

# Trinity St James's Cancer Institute

ANNUAL REPORT 2021





**OECl**  
**RPMN 0473647634**

**Certificate of Accreditation and Designation**

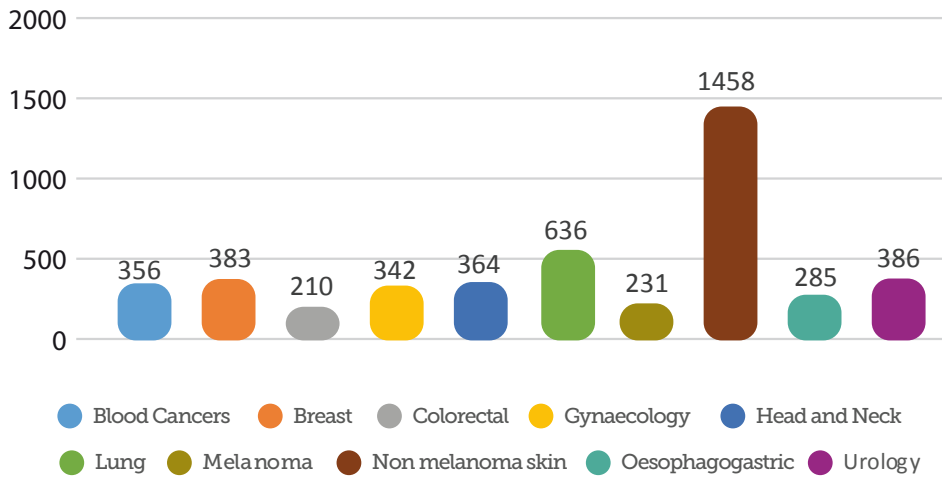
OECl  
Hereby certifies that the  
Trinity St James's Cancer Institute  
Dublin, Ireland  
Meets the quality standards for  
Cancer care and research and it is  
therefore, designated as  
OECl

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# Patients



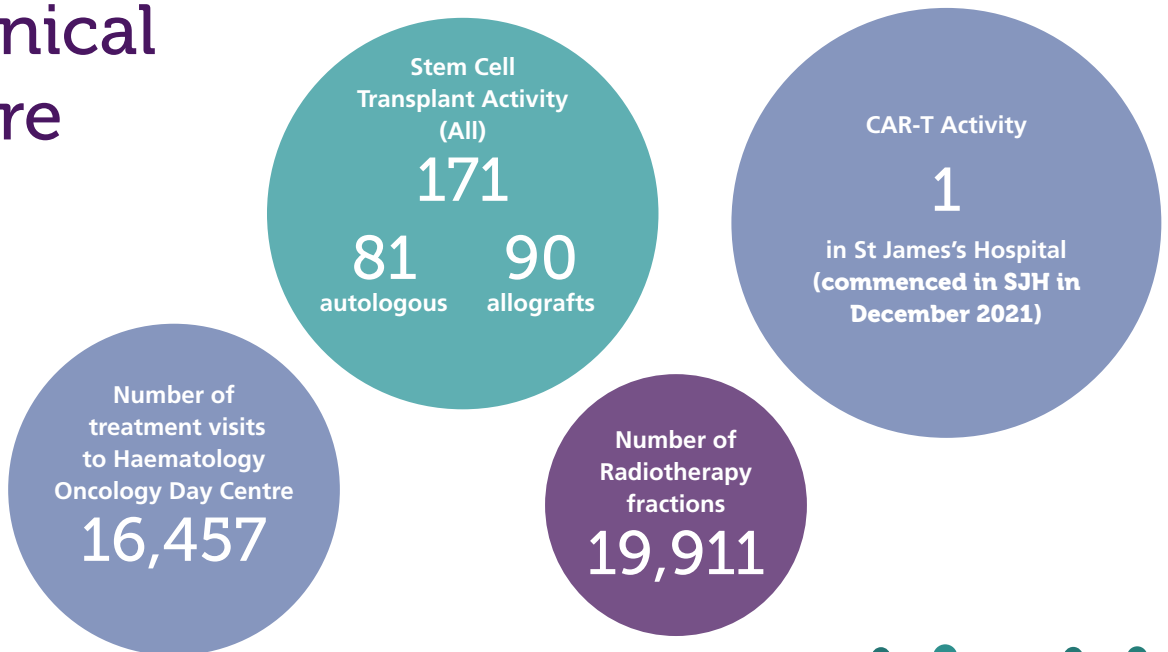
**4,651**  
Newly diagnosed and/or treated 2021

# People

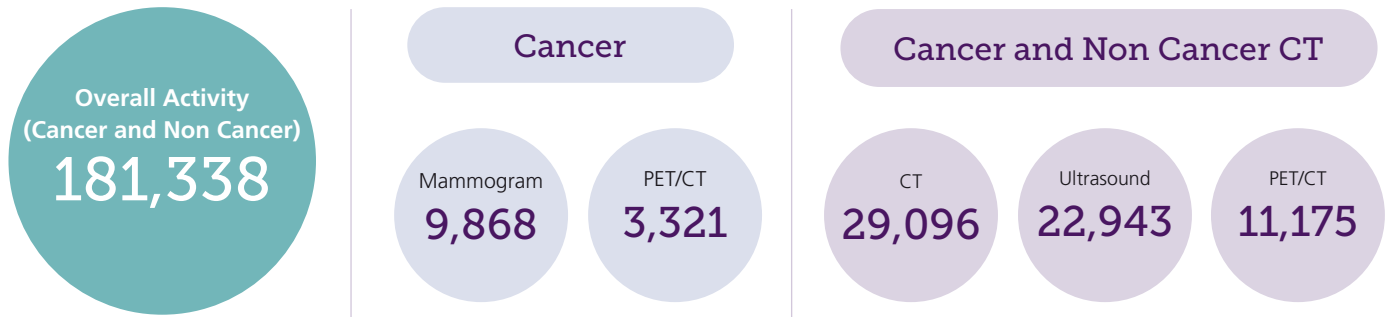
People  
**584**

\*\* While we endeavor to capture all numbers of those working in cancer please note that all figures are subject to revision.

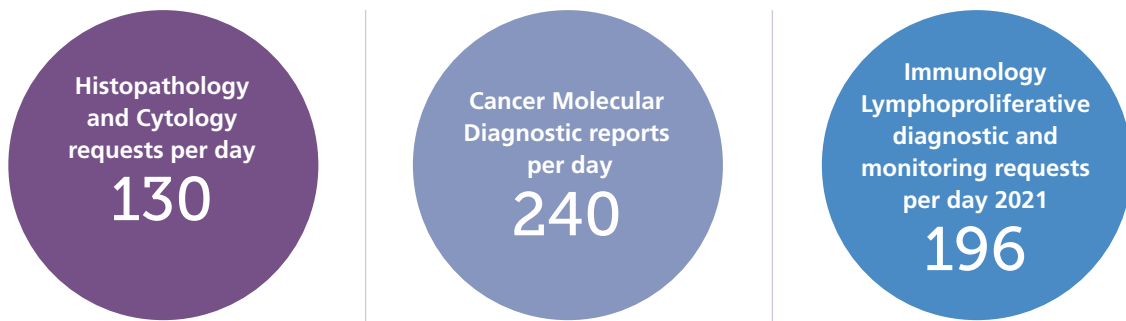
# Clinical Care



# Radiology



# Histopathology, Cytology, Cancer Molecular Diagnostics, Immunology

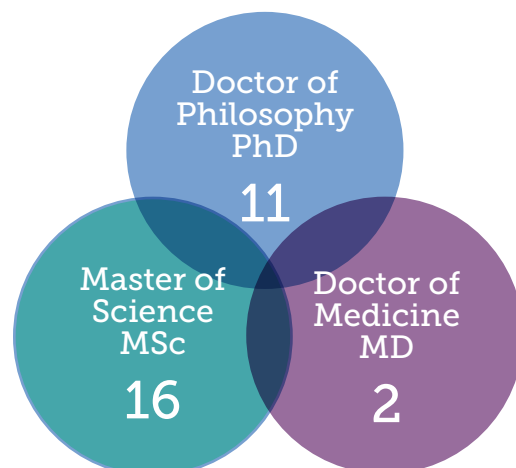


*(Immunology 587 Newly diagnosed patients versus 4,808 treated patients)*

# Research



# Education



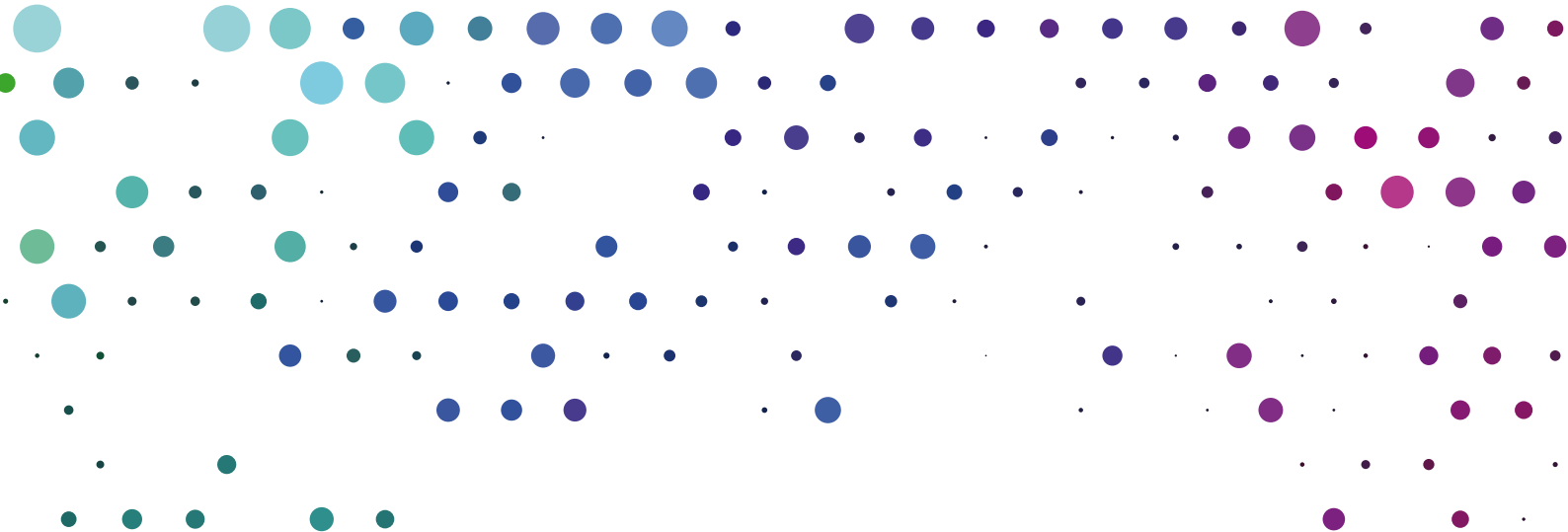
# Directors' Introduction



It is our pleasure to introduce the 2021 annual report of the Trinity St James Cancer Institute (TSJCI). It has been a busy and productive year for this collaboration between Trinity College Dublin (TCD), St James's Hospital (SJH) and St Luke's Radiation Oncology Network (SLRON) with progress and achievements on many fronts. This report summarises key developments in the work of TSJCI as we seek to advance and support our mission of improving therapy for patients with cancer through clinical care, teaching, research and clinical trials.

The organisational structure of the institute was placed on a solid footing by the signing of a Memorandum of Understanding in 2021 between TCD and SJH. This established a joint Governance Committee for TSJCI led by an independent chair, as well as an Executive Committee, two directors (Academic and Medical) and an External Advisory Board. These structures are now in place and we have been fortunate that Mr. Dermot Mc Carthy, former Secretary General to the Government and to the Department of the Taoiseach has accepted the position of Chairman of the Governance Board of TSJCI. In addition, a diverse and accomplished External Advisory Board has been constituted with a plan for initial meetings to take place in 2022.

