,439 times with 11.2% of visitors, returning visitors.



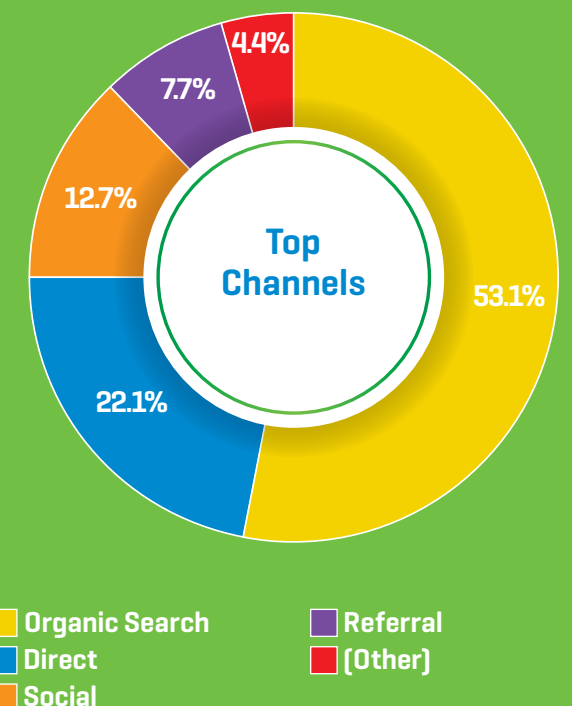
As part of this report we reviewed the analytics behind the website under the headings *Audience*, *Acquisition*, *Behaviour* and *Conversions*.

In terms of the *Audience* we examined aggregate audience metrics like numbers of users, pages they visited in a session, average session duration, and bounce rate. Bounce rate is the percentage of site visits that are single-page sessions, with the visitor leaving without viewing a second page. It is typically used as a measurement of a website's overall engagement. As a rule of thumb, a bounce rate in the range of 26 to 40 percent is excellent. 41 to 55 percent is roughly average. 56 to 70 percent is higher than average, but may not be cause for alarm depending on the website. The bounce rate for the Pillar Centre website was on average 73% so one of the aims for 2022 to investigate how we can increase engagement on the website and keep the audience online for longer.

For *Acquisition*, we looked at the channels which brought users to our site.

- Organic [or unpaid search].
- CPC [“cost per click” or paid search].
- Referral [traffic that comes from another website].
- Social [from a social network].
- Other [a group of low volume traffic sources].

The most successful channel was an organic search i.e. Google. Second to this was direct i.e.



the audience clicked on a link that brought them directly to the website. Links are included in e mail signatures of the Pillar Centre team, CEO updates and IEHG eZines. Social media was third i.e. Twitter and LinkedIn.