This report outlines significant developments in a variety of areas. Our clinical services continue to expand in scope, intensity and volume both in St James's Hospital and in the St Luke's Radiation Oncology Network. Having been designated the national center for CAR-T therapy, and after much preparatory work by Dr Larry Bacon and his team, the first patient received this treatment in SJH at the end of 2021. Already research studies in this promising and revolutionary modality are being undertaken jointly between staff at SJH and TCD and in-patient facilities for providing treatment are being expanded. As outlined in this report we continue to develop structures to improve clinical care in a host of areas. These include the appointment of more advanced practice nurses, the initiation in 2021 of electronic chemotherapy prescribing and monitoring through the implementation of the National Cancer Information System (NCIS) in collaboration with the NCCP, the expansion of the SABR radiation programme, and extensive ongoing work in collaboration with IMS in utilising our electronic systems to record, monitor, interrogate and report our clinical outcomes. Finally, a highlight of our efforts to improve care has been the commencement of the Volunteer programme in the Haematology Oncology Day Unit providing support and comfort to patients and staff alike.



Critical to all we do is the recruitment and retention of top class staff. As outlined in the report we continue to expand our educational offerings, ranging from the establishment of the first national course in Fundamentals of Cancer Surgery to novel bursaries in Translational Cancer medicine. Fundraising in collaboration with Trinity Development and Alumni is focused also on recruitment and retention of staff of the highest quality. In conjunction with Trinity Development and Alumni (TDA) we anticipate being able to fund protected time for young investigators to pursue their research interests commencing in 2022.

Professor Lorraine O'Driscoll was appointed research lead in 2021 and is supporting her colleagues in developing our four research themes. Some of the achievements of these groups are outlined in this report. Key to advancing our research agenda will be the appointment of several chairs in various cancer disciplines in the next 18 months. Plans for a number of these appointments have been advanced in 2021 in conjunction with the School of Medicine in TCD.

As the first OEIC (Organisation of European Cancer Institutes) accredited cancer center in Ireland we will be seeking recertification in 2024. We hope that the programme of continuous improvement in patient care, research, education and clinical trial activity outlined in this report will form the basis for successful re-accreditation, this time at the level of Comprehensive Cancer Center. This is the goal of the colleagues from a multiplicity of disciplines and services whose work is outlined in this report.

**Prof. John Kennedy**  
Medical Director

Trinity St James's Cancer Institute

**Prof. Maeve Lowery**  
Academic Director

Trinity St James's Cancer Institute

# Trinity St James's Cancer Institute Governance Structure

The TSJCI Programme Office provides the support and oversight for TSJCI's multiple streams of work, building on the recommendations and quality improvement plan following the Organisation of European Cancer Institutes (OECI) Cancer Centre accreditation and designation award in 2019. These prioritised work streams are helping us prepare for re accreditation in 2024 with the aim of achieving Comprehensive Cancer Centre designation.

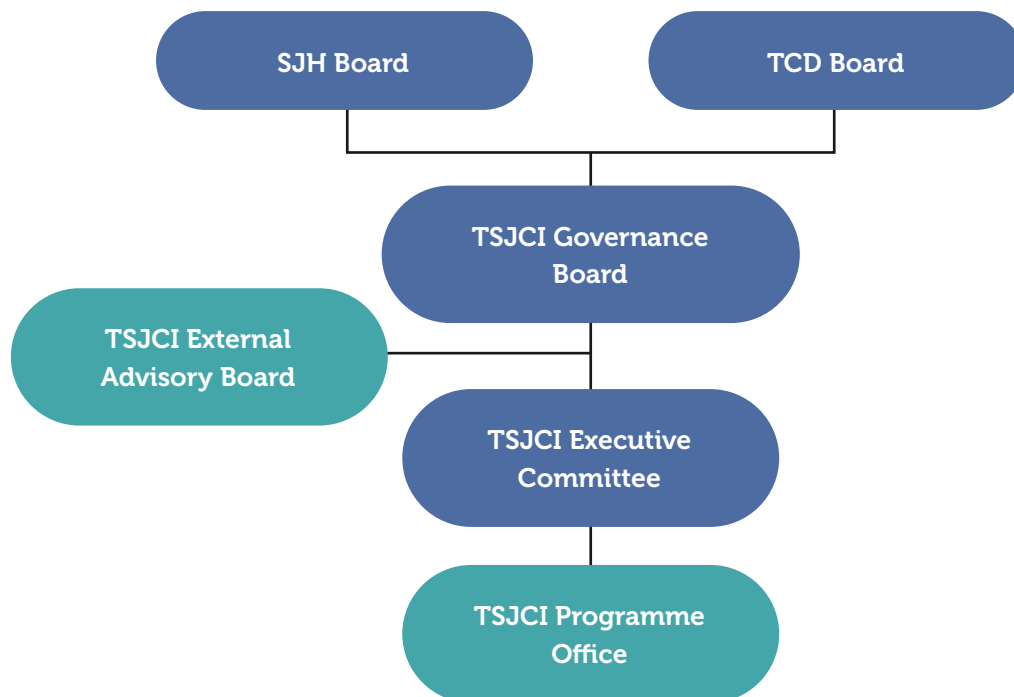
The appointment of the Medical and Academic Directors and the signing of the Memorandum of Understanding (MOU) with TCD and SJH in June 2021, were significant milestones for TSJCI, bringing us a step closer to realising our ambition.

The TSJCI Executive Committee, under the leadership of the joint directors held its first meeting in July 2021. The committee has a broad membership with representation from all relevant TSJCI stakeholders.

The TSJCI Governance Board was also appointed in 2021 with the first meeting scheduled for January 2022, and will be chaired by an external chairperson, Mr. Dermot McCarthy.

The TSJCI External Advisory Board (EAB) membership was agreed in 2021, and will meet virtually initially in 2022, and in person at the 12<sup>th</sup> International Cancer Conference in October 2022. The EAB has excellent representation from leaders in their fields providing scientific, medical, educational, managerial, nursing and patient representation.

**Figure 1: TSJCI Governance Structure**





# Section 1.0 Clinical Care

## Section 1.1 Adolescent and Young Adult Cancers Programme (AYA)

AYA cancers are a distinct group, and tend to represent a mix of typically paediatric and adult cancers. The most common cancer in AYA patients are leukaemias, lymphomas, and central nervous system tumours. They are known to be biologically different to children's and older adult cancers, but this still isn't fully understood. This might be because we have poor clinical trial rates for this age group, globally and so there is still much to understand. Cancer as an AYA is very unlikely – only about 200 cases in those aged 16-24 years every year in Ireland. Survival rates are improving but we need to focus more on finding best treatments, predicting cancer in this age group and providing tailored services in the acute setting as well as in survivorship and in palliative and end of life care. AYA cancer is very rare, but unfortunately it does happen. There are many challenges that come with a cancer diagnosis in adolescence and young adulthood. Remembering the young person first, is vital to providing appropriate support. AYA patients are strong, intelligent and have their own voice. We need to partner with AYA's and their families to make their priorities ours too.

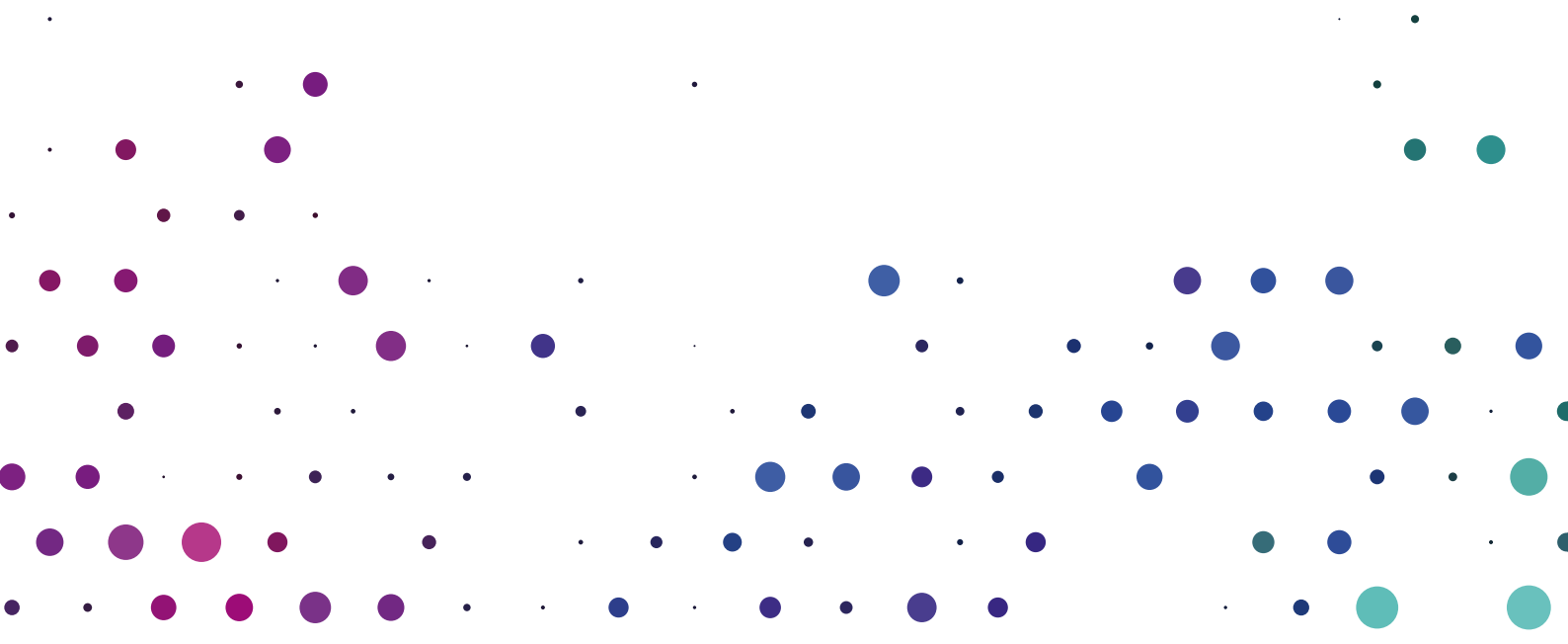
### 1.1.1 Key Priorities for the Adolescent and Young Adult Cancers Programme for 2022

- The designation of adult cancer centres associated with the national AYA cancer network. St James's Hospital is delighted to be part of this national network, alongside University Hospital Galway, Cork University Hospital and Children's Health Ireland at Our Lady's Hospital in Crumlin.
- In 2022 we will continue to work on developing the service, holding MDT clinics, opening of AYA beds and designing in conjunction with AYA patients. This is due to open in Q2, 2022. The team in TSJCI and the Academic Health Science Director in collaboration with HOPE directorate leads and AYA consultant Dr Scheryll Alken have partnered with the local Guinness Enterprise Centre to launch a new clinic for AYA patients. This will commence on 29<sup>th</sup> June 2022 and will be a young person focused and inter-professional clinic.

## Section 1.2 Cancer Genetics

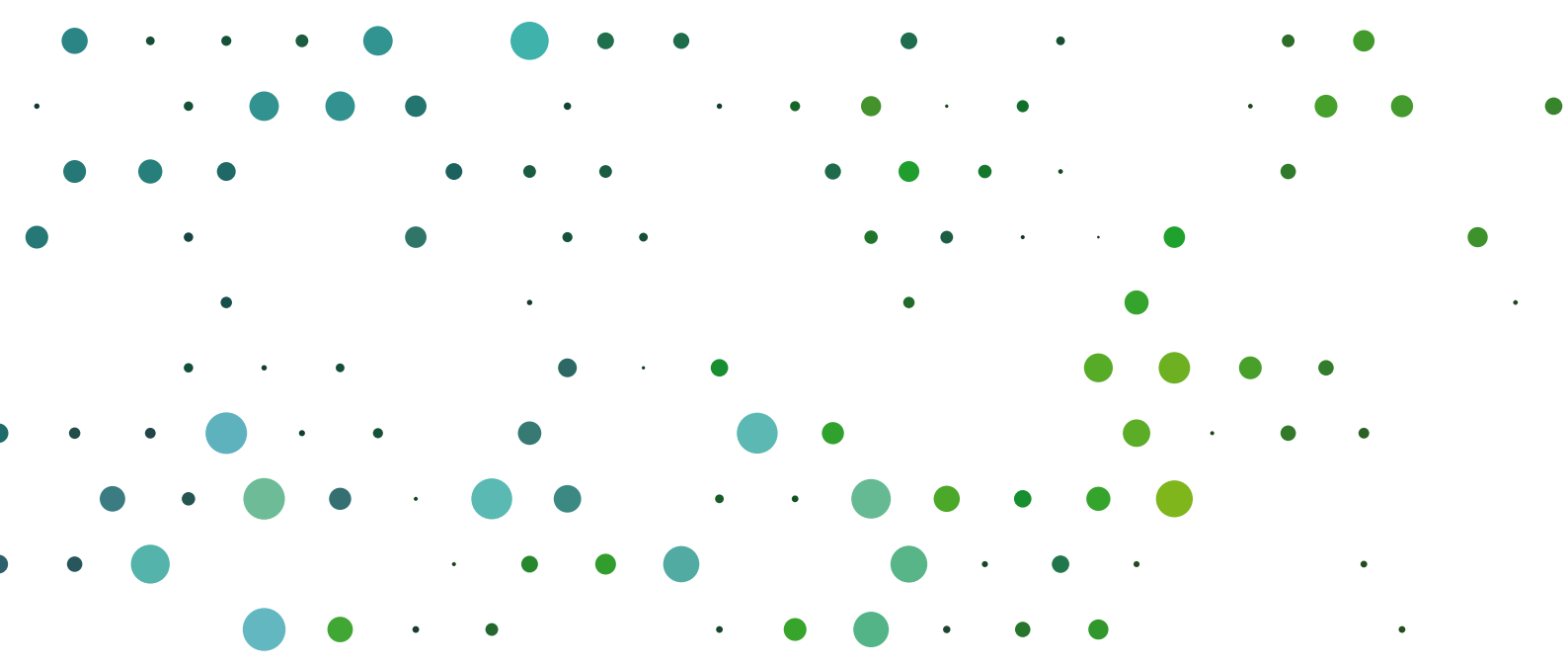
### 1.2.1 Key Developments during 2021

- Patient demand for cancer genetics continues to rise in 2021. The growing waiting list remains a critical challenge for the cancer genetics service.
- Recruitment campaigns for Genetic Counsellors and supporting roles ongoing
- With support from the NCCP, Dr Rosie O Shea was appointed Principal Genetic Counsellor (start date in early 2022). This is the first Principal Genetic Counsellor position at St James's Hospital, a pivotal role for service development
- Aoife Ruane, Cancer Genetics Data Manager joined the team in November 2021
- The cancer genetics service continued to adapt and develop its remote service model, providing patients with the option of virtual clinic appointments, in conjunction with genetic test kit delivery to their own home. This remote service model enabled telehealth clinics to continue and helped reduce hospital footfall and close contacts during challenging waves of high COVID infection levels and Government COVID restrictions
- The implementation of Progeny software was a key priority for service development. Progeny is a cancer risk modelling and pedigree software that will improve quality and safety, patient pathway tracking, data collection and workflow. In collaboration with IMS, integration of the Progeny software with existing hospital systems progressed in preparation for a go-live date in 2022.



## 1.2.2 Key Priorities for 2022

- To expand the Cancer Genetics team, increase capacity and reduce the routine wait time for patients.
- Initiatives to reduce the waiting list with National Treatment Purchase Fund (NTPF) support.
- Strategic development of the National Service Model for Adult Cancer Genetics
- Implementation of Progeny software to improve quality and safety, advance digital workflow, improve data capture and service analysis insights
- Continue to develop the remote service model, facilitating virtual appointments via phone or secure video link
- Continue to develop and improve LEAN digital workflow, EPR referral and triage processes and patient record documentation
- Commence a public tender for cancer genetic testing vendors to facilitate a remote service model with acceptable turn-around-time for results
- To replace the G2 system with Tpro digital dictation system and improve patient and referral source communication
- To recruit a Genomic Associate, a new role in line with international cancer genetics team structures, to develop the family history risk assessment triage pathway and help reduce the waiting list
- To resume the annual MSc Genetic and Genomic Counselling student placement from Cardiff University (postponed by the university due to COVID restrictions)
- To develop internal and external research collaborations
- To work with the Department of Health and HSE to formally recognise the Genetic Counselling profession as its own HSE Grade and consolidated incremental pay scales



## Section 1.3 Dermatology/Plastic Surgery/Dermatopathology – Skin Cancers

### 1.3.1 Key Developments during 2021

#### Dermview Collaboration

- In 2021, Dermatology commenced a National Treatment Purchase Fund (NTPF) funded collaboration with a Teledermatology Company, Dermview, to triage the four thousand patients awaiting appointments. This allowed for more efficient and effective management of patient care pathways. As of date of writing, all patients waiting over 18 months have been imaged, triaged and directed to appropriate management pathways.

#### Mohs Micrographic Surgery

- The Mohs micrographic surgery service continued to expand. There are now three full time consultants and an International Dermatology Fellow.
- As with all cancer specialities in St James, the role of medical scientists in allowing the Hospital to achieve excellence in cancer care, is under threat due to larger problems with training, recruitment and retention.

#### Dermatopathology

- The appointment of a Histopathologist with an interest in skin cancer has greatly facilitated the development of the skin cancer services. "Double look" is standard practice for all malignant melanomas. The reputation of the Dermatopathology Department continues to grow nationally and internationally with increasing tertiary referrals for opinions on rarer and difficult skin cancers.

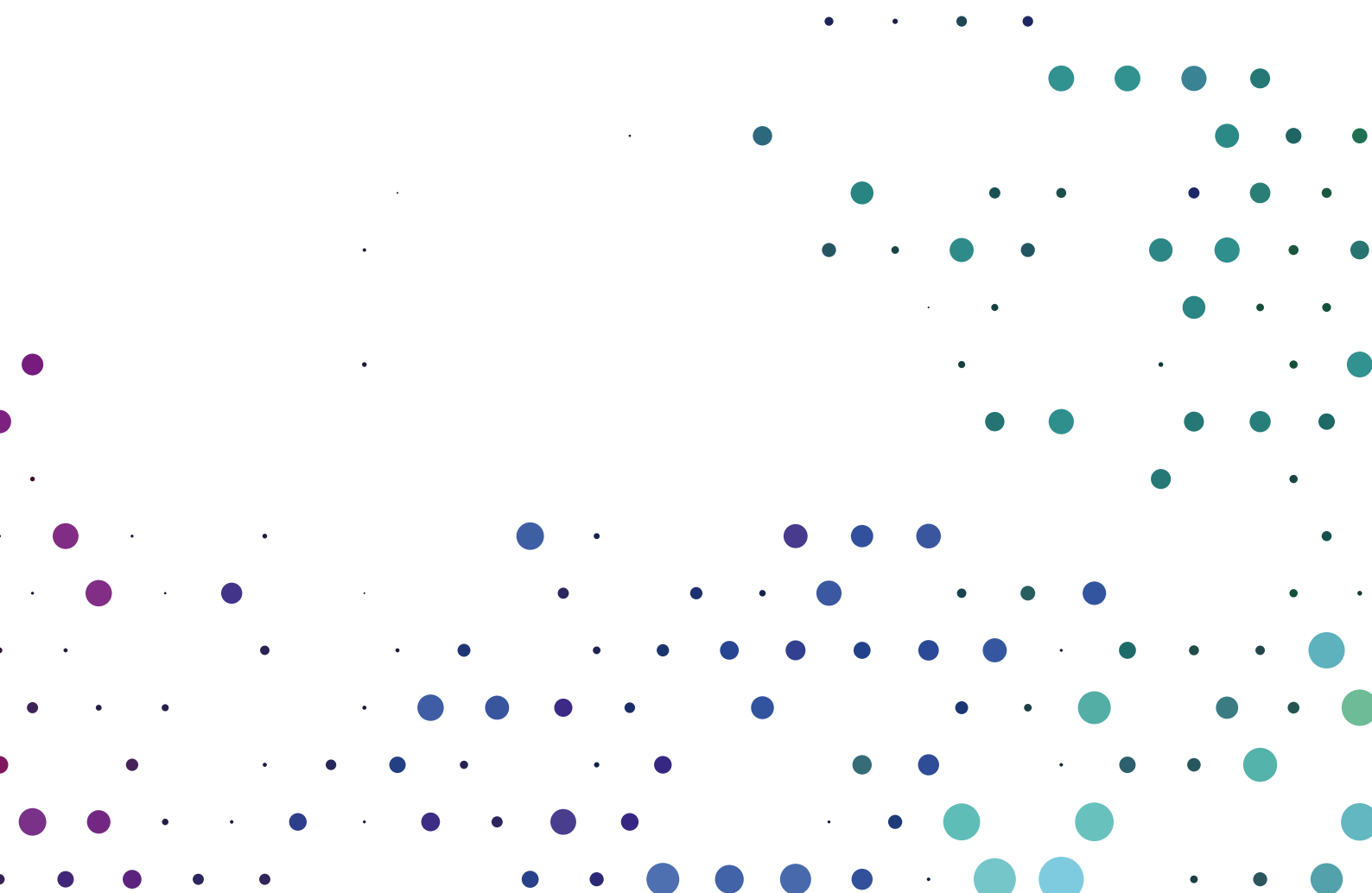
#### Electronic Melanoma Diagnostic and Surveillance Tracing

- The development of dedicated melanoma diagnosis and surveillance forms on the Electronic Patient Record (EPR) is ongoing and is scheduled for delivery mid-2022. The Melanoma CNS Leonie Mahon and the Information Management Systems (IMS) department are to be congratulated on many hours of work developing this. It will help ensure patient safety, accurate data for Key Performance Indicators (KPI) and service planning.

#### Adjuvant Therapy for Melanoma

- The use of adjuvant therapy in higher risk melanoma will change the role of Medical Oncologists with increasing numbers of patients attending for adjuvant therapy. The demand on this area of the Melanoma service will continue to grow.

### 1.3.2 Key Priorities for 2022

- Dermview Collaboration: Ensure no patient is waiting more than one year to be seen, and to continue to reduce the waiting time further over the subsequent year. Analysis of data with regard to improved patient outcomes and patient satisfaction, and report to Hospital Board.
  - Mohs Micrographic Surgery: The first Irish Mohs fellowship, a two year Mohs micrographic surgery Fellowship is scheduled to commence mid-2022.
  - The Mohs service must solidify its Laboratory medical scientist support in 2022, particularly given the recruitment crisis in Histology and the adverse effect this could have on service provision for our patients.
  - OPD Development: Begin the process of developing and sourcing much needed facilities to enable increased outpatient and day surgery.
- 

## Section 1.4 Endocrinology – Thyroid Cancers

### Introduction

In 2005, the Endocrinology Service in St James's Hospital commenced managing patients with differentiated thyroid cancer >1cm. Since then the service has increased fourfold to over 1,000 patients.

#### 1.4.1 Key Developments during 2021

- In 2021, 74 new patients joined the existing cohort, all of whom require lifelong follow up due to the well documented risk of late recurrence.
- The Endocrinology Service also provides clinical support to the Bone Marrow Transplant Unit, for post-transplant patients who require life-long follow up in the survivorship clinic.