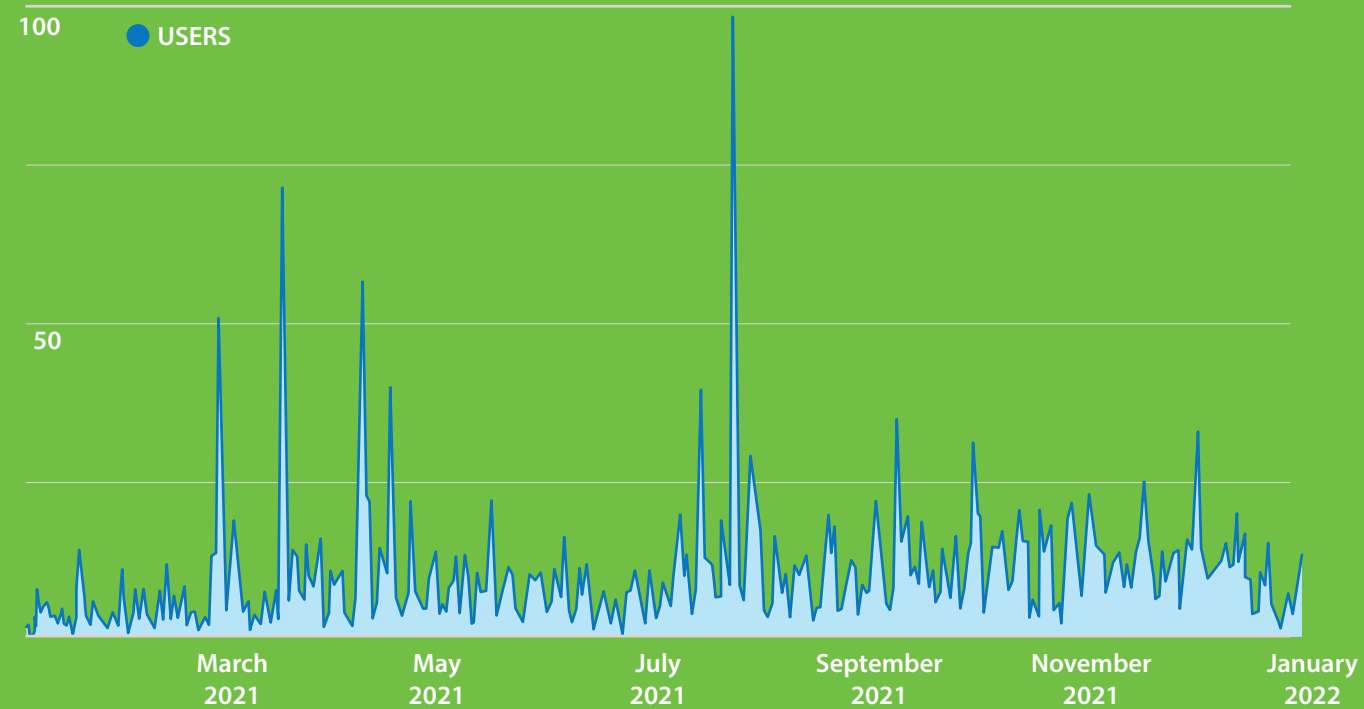
80.58% of our *audience* came from an Irish source with the US accounting for 5.7% and the UK, 4.48%. Other visitors hailed from China, Australia, India, Germany, Canada, Netherlands and Austria.

The *Behaviour* of our users showed spikes in the number of users to the site on the following dates;

- 25th February 2021 – Launch of the Pillar Centre prospectus.
- 15th March – The Directors posts are advertised.
- 7th April – POCUS publication.

- 22nd July – Promotion of the Pillar Centre news feed.

In 2022, conversions will be monitored to assess how people engage with the site, what are the pages they land and leave on. If there is a fee taken, how many clicks convert to a payment. Website goals will be developed based on our business objectives.



Twitter:

The Twitter account is currently populated by RedFlag communications with content gleaned from Mater related sites, national content around healthcare education, research and innovation e.g. funding calls and content supplied by the Pillar Centre team e.g. events that are due to take place.

July 2021 was a particularly good month for Twitter activity.

July 2021

- Tweet impressions: 29.8k
- Profile visits: 2,947
- Mentions: 59
- New followers: 28

- On average, the Twitter page receives between 1,500 and 2,500 unique visits per month. This is a key statistic as it highlights how many people are reviewing the profile to look at events and news at the Pillar Centre.
- Over the past 12 months, the account gained 354 new followers, including:

The official Slaintecare Twitter account

So far for the month of January 2022 the breakdown is as follows:

- 1,810 unique visits
- 18.7k impressions [this is eyeballs on tweets]
- 35 mentions [other accounts tagging @ThePillarDublin]



The Pillar Centre has expanded over the last year with the number of bookings increasing and the headcount of the Pillar Centre team growing. Some key developments to commence in 2022 include;

3.1.1 Establishing a Clinical Research Support Office (CRSO) in MMUH

Clinical Research Support Office (CRSO)

A Clinical Research Support Office (CRSO) supports investigators and clinical research study teams to conduct clinical research. The office aims to reduce administrative burdens, enhance compliance, and help remove barriers to enable efficiency, internal/external collaboration, cost recovery, and growth of clinical trials at site (<https://research.med.uky.edu/research-crso>).