#### Radio-iodine Treatment

- The Endocrinology Service manages radio-iodine treatment, which is reserved for high risk and selected intermediate risk thyroid cancer patients. Forty patients were admitted to the iodine suite for this treatment following MDT review in 2021.
- The surveillance programme is a three-day assessment, offered to all patients who received radio-iodine with formal year one surveillance. 38 patients availed of this assessment in 2021 with the Endocrinology Service.
- The application of dosimetry to radio-iodine delivery for thyroid cancer management was studied with 17 patients recruited to this PhD study and will have important clinical applications on publication.

#### 1.4.2 Key Priorities for 2022

- 2022 will bring challenges to the Endocrinology Service as patient numbers grow, and complexity of referrals continuing to increase.
- The Endocrinology Service will continue to strive to provide an excellent service by seeking support with a dedicated thyroid oncology nurse and a data manager.

## Section 1.5 Haematology Service

### 1.5.1 Chimeric Antigen Receptor T Cell Therapy (CAR-T)

CAR-T cell therapy is a class of immunotherapy for refractory haematological malignancies, it involves the manipulation a patient's own T cells to express engineered CAR-T to target specific cancer cells.

The first patient in Ireland to receive CAR-T therapy occurred in St James's Hospital in December 2021. The patient's T cells were collected by apheresis and sent for manufacture to a lab in France. The patient was admitted to Denis Burkitt Unit and received the CAR-T cells on 13 December 2021. Twenty-two Irish patients received CAR-T therapy in the UK during 2021, while waiting for this treatment to be approved in Ireland.

### 1.5.2 Key Developments during 2021

- Appointment of Dr Larry Bacon as Lead Consultant National CAR-T cell programme.
- Elizabeth Higgins appointed CAR-T Cell Coordinator
- Dr Eibhlin Conneally was appointed as Joint National Clinical Lead for Haemato-oncology.
- Dr Catherine Flynn appointed as Stem Cell Transplant Programme Lead.
- Introduction of National CAR-T cell programme with the first patient treated on Denis Burkitt ward in December 2021. This was a very significant milestone for the National stem cell transplant service.
- Commencement of capital works to expand Denis Burkitt ward, with four of the seven new beds planned and designed for Adolescent Young Adult (AYA) service users.
- On-going preparations for Joint Accreditation Committee of the International Society for Cellular Therapy and the European Group for Blood and Marrow Transplantation (JACIE) interim audit in 2022.

### 1.5.3 Key Priorities for 2022

- To open seven new beds on Denis Burkitt ward, improving access for all patients and also providing a unique environment for AYA patients in specially designed four-bed AYA unit.
- To achieve positive results from JACIE interim audit 2022.
- On-going development of the National Adult CAR-T programme.
- The appointment of the first ANP in the transplant service.

## Section 1.6 Histopathology, Cytology, Cancer Molecular Diagnostics, Immunology

### 1.6.1 Key Developments during 2021

#### Cancer Molecular Diagnostics (CMD) Department

- In 2021 the CMD department continued to increase laboratory throughput to match the growing needs of the haematology and oncology services.
- The service expanded to introduce a gene panel for the diagnosis and management of myeloid malignancy.
- Changing patterns in diagnostics were also a feature of 2021 as cancer management continues to evolve and become increasingly defined by molecular diagnostics.

#### Cryobiology Department

- In 2021, the Cryobiology Laboratory Stem Cell facility, as part of the National Adult CAR-T programme, received authorisation for the collection and cryopreservation of stem cells for manufacture and the acceptance, storage and infusion of the genetically modified CAR-T product (Kymriah) from Novartis.
- A change to the HPRA authorisation was completed and Irish Aviation Authority (IAA) authorised Known Consignor procedures were put into effect, for CAR-T starting product shipment.
- The first CAR-T patient in Ireland had cells collected, processed by the laboratory in November and had the first CAR-T product received, stored and infused in December 2021.
- Three patients had cells for CAR-T manufacture processed in 2021 and a full validation of the CAR-T process was undertaken.
- A new Cellular Therapy Research group was established (chaired by Nicola Gardiner) in 2021 comprising of SJH Medical scientists and clinicians, with IBTS staff and Trinity College (TTMI) scientists to develop a common interest group in establishing research projects.
- A PhD research project, seed funded by an IBTS research agreement, based on detailed laboratory monitoring of patients in the early post stem cell transplant and post CAR-T treatment was approved by the SJH Tallaght Research Ethics committee and a medical scientist enrolled with TCD.
- A concurrent MD project has been established and combined Bio banking of consenting patient samples started in 2021 and is ongoing.
- A research agreement was signed with Avectas a commercial company, who funded a preliminary study on CAR-T manufacturing and a final year medical scientist student and an MSc project was performed.



### 1.6.1 Key Developments during 2021

#### Histopathology department (including Cytology)

- In 2021, the histopathology laboratory continued to support cancer services through all aspects of its work but in particular, worked towards the development of our companion diagnostic testing services in Immunohistochemistry.
- Further to this work, additional probes were introduced to aid in more accurate prognosis for patients, nationally, with Diffuse Large B Cell Lymphoma.

### 1.6.2 Key Priorities for 2022

#### Cancer Molecular Diagnostics (CMD) laboratory

In 2022, the CMD laboratory will continue to expand the test repertoire with a focus on moving towards comprehensive genome profiling; a technique that allows the analysis of genomic variants in hundreds of genes simultaneously. This approach will allow for more optimised treatment selection and a broader range of clinical trials.

#### Immunology department

The Department of Clinical and Diagnostic Immunology provides diagnostic tests which form part of the 'Biomarkers' used for the 'Diagnostic Criteria for Plasma Cell Disorders agreed by the International Myeloma Working Group (IMWG) criteria for the diagnosis of multiple myeloma' 2020. Currently the Flow laboratory provides a full diagnostic service for Primary Immunodeficiency looking at T and B cell subtypes. Planned developments will enable the expansion of this service to provide improvement in identifying and managing secondary immunodeficiency in cancer patients' post-treatment. These services will offer an important addition in terms of cancer survival and long term management of treatment complications.

#### Cryobiology department

In 2022, the Cryobiology Laboratory Stem Cell facility will continue to support the National Adult CAR-T programme (Kymriah from Novartis) and deliver further enhancements in CAR-T services. The laboratory will also further develop the Cellular Therapy Research group (chaired by Nicola Gardiner) comprising of SJH Medical scientists and clinicians, with IBTS staff and Trinity College (TTMI) scientists. This common interest group will develop opportunities in establishing research projects. A PhD research project based on laboratory monitoring of patients in the early post stem cell transplant and post CAR-T treatment will continue in addition to the concurrent MD project.

## Section 1.7 Medical Oncology

### 1.7.1 Key Developments during 2021

- The noteworthy retirement of Prof John Kennedy from his Medical Oncology Consultant post took place in June 2021.
- Development of the medical oncology ANP service continues with the appointment of two ANP's – (Registered) ANP Antonia Tierney and (Candidate) ANP Laura Sweeney.
- A new Consultant Medical Oncologist and Clinical Nurse Specialist were supported by the National Cancer Control Programme (NCCP) for the service.

#### National Cancer Information System (NCIS)

- The National Cancer Information System (NCIS) went live in St James's Hospital in December 2021.
- The system allows for the recording of information about a patient's cancer case, diagnosis and treatment with cancer drugs and supports the care of oncology and haemato-oncology patients across Ireland.
- This was the largest scale rollout of the system to date with over 60 IV systemic anti-cancer treatment (SACT) regimens across our haematology oncology inpatient and outpatient services, along with interfaces with our PAS and Electronic Patient Record (EPR) system.
- The majority of IV systemic anti-cancer treatments are now administered via the NCIS system, with an aim to increase these again in 2022.

### 1.7.2 Key Priorities for 2022

- To develop and expand an integrated nurse led model of care.
- To expand swift queue phlebotomy service to provide access for all Haematology Oncology Day Centre (HODC) patients.
- To expand the use of Community Intervention Teams.
- On-going quality assurance to maintain OECl accreditation.

## Section 1.8 Palliative Care

### 1.8.1 Key Developments during 2021

- Funding for a permanent consultant post in palliative care was secured with interviews to take place early in 2022. This post will assist the team to provide an environment where all SJH staff are supported to provide a palliative care approach to all patients with life limiting or life threatening illness as part of their normal service provision.
- Professor Andrew Davies was appointed Professor of Palliative Medicine TCD/UCD and Our Lady's Hospice and Care Services. He will be leading research in supportive and palliative care.
- Deirdre Young and Shauna Munir were appointed clinical nurse specialists.

## Section 1.9 Psychological Medicine

### 1.9.1 Key Developments during 2021

- Dr Anne Marie O Dwyer retired from her position as Clinical Lead for the Psycho-oncology service in June 2021. Dr Roisin Plunkett was appointed as Consultant Liaison Psychiatrist with special interest in Psycho-oncology.
- NCCP have allocated additional resources in clinical psychology and clinical nurse specialist to support the Psycho-oncology service.

## Section 1.10 Volunteer Programme

### 1.10.1 Key Developments during 2021

- 2021 saw the introduction of the first volunteer programme in Haematology Oncology Day Centre (HODC), a meet and greet service for patients to help them navigate the HODC. We have 10 volunteers who provide support for patients. This has proven to be a huge success which we hope to maintain and develop in 2022.

## Section 1.11 Pharmacy

### 1.11.1 Key Developments during 2021

#### National Cancer Information System (NCIS)

- The Pharmacy team worked alongside nursing, oncology & haematology on the implementation programme for the electronic prescribing, manufacture and administration of anti-cancer treatments on NCIS.
- NCIS launched in December 2021 with NCIS workflows successfully incorporated into the Aseptic Compounding unit and 50% of anti-cancer treatments prescribed and administered electronically.

#### CAR T Therapy

- The Pharmacy Dept. supported the planning leading up to the implementation of CAR T therapy in December 2021. The pharmacy role in CAR T therapy includes procurement, product receipt and release in liaison with the Cryobiology Lab & practical aspects of clinical pharmacy and medicines management.

#### SJH Medicines Guide

- During 2021 the Pharmacy Clinical Services team replaced the Hospital Prescribers Guide with a new Medicines Guide that facilitated mobile application and desktop access across the hospital.

### 1.11.2 Key Priorities for 2022

#### Chemotherapy Compounding Robot

- To develop the specification to support procurement of a chemotherapy compounding robot.
- This will enable the procurement process to commence with a target implementation in 2023.

#### National Cancer Information System (NCIS)

- To continue to embed the NCIS implementation including extending the range of anti-cancer treatment regimens available electronically.

## Section 1.12 Radiology

### 1.12.1 Key Developments during 2021

#### **Nuclear Medicine service development:**

- The Nuclear Medicine department commenced the 99mTc PSMA service in 2021. 99mTc-PSMA SPECT/CT is a cost effective alternative for 68Ga-PSMA PET/CT in the staging of prostate cancer.

#### **Breast Imaging service developments:**

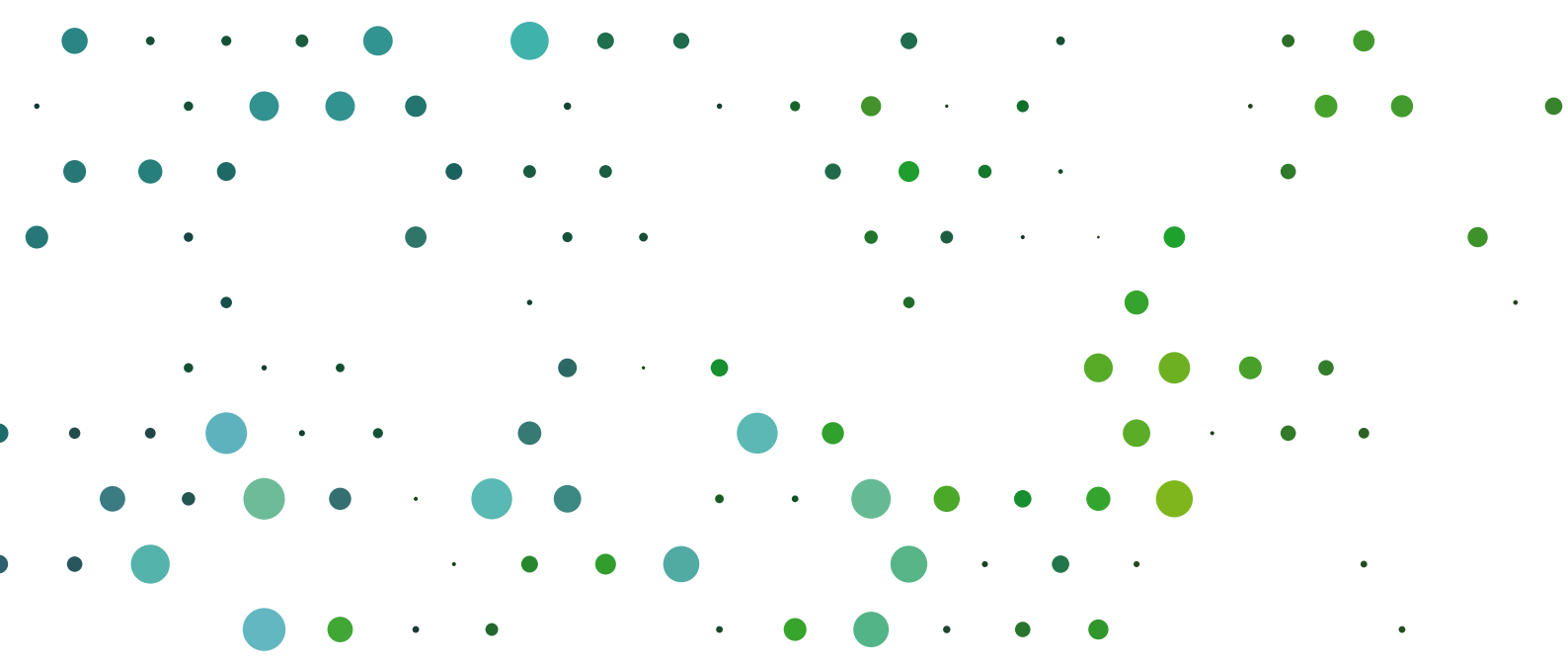
- In 2021, there was a continued focus on providing timely patient access to Breast Imaging services. Breast ultrasound activity increased considerably due to service development initiatives (approximately 20% increased activity in 2021 compared to 2019).
- A new advanced nurse practitioner (ANP) role in the Breast Imaging department was created. Maeve Stenson was appointed the first ANP for the service.

#### **Staff expansion:**

- Two consultant radiologists with special interest in thoracic oncology commenced in 2021.
- The first group of radiography graduates from the recently established TCD diagnostic radiography programme were recruited.

#### **Equipment replacement:**

- The ED X-ray room and a DR mobile X-ray machine were replaced during 2021.



## 1.12.2 Key Priorities for 2022

### Expansion of Breast Imaging services:

- In 2022, an additional breast ultrasound room will open in the Breast Imaging department.
- An existing mammography room will relocate to the redeveloped Breast Care department to improve patient flow and reduce waiting times.

### Reconfiguration of Ultrasound and Procedure Waiting Area:

- The ultrasound department will be reconfigured to provide additional ultrasound procedure rooms and a dedicated recovery area for all procedures in the department.
- These works when supported by staffing resources will provide increased capacity for oncology imaging and direct day ward access for image guided oncology procedures.

### Equipment replacement:

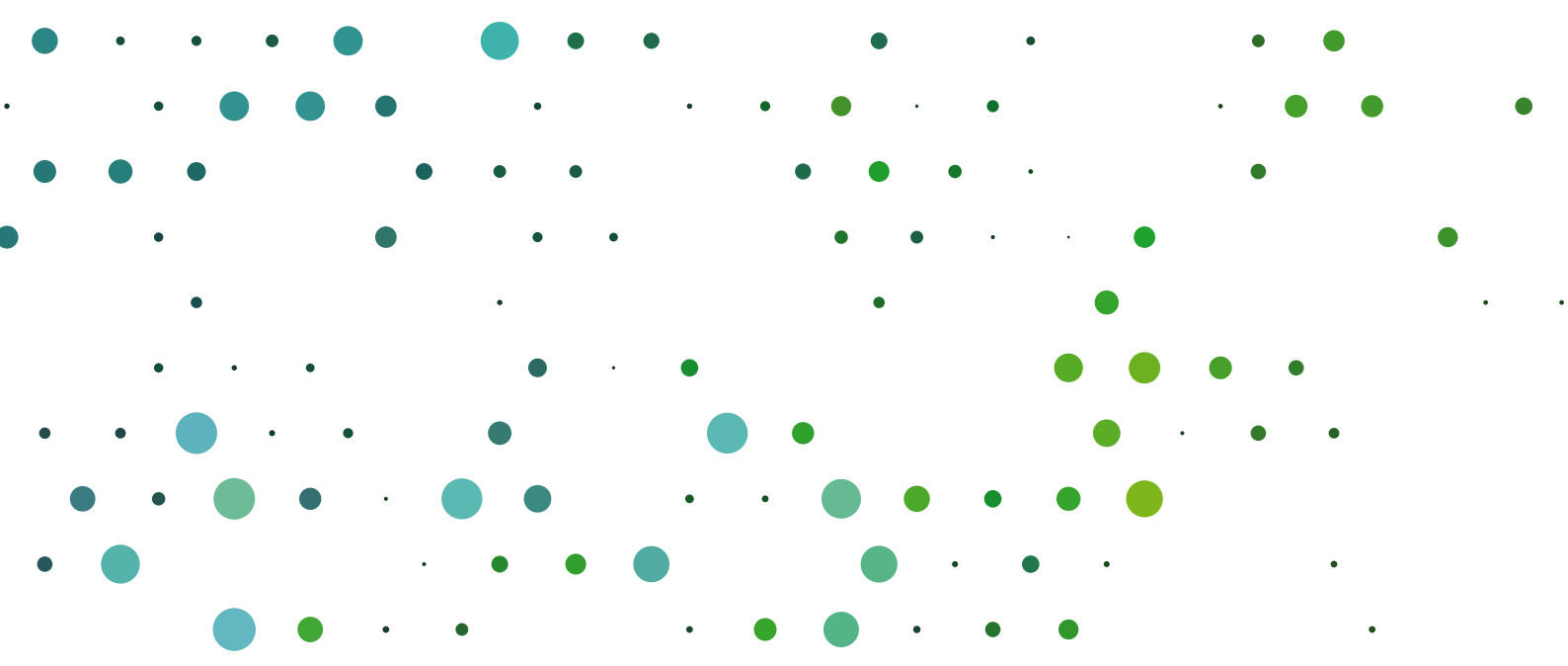
- The Interventional Radiology room, a CT scanner, a general X-ray room and a number of ultrasound machines will be replaced during 2022.

### Expansion of PET/CT services:

- During 2022, it is planned to increase PET/CT activity by recruiting additional staff to support extension of the current working day.
- Opportunities exist to develop the service further by increasing PET/CT PSMA capacity and introducing new radiopharmaceuticals.

### Staff expansion:

- Three Consultant Radiologists will commence in 2022 with specialist interest in head and neck, GI and breast cancer imaging and intervention.
- The directorate is also working to provide an interventional radiology on call rota.



## Section 1.13 Surgical Oncology

### 1.13.1 Key Developments during 2021

- A key development within the directorate was the requisition of a Di Vinci Robot which has been approved for purchase and delivery in 2022. The use of this robot is being targeted primarily toward Urological cancer, Gynaecological Cancer and Thoracic Lung cancer in the initial rollout phase. Education and training for the SJH theatre staff was carried out in conjunction with the company, and also colleagues in Blackrock Clinic who have been providing robotic surgery for a long period of time. Once embedded, it is planned that other specialties, such as Upper GI will develop use of the robotic system.
- The directorate also saw developments in staffing, with the recruitment of new Advanced Nurse Practitioners in Prostate and Breast Cancer.
- Mr Gary Fitzmaurice was appointed as a consultant thoracic surgeon, a new post which will help to support the growing number of lung cancer patients referred to the service.
- The colorectal service continued to support colleagues in gastroenterology in the provision of the endoscopy based bowel screening programme.
- There were continued improvements in the symptomatic Rapid Access breast service Key Performance Indicators (KPI), which was supported by the team and the National Treatment Purchase Fund (NTPF) to run 'out of hours' sessions.
- Sustained compliance with the KPI for the Rapid Access prostate service continued, and 2021 saw the appointment of Mr Peter Lonergan, a new post established as a urology oncology position.
- As part of the development plan for urology oncology, an additional consultant post was been created, and following successful recruitment, Ms Louise McLoughlin will be joining the team in 2022.
- As a result of the pandemic, access continued to be a challenge for planned surgical access. The directorate fully utilised the safety net agreement which created offsite access for time sensitive cases, and also provided greater protection for the planned admission of major complex surgeries on site, such as head and neck cancers.
- Education is a key focus of the directorate within its cancer services, and the Thoracic and Lung Cancer Foundation Course, commenced in Q4 of 2021 and will continue throughout 2022 with a twice yearly intake. Each course is 6 months in duration with 34 CEU credits.

### 1.13.2 Key Priorities for 2022

#### Improve our Day of Surgery Admission rates (DOSA):

- Improve our DOSA rates in line national standards to include patients undergoing complex cancer based surgeries. This will be in conjunction with improved pre assessment access.

#### Improved theatre through-put:

- Improved theatre access and increased capacity via LEAN reviews and process design.
- Increasing theatre footprint by two theatres with a submission to the HSE.

#### Expansion of Advanced Nurse Practitioner posts across the directorate:

- Particularly within Thoracic cancer, Critical Care and Head and Neck cancer.

#### 1.13.2.1 Breast Care:

- Improve and maintain continued access and compliance with key performance indicators (KPI) for the symptomatic breast service, providing an 'end to end' service, inclusive of reconstructive surgery.
- Develop and resource with support from the NCCP, the Family Risk service.

#### 1.13.2.2 Head and Neck Cancers:

- The Hospital provides a service for 51% of the National Head and Neck patient cohort. The Directorate are planning to develop a 'model of care' for the service, securing appropriate resources which include plastics reconstructive surgery and Allied Health supports.

#### 1.13.2.3 Thoracic Cancer:

- Improve access for lung cancer surgery and compliance with key performance indicators, along with the continued development of Enhanced Recovery After Thoracic Surgery (ERATs) programme. Commencement of DOSA for lung surgery with a Nurse led PAC for Thoracic surgery, along with recruitment of an additional ANP.

#### 1.13.2.4 Urology:

- Develop the urology cancer service for all urological cancers and continue to maintain compliance with the prostate key performance indicators. This will be assisted by the recruitment of a new Consultant Urologist who will commence post in Q3 of 2022.