Clinical research activities at academic medical centers are challenging to oversee. Without effective research administration, a continually evolving set of regulatory and institutional

requirements can detract investigator and study team attention away from a focus on scientific gain, study conduct, and patient safety (Snyder et al., 2016).

Many associate an increase in administrative burden with discouraging clinicians from pursuing a career in research, resulting in a shortage that could jeopardize the clinical research enterprise (Schneider et al., 2014). These challenges underscore the need for expert assistance from clinical research administrative support so clinical investigators can focus on science that will lead to improved patient care and health outcomes.

It is anticipated that in establishing a Clinical Research Support Office (CRSO) in MMUH, we will address this burden and offer expert guidance and assistance in conducting clinical research on a hospital site.



Key benefits that will be delivered

The Clinical Research Support Office (CRSO) provides high quality services to assist investigators and study teams in the start-up, execution and completion of clinical research studies. Key benefits include;

- Improving institutional oversight of research activity and funding.
- Creating a more efficient REC system by separating the research ethics function from finance, risk and legal functions.
- Engaging patients and providers throughout the research process to foster the capacity to embed studies in clinical settings without disrupting the provision of quality healthcare.
- Establishing a governance structure that engages patients, providers, researchers, and health system leaders equitably in development and oversight of the network's policies and operations.
- Reducing administrative burdens.
- Enhancing compliance.
- Removing barriers to enable efficiency, internal/external collaboration, cost recovery, and growth of clinical trials at the Mater.
- Offering support for the electronic clinical trial management system (ERMS), billing integrity as well as finance and regulatory assistance.
- Implementing clinical research finance (budgeting support, central charge review, post award management).
- Supporting Study start up (contracts and budget development).
- Training and communication (training, newsletters, lectures).
- Offering outreach and mentorship (mentoring clinical research activities, grant review) as well as Quality assurance support (e.g. SOP development).
- Providing study conduct support (education and training, liaison with IRB).



3.1.2 Establishing a high fidelity Clinical Simulation Facility (CSF) in MMUH

The Mater Hospital is a large Model 4 University teaching hospital and represents one of the largest clinical campuses in the State with over 3,900 healthcare workers employed directly on campus and by September 2022 will have over 700 beds on site. Medical simulation technology and Simulation-Based Education (SBE), while still undergoing rapid development in the Irish healthcare setting, is an established and reliable tool used in many international healthcare settings to educate healthcare professionals in the skills and knowledge needed for contemporary, safe patient care. It functions to provide an intermediate step between didactic instruction and a learner's index exposure to live complex patient care. Medical simulation technology accurately recreates real-time events, allowing learners to effectively train and operate in virtually any setting or environment.

Because simulation places emphasis on aural, visual and kinaesthetic senses, learners react as they would during an actual scenario without the costly learning curves associated with performing similar training tasks with real patients. Put simply, simulation provides realistic practice with total safety since no human models are required. Research indicates simulation training solutions foster leadership and decision-making skills, enabling users to learn more at a much faster rate than traditional methods.

Medical simulation also allows healthcare institutions to identify emergency medicine culture and prioritise strategic institutional training and education objectives.



Medical simulation is particularly useful in that it allows the following:

- Safe practice of high-risk low frequency skills.
- Participants can make mistakes without compromising patient safety.
- Repetition, pattern recognition, and faster decision making in complex medical scenarios
- Facilitates the development of desirable team dynamics and arrests dangerous team traits.
- Facilitates the targeting and introduction of new procedures, clinical protocols and skills that align with the institutional operational and strategic objectives.

In the context and environment of the COVID-19 emergency pandemic, utilising tools such as medical simulation allows for safe ongoing postgraduate training that can continue despite zones of the hospital that may become less accessible for traditional teaching approaches

Medical care is improved, and patient safety is ultimately increased with more competent healthcare providers and teams. Healthcare providers experience less stress and anxiety with increased knowledge and skills. It also adds governance and rigor to the credentialing and precepting process.