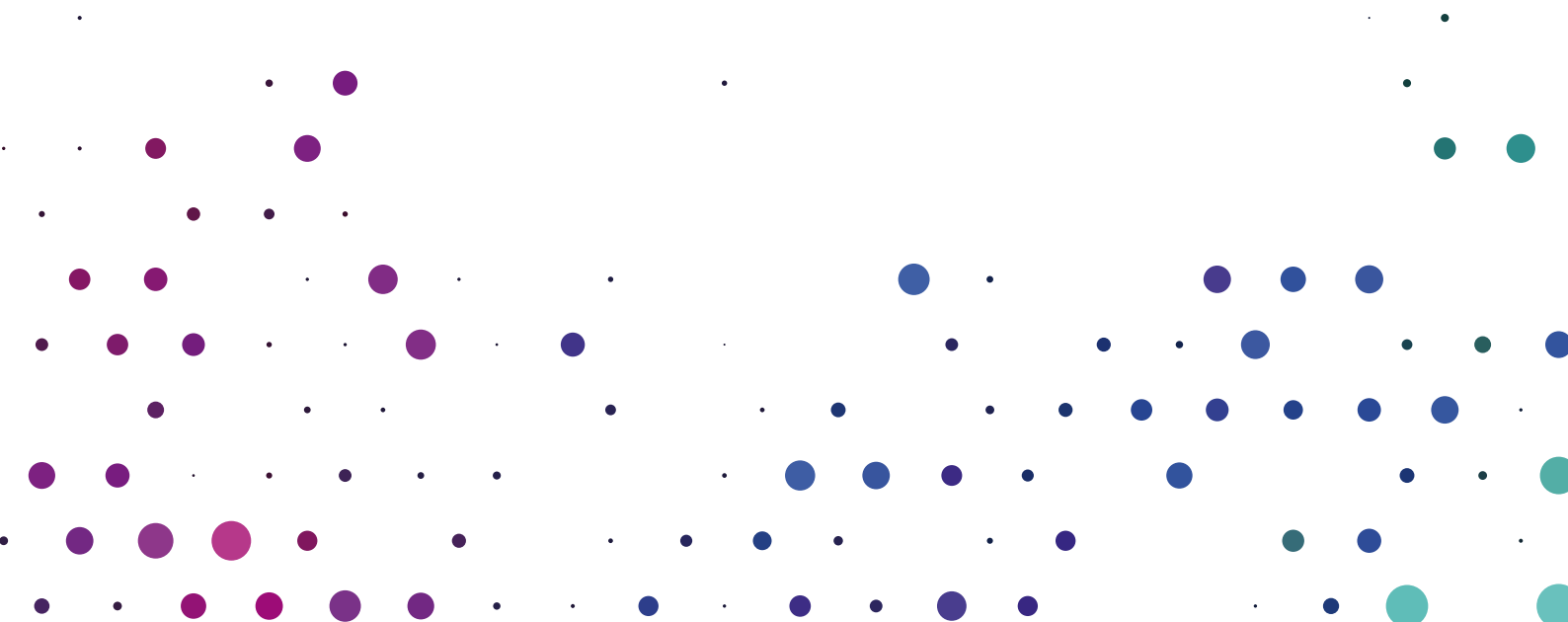
## Section 2.0 Cancer Clinical Trials

### 2.1 Key Developments during 2021

- The main goal for 2021 was to re-locate the Cancer Clinical Trial Unit (CCTU) clinics to the Clinical Research Facility (CRF) and this was achieved. The relocation has improved the patient experience, increased efficiencies and allowed continued collaboration with the CRF.
- With 11 patients enrolled in 2021 we were the joint 2nd highest recruiting site globally for the international CLL17 trial "*A phase 3 multicenter, randomised, prospective, open-label trial of ibrutinib monotherapy versus fixed-duration venetoclax plus obinutuzumab versus fixed-duration ibrutinib plus venetoclax in patients with previously untreated chronic lymphocytic leukemia CLL*".
- The Trinity Academic Cancer Cluster (TACC) was awarded an infrastructure grant from the Health Research Board in 2021. The award was €2,342,983 over five years, commencing in January 2022. The TACC cluster consists of St James's Hospital, Tallaght University Hospital and Tullamore Hospital.

### 2.2 Key Priorities for 2022

- Our main goal is to maximise patient recruitment and to have 50 open trials by the end of 2022.
- To increase collaboration across the cancer clinical trial units in the cluster and to continue to provide innovative treatment options for our patients.



## Section 3.0 Health And Social Care Professions

The SCOPE Health and Social Care Professions Directorate represents a subset of the HSCP workforce comprising Speech and Language Therapy (SLT), Social Work (SW), Clinical Nutrition and Dietetics (CND), Occupational Therapy (OT) and Physiotherapy (PT) services. Recent cancer care developments include:

### 3.1 Key Developments during 2021

#### Clinical Nutrition Department

- A recent development in Clinical Nutrition is the introduction of a dedicated service to manage UGI surgery patients requiring home tube feeding. With this specialist input, feeding tube complications are managed, patients' length of stay is reduced and admissions/ED visits are avoided.

#### Medical Social Work Department

Developments in the Social Work service include:

- Weekly Chemo education sessions for patients, completed in conjunction with the Irish Cancer Society Daffodil Centre.
- Use of memory boxes and books with our oncology patients/their families as part of end of life interventions.

#### Occupational Therapy Department

- In response to COVID-19, the Occupational Therapy (OT) service successfully transitioned to a virtual platform and a hybrid model of virtual and face to face Out-patient Department (OPD) appointments was provided throughout 2021.
- The OT-led OPTIMAL survivorship programme will be re-introduced as COVID-19 restrictions are eased.

#### Physiotherapy Department

- The newest Physiotherapy initiative is the development of a cancer rehabilitation service. Providing an exercise-based rehabilitation service to patients during and after cancer treatment, patients can now access individual assessments, treatment sessions and group exercise programmes with our cancer rehabilitation clinical specialist physiotherapist on-line and in-person.

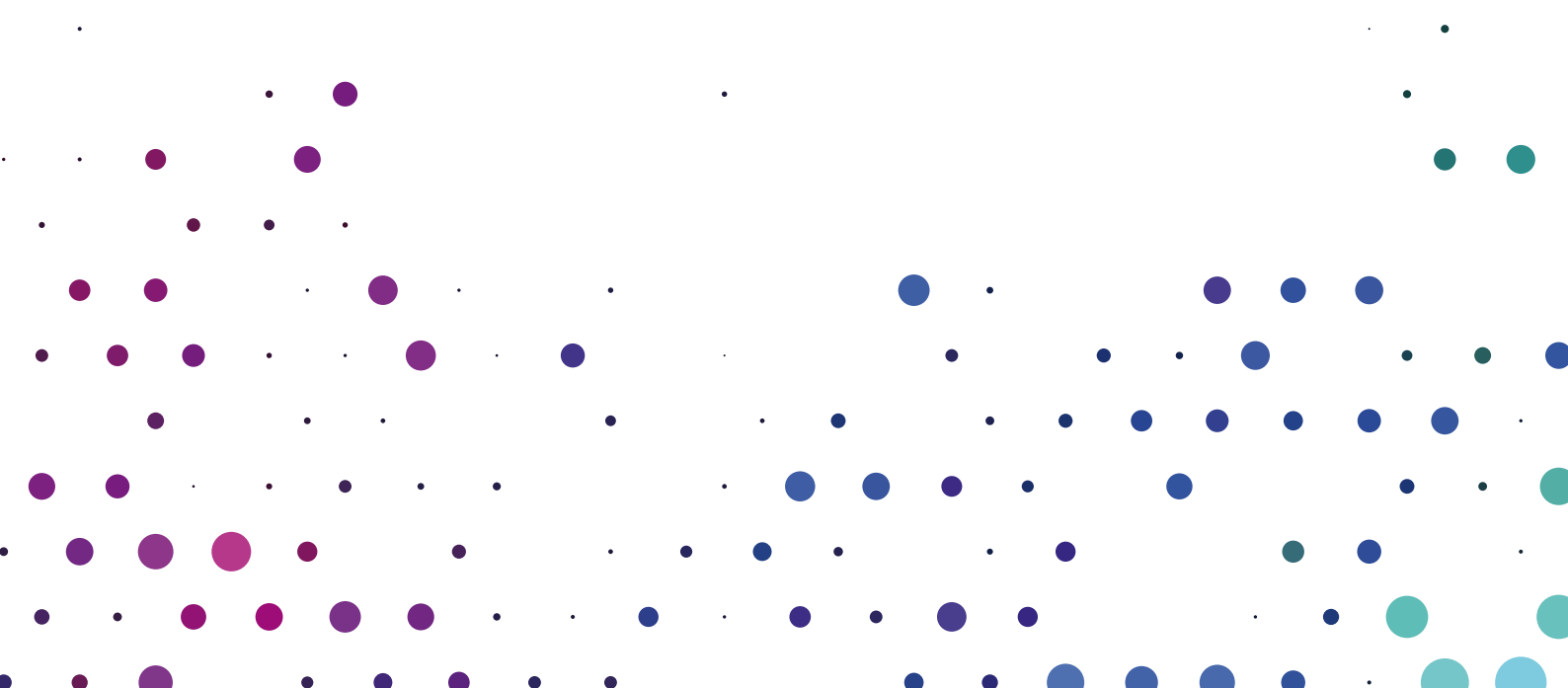
#### Speech and Language Therapy (SLT) Department

- A redesign of the SLT head and neck cancer pathway has enabled the provision of rehabilitation and outreach services to head and neck cancer patients.
- Prehabilitation includes a full communication and swallow assessment, pre-operative counselling and voice banking options.
- Specialist outreach services enable early supported discharge for this patient group.

### 3.2 Key Priorities for 2022

- Further develop the rehabilitation pathway from prehabilitation to cancer survivorship, including the development of pathways from acute to primary care. Key areas for expansion include:
  - exercise-based rehabilitation.
  - occupational therapy (OT) self-management programme (Optimal).
  - assessment, diagnosis and management of communication and swallowing disorders secondary to direct/systemic effects of the cancer and of oncology treatment.
  - outpatient and telephone clinic to manage enteral feeding tube complications and further expand existing HPN and HEF dietetic services.
  - early pre-operative assessment, counselling and prehabilitation to all head and neck cancer patients.
  - facilitate earlier hospital discharges on home NG and NJ feeding following upper GI surgery.
- Further develop a blended in person/telehealth model for ambulatory SCOPe services.
- Act as an educational resource on the management of the physical and psychological side effects of cancer to other HSCP and hospital staff.

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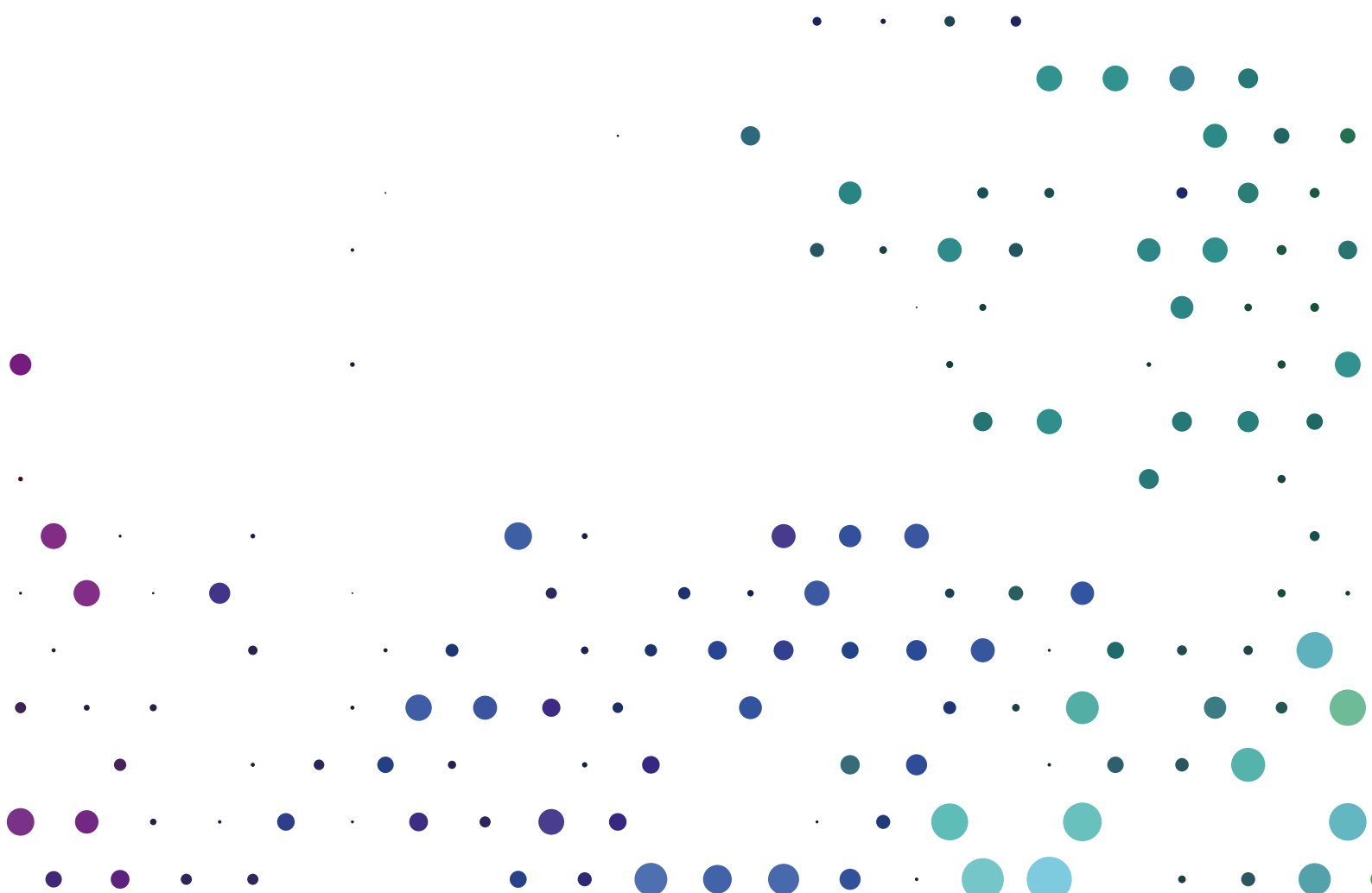
## Section 4.0 Nursing