It is anticipated that in establishing a high fidelity Clinical Simulation Facility [CSF] in the Mater Hospital, we will progress the institution's operational and strategic capability to deliver

Simulation Based Educational activities in the Mater Hospital.

Key benefits that will be delivered by the Clinical Simulation Facility [CSF] and Clinical Simulation Support Office [CSSO]

The Clinical Simulation Facility and Clinical Simulation Support Office [CSSO] provides high quality services to support simulation activities within the Mater Hospital. This applies to undergraduate, postgraduate educators and teams involved in the start-up, execution and an on-going improvement of clinical educational activities that are delivered through Simulation Based Education.

- Improving institutional Clinical Simulation Activities.
- Creating a more efficient simulation process by acting as the central repository for planning, support, scenarios, technical equipment and faculty.
- Engaging educators and learners throughout the simulation process to foster the continuous improvement in teaching and improving provision of quality healthcare.
- Establishing a governance structure around simulation activity.
- Reducing administrative burdens around simulation activity.
- Enhancing compliance and progressing towards accreditation of the Mater Clinical Simulation Facility.
- Removing barriers to enable efficiency, internal/ external collaboration, cost recovery, and growth of Clinical Simulation Activity at the Mater.
- Providing PR and communication activity [training, newsletters, lectures].
- Offering outreach and mentorship.

3.1.3 Establishing a Medtech Accelerator Hub in MMUH

The Pillar Centre has committed to funding a Medtech Accelerator Hub at the Mater in 2022. Given the growing innovation programme at the Pillar Centre, a Med Tech Accelerator Hub will ensure the continued growth of the innovation programme. This site will act as a hub for 'spin in companies' and innovators to work together on innovation projects.

4.1 Testimonials:

The Pillar Centre team have enjoyed hosting many conference and training events during 2021, enhancing its capabilities to cater for Live, Hybrid and Virtual events.

Below are some of the comments received from organisers and participants;

Prof. Fionnuala Ní Áinle, Consultant Haematologist, MMUH and Rotunda Hospital, Dublin. Director, Irish Network for VTE Research (INVITE). Co-Director, UCD Conway Institute SPHERE Research Group.

"Thank you very much indeed for hosting VTE Dublin in the Pillar". "The meeting was an overwhelming success- We reached over 1.5 million people through our participants and through social media [#VTEDub21 hashtag impressions], which will go very far towards raising thrombosis awareness in advance of world thrombosis day this week. We have already been overwhelmed with positive feedback, and enjoyed very much being right there in the Mater! It was a genuine pleasure to work with." the Pillar Centre.

Dr Zeenat Nawoor-Quinn, Consultant Anaesthesiologist, MMUH

"The Department of Anaesthesiology launched two simulation-based courses in the Pillar Centre in 2021. The first was a cross-speciality bootcamp in collaboration with the Department of Emergency Medicine that included trainees and nurses from both disciplines while the second was a vascular access course for Anaesthesiology trainees. We owe the huge success of both courses to the wonderful team in the Pillar Centre. The rooms are designed to take every detail into consideration, from set up to lighting, ventilation, projectors, sound system and catering, just to name a few. Paula and Erin went above and beyond to help ensure the day ran smoothly while their friendly smile always made us feel welcome in the newly renovated state-of-the-art facility. We look forward to more ventures together this year and beyond."

UCD Surgical Society

"The Pillar Centre was a perfect venue for our medical student skills workshops. The space came equipped with the beds, tables, chairs and AV equipment we needed for teaching. The staff were very accommodating and ensured a safe environment for our educational sessions."

Dr Georgi Valchev Consultant in Anaesthesia, MMUH and a council member of the Irish Society of Regional Anaesthesia

"I have also been involved in some events as a faculty and I have already organised RA course in there, so without doubt The Pillar centre is the best venue in Ireland."

4.2 The Pillar Centre - Structure & Governance

Governance & Manpower:

- Professor Brendan Kinsley is the Clinical Director of the Pillar Centre for Transformative Healthcare and DERI (Directorate for Education, Research and Innovation).
- Erin Daly is the Operations Manager of the Pillar Centre for Transformative Healthcare and DERI (Directorate for Education, Research and Innovation). Appointed January 2020.
- Paula Oragano is the Administrator for the Pillar Centre [0.5WTE].
- Prof Joseph Duggan, Consultant Physician and Geriatrician (Director of Education), Prof Seamus Morris, Consultant Orthopaedic Surgeon (Director of Innovation) and Prof Joseph Butler, Consultant Orthopaedic Surgeon (Director of Research) were appointed in late 2021.
- Michelle O Meara was welcomed as the new Company Administrator for ERIL T/A the Pillar Centre for Transformative Healthcare in September. Prior to this Kay Cully provided administrative support.

- The DERI Directorate and is governed by the DERI Directorate Committee outlined in Fig 1 below. This Committee is chaired by Alan Sharp CEO MMUH.
- Eccles Research Innovation Limited (ERIL) T/A the Pillar Centre for Transformative Healthcare is a private sub company of the MMUH and employs 19 people on fixed term contracts (as of December 2021). ERILs main role is to facilitate the employment of skilled individuals on fixed term contracts in education, research and innovation from private sector funding sources. The ERIL Board meet Monthly. Board members listed in Fig 2. The Board membership is due to be reviewed in 2022.

1.3 The Pillar Centre Finance

While the DERI Directorate forms part of the Hospital Directorate structure, ERIL T/A the Pillar Centre for Transformative Healthcare is a standalone self-funding business unit. Both entities allow for the acceptance of public and private funding respectively, for the purposes of supporting education, research and innovation in MMUH.

Fig 1 – The DERI Directorate Committee members

Alan Sharp	CEO, MMUH
Prof Brendan Kinsley	Clinical Director the Pillar Centre for Transformative Healthcare & DERI
Mary Raftery	Director of Nursing , MMUH
Brid Cosgrove	Director of Finance, MMUH
Tara Loughheed	Director of HR, MMUH
Prof Jim Egan	Executive Clinical Director, MMUH
Una Cunningham	Chair of Health and Social Care Professions Directorate, Health & Social Care Directorate, Transformation Office

Fig 2 – ERIL Board Members

Paul Burke	Director of Organisational Design & Development, MMUH
Alan Sharp	CEO, MMUH
Prof Brendan Kinsley	Clinical Director the Pillar Centre for Transformative Healthcare & DERI
David McDonnell	Financial Accountant, Finance Dept. MMUH
Anna Broderick	Company Secretary



FACULTY



Prof Brendan Kinsley

Clinical Director
The Pillar Centre for
Transformative Healthcare
& DERI



Erin Daly

Operations Manager
The Pillar Centre for
Transformative Healthcare &
DERI



Prof Joseph Duggan

Director of Education
The Pillar Centre for
Transformative Healthcare



Prof Joseph Butler

Director of Research
The Pillar Centre for
Transformative Healthcare



Prof Seamus Morris

Director of Innovation
The Pillar Centre for
Transformative Healthcare



Dr Hannah Smyth

Chief Resident in Quality, Patient
Safety & Education [CRQPSE]
The Pillar Centre for
Transformative Healthcare



Dr Cian McDermott

POCUS Lead
Consultant in Emergency
Medicine



Dr Tomás Breslin

POCUS Lead, NDTP Lead &
Consultant in Emergency
Medicine



Dr Una Cunningham

Head of Transformation
Executive Lead, Strategic
Projects



Mr Ger O Connor

National Lead for Simulation
Training in Emergency
Medicine and Consultant
Emergency Medicine, MMUH



Caoimhe Fitzsimons

Nurse Lead,
Simulation, MMUH



Prof Peter Doran

Vice Principal, Research,
Innovation & Impact,
UCD College of Health &
Agricultural Science
Associate Dean,
Research, Innovation &
Impact, UCD School of
Medicine
Director, UCD Clinical
Research Centre



Dr Caitriona Heffernan

HSE Spark Innovation
Lead & Innovation
Programme Lead

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