The St James's Hospital (SJH) cancer nursing team engage with patients throughout their cancer pathway from diagnoses, surgery, radiation, chemotherapy, survivorship and specialist palliative care. The nursing team are dynamic, educated, competent and advocate on behalf of the patient within the multidisciplinary team. This committed nursing team ensures that high-quality and safe patient care is afforded to every patient across the SJH campus which includes both inpatient and ambulatory care services.

### 4.1 Key Developments during 2021

- Despite the many challenges of 2021 within the healthcare arena namely the COVID-19 pandemic and the cyber-attack, nursing continued to thrive and develop.
- We continued to develop our cancer nursing skills, strengthen the Cancer Nursing Council and develop and ensure competencies and skills across all Directorates.
- 2021 saw the appointment of additional cancer nursing posts from staff nurses to promotional grades, including CNS's and ANP's.
- Education programmes continued to develop at both undergraduate and postgraduate levels throughout 2021. We saw the development of the first national education programmes in the Fundamentals in Cancer Surgery course and the Thoracic Foundation Course – both NMBI and Trinity Centre for Practice and Healthcare Innovation accredited.
- The novel CAR-T Cell Education pathway for the nursing team within the National Bone Marrow Transplant Unit
- The Cancer Essentials Multidisciplinary Education Programme for Healthcare Assistants and Administrative staff were two new exciting education programmes developed and rolled out during 2021.
- Audit and research activities remain the cornerstone of the cancer nursing and are evident at many levels throughout the team. The St James's Hospital Cancer Nursing Research Group supported by the Trinity Centre for Practice and Healthcare Innovation continue to work together to increase the hospitals nursing research and audit capacity.

## 4.2 Key Priorities for 2022

- The appointment of the Trinity St James's Cancer Institute (TSJCI) Nursing Professor in Cancer Care. This role will lead and facilitate on establishing and progressing a strong research base within the hospital, being proactive in the strategic planning and implementation of cancer nursing.
  - Correlate and complete the qualitative research study, in collaboration with Trinity College Dublin in exploring the experiences of patients on cancer treatment attending for unscheduled care and the experience of staff who care for these patients. It is envisaged that this study will inform and design the model of care for patients and this service.
  - In collaboration with the NCCP and Trinity College Dublin (TCD) develop an acuity tool to ensure correct staffing levels for a Haematology Oncology day ward setting.
  - Establish and develop our nursing links with the Irish Cancer Society as we establish the Adult Young and Adolescence Programme.
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# Section 5.0 St Luke's Radiation Oncology Network

## 5.1 Clinical Care Highlights

Radiotherapy treatment for the Cancer Institute is provided by St Luke's Radiation Oncology Network (SLRON). In 2021, SLRON continued dealing with the difficulties brought by the COVID-19 pandemic, maintaining successful developments introduced in 2020. The unprecedented cyber-attack on the HSE in May 2021, caused significant challenges for SLRON in maintaining service delivery. Thanks to our in-house IT, clinical IT and clinical engineering teams, SLRON was the only public centre nationally able to provide radiotherapy for category 1 patients in the immediate aftermath of the incident.

## 5.2 SLRON Activity

- Delivered 1,288 radiotherapy treatment starts (new and return patients) and 19,911 radiotherapy fractions (4% increase on 2020)
- Complexity of radiotherapy remained consistent with previous years with 77% of treatment delivered using volumetric modulated arc therapy (VMAT)
- Delivered 59 total body irradiation (TBI) and 743 stereotactic ablative therapy (SCT) treatment fractions (36% increase in SABR compared with 2020)

## 5.3 Key Developments during 2021

- Implementation of Surface Guided Radiotherapy (SGRT) for breast patients.
- Implementation of bladder scanning devices to assist with monitoring and compliance with radiotherapy bladder filling protocols.
- Development and expansion of SABR service with increased activity.

## 5.4 Key Priorities for 2022

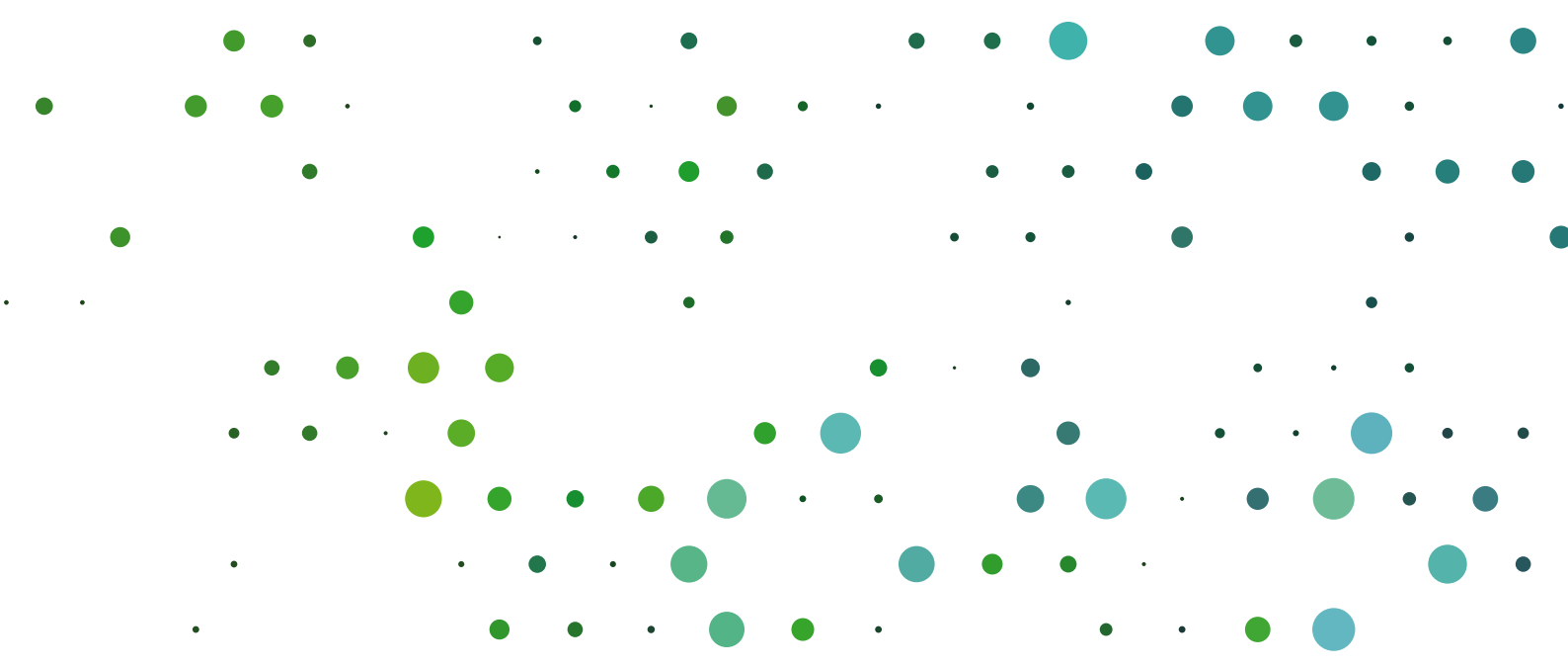
- Planning for major radiotherapy equipment replacement programme.
- Establish SLRON as National Lead Centre for SABR with educational focus.
- Expand use of Rapidplan software to head and neck cancers.
- Implement use of SGRT with SABR treatments.
- Pilot artificial intelligence (AI) software for contouring in planning system.
- Build on established links with the Cancer Institute to improve data sharing processes and enhance patient pathways.

# Section 6.0 Education

## 6.1 Key Developments during 2021

The mission of the education pillar is to position the Cancer Institute as the hub for cancer education offering cancer education opportunities for all connected with delivering cancer care and those enrolled in cancer education training programmes. Outlined are some of our key achievements in 2021.

- 11 Ph.D. students graduated across the different thematic research areas in TSJCI.
- 16 MSc in Translational Oncology graduated where 30 ECTS of their 90 ECT degree was assigned to translational cancer research experience. These students were placed across many cancer groups in TSJCI to conduct these oncology research placements.
- The Cancer TEP elective directed by Dr Maher ran again in 2021 and attracted 52 students from many different disciplines outside of Health Science. This educated non-biology focused students.
- Online courses on Radiation Oncology were available on FutureLearn platform.
- Transition education programme ran in February 2021.
- Many thematic based seminar series ran in 2021 attracting interest from those interested in oncology across the different disciplines.



## 6.2 Key Priorities for 2022

- In the education development programme, a new MSc in Oncology online is under development and will roll out in Sept 2023. This fully online programme will offer 4 online certificates in Precision Oncology, Drug Development, Cancer Immunotherapy and Cancer Prevention/Survivorship. Students will have the opportunity to build these certificates to diploma or MSc. level. This will attract the interest of trainees across different disciplines (clinical and scientific) both nationally and internationally.
- A wider college project is to create an IT platform system to allow all modules (oncology for TSJCI) to be offered as stand-alone modules that are stackable.
- These two projects in development will allow us to deliver more flexible, personalised oncology education offerings across all disciplines in TSJCI.
- With philanthropy funding from a donor, two Drechsler postgraduate bursaries in Translational Oncology will be advertised in May 2022 and will encourage medical students who have completed 3rd year an opportunity to do an intercalated MSc. This will allow these trainees to embark on a full time MSc in Oncology (taught modules and oncology research experience). On completion of this MSc, they will re-enter 4th year medicine. These medical students are then very competitive to apply for the academic internship programme.
- TSJCI are in the progress of formulating a sub joint education committee between Trinity St James' Cancer Centre and the Beaumont/RCSI Cancer Centre. This will allow this committee to run joint oncology education events and establish a joint career mentoring committee for trainees across the two OECl accredited cancer centres.



# Section 7.0 Research

## 7.1 Key Developments during 2021

The research vision of the TSJCI is to advance cancer care through internationally recognised fundamental, translational research, and clinical research in cancer prevention; molecular and precision oncology; cancer immunology; and cancer survivorship and supportive care, leading to improvements in health status and quality of life for people in Ireland and beyond. In September 2021, Prof Lorraine O'Driscoll was appointed as TSJCI Research Lead.

Outlined are some examples of our key achievements in 2021, with notable progress made across all four Research Themes:

- *Theme 1: Cancer Prevention.* In 2021, Dr Gerard Brien was awarded a Worldwide Cancer Research grant to investigate the underlying causes of synovial sarcomas. <https://www.worldwidecancerresearch.org/what-we-do/our-research-projects/understanding-the-cause-of-synovial-sarcoma-to-improve-survival/>.
- *Theme 2: Molecular & Precision Oncology* Leader, Prof Adrian Bracken, made seminal discoveries on an incurable childhood brain cancer, published in Nature Genetics<sup>1</sup>; and based on research performed on extracellular vesicles, Prof Lorraine O'Driscoll was commissioned to publish a review in New Eng. J. Medicine<sup>2</sup>. In addition, in a project spanning precision oncology and cancer immunology, Prof. Maeve Lowery, Jacintha O'Sullivan and Aideen Long received **over €2.3 million** via the Disruptive Technologies Innovation Fund, as part of a three-year, €10.5M programme to develop next generation cell therapies for cancer. The consortium is comprised of RemedyBio as programme lead, aCGT Vector DAC, Trinity College Dublin and St James's Hospital, and the SFI Centre for Research Training (CRT) in Genomics Data Science at NUIG. The goal is to enable a new kind of revolutionary immunotherapy to cure incurable cancers.
- Working with samples donated by patients with metastatic breast cancer, Prof Clair Gardiner – a *Theme 3: Cancer Immunology* Leader – discovered a specific reason why an important type of immune cells don't protect the body from cancer<sup>3</sup>;
- In November, Prof Juliette Hussey, *Theme 4: Cancer Survivorship* Leader, led an All-Island Workshop on Living with and Beyond Cancer.
- Of note, in this time period, we have:
  - opened 32 clinical trials.
  - secured €14.7 million in competitive research funding.
  - published 325 peer-reviewed publications.

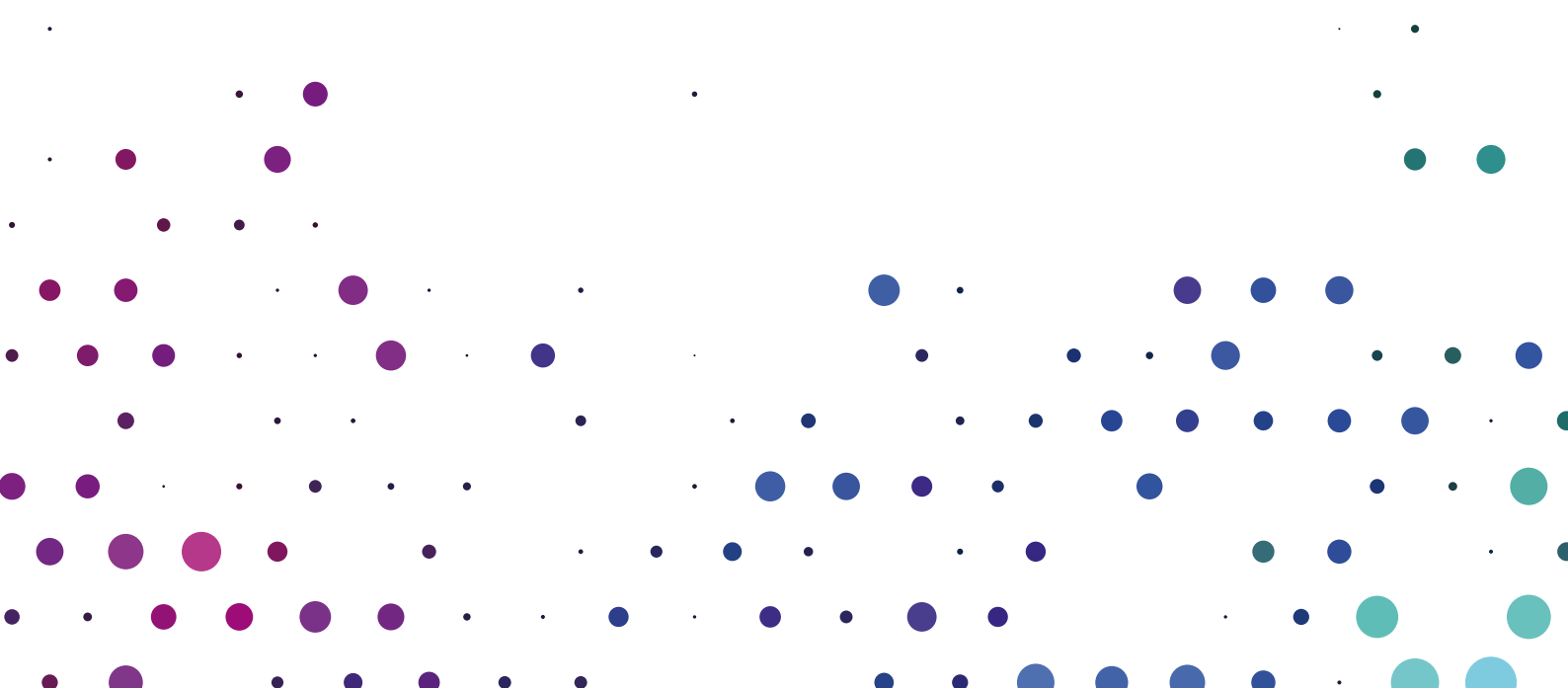
1 <https://pubmed.ncbi.nlm.nih.gov/34294917/>

2 <https://pubmed.ncbi.nlm.nih.gov/32846069/>

3 <https://pubmed.ncbi.nlm.nih.gov/33568351/>

## 7.2 Key Priorities for 2022

- A priority for 2022 is to launch a research funding scheme, the Cancer Research Stimulus Awards (CREST Awards) that will provide seed funding to foster and develop new research collaborations across the Cancer Institute. These awards have arisen from generous philanthropic donations totaling €120,000 from The Dr Margaret Sau Sheung Ip and Dr Jonathan Chiu Fund.
- Our goal is to support short-term new, innovative research projects that will enhance the ability of TSJCI clinician and non-clinician researchers to foster new avenues of cancer research and to generate impactful data to leverage significant external funding.
- Another of our priorities for 2022 is to reinstate the International Cancer Conference and Burkitt Medal Award, delayed due to covid-19. We will host this as TSJCI 12th International Cancer Conference, on October 13-14th. The conference theme is 'Harnessing Fundamental, Translational and Clinical Research for the Benefit of Cancer Patients' and it will provide a unique forum for exchange of ideas and knowledge -between academics, clinicians, patients, and industry- relating research and clinical therapeutic innovation to excellent patient care. Including world-class international and local speakers presenting on advances in cancer prevention and early diagnosis, molecular and precision oncology, cancer immunotherapy and survivorship; proffered papers and posters; a public-focused symposium; and an expert panel discussion on comprehensive cancer centres of the next decade.
- Other Key Priorities for 2022 include securing funding of scale to lead research across the island of Ireland on liquid biopsies for cancer diagnosis and for predicting response to therapy. Furthermore, we wish to educate and disseminate, as widely as possible, information on how some cancers may be prevented.



## Section 8.0 Quality

The Trinity St James's Cancer Institute (TSJCI) quality framework is dedicated to providing high quality, safe, compassionate care to patients, with an emphasis on continuously improving the experience for the patient and their support network. This is enabled through a culture of quality, professionalism and the passion of the staff working in TSJCI to deliver evidence based patient-centered care.

This day to day activity of TSJCI is underpinned and guided by healthcare standards, quality indicators and policy based on standards developed by the Organisation of European Cancer Institutes (OECI), Safer Better Healthcare (HIQA, 2012), The National Cancer Control Programme (NCCP) and the National Cancer Strategy (2017-2026) (gov.ie)

### 8.1 Key Developments during 2021

- 2021 saw the retirement of Peig Carroll from the role as Quality Coordinator for TSJCI and the appointment of Catherine Buckley later in the year.
- The Quality Improvement plan had many priorities actioned and closed out.
- The annual report for 2020 was issued and distributed, engagement with the St Luke's Radiation Oncology Network commenced on a more formal basis.
- NCIS system went live in December 2021.
- Potential members for the External Advisory Board were chosen and formal invitations sent to them inviting them to join the group.
- The TSJCI Patient representative group became more embedded into the TSJCI structure and they have become very engaged in the everyday working of the Cancer Institute.

### 8.2 Key Priorities for 2022

The priority is to develop a Quality strategy:

- To standardise patient pathways, the multidisciplinary team meetings and patient outcome measures.
- To conduct an OECI self-inspection and further develop the Quality Improvement plan to include any deficiencies or areas of concern.
- To empower service users to become active partners on their healthcare journey.
- To begin and progress the development of a quality management system for TSJCI.

# Section 9.0 Patient Representative Group

The years 2020 and 2021 have been difficult years for the healthcare landscape in Ireland and across the world. The Trinity St James's Cancer Institute Patient Representative Group (TSJCI PRG) was set up with a backdrop of the COVID-19 pandemic, however, the PRG have continued to work using their virtual meetings to support staff and patients at TSJCI.

The members have contributed to so much work in 2021 across the 4 pillars of TSJCI which are Clinical Care, Research, Education and Clinical Trials. They have met for 2 hours every month since inception. The members have a very full agenda and workload to get through at each meeting. This meeting does not account for all of the work that the group members participate in. In addition to the meeting, the PRG members have preparation work to complete prior to a meeting i.e., review of documentation and attendance at separate special focus groups.

There have been 13 meetings in total with an average of 7 patient representatives at the meetings

## 9.1 Key Developments during 2021

- Developed and rolled out the HODC patient experience survey.
- Review and development of patient education material documentation.
- Participation in Public Patient Involvement in Research studies relating to Cancer Care.

## 9.2 Key Priorities for 2022

- Issue Terms of Reference for the group.
- Patient experience review of other areas within SJH where cancer patients attend for care.
- Improve feedback to the patient population attending TSJCI.
- Expand membership of the group.
- Formalise review of research proposals.
- Strategy development towards the end of this year (year 2 of the group).

During 2021 the members of TSJCI PRG have developed in their roles, looking at the current state of cancer care but with an eye on what they envisage it should look like for people with cancer attending TSJCI in the future.

**In grateful appreciation to the TSJCI PRG members for their contribution to TSJCI.**

## Section 10 Special Circumstances

### 10.1 Information Management Systems (IMS) Cyber Attack

On Friday morning 14<sup>th</sup> May, 2021, the Health Service Executive (HSE) was subjected to a serious ransomware attack. The HSE and St James's Hospital responses meant that access to all HSE hosted National IT Systems was disabled, and all external internet and email was turned off. St James's Hospital main IT systems were unaffected (e.g. Patient Administration System, Electronic Patient Record, Lab System, ED Whiteboard, Critical Care Information System (ICCA)). Therefore, patients could still be admitted onto our IT systems and their care recorded as normal.

Although the National Radiology System (NIMIS) was seriously, albeit briefly affected, the hospital's business continuity plan meant that new diagnostic imaging of cancer patients could continue, with some delays and cancellations due to manual processes. However, during that period, new diagnostic images could not be compared directly with previous imaging as the latter was unavailable, and this caused difficulty in Multi-Disciplinary Team (MDT) evaluations and treatment assessment until the system was restored on Thursday 20<sup>th</sup> May, 2021.

### 10.2 COVID-19

COVID-19 continued to place significant challenges on cancer care at St James's Hospital during 2021, however despite the significant impact, patient care remained a priority throughout. Admissions for elective cancer surgeries were curtailed and delayed however we availed of offsite access in the private hospitals for time sensitive surgery. The delivery of systemic anticancer therapy (SACT) treatment and the delivery of the National Adult Stem Cell Transplant Programme continued with additional precautions in place. Staffing levels across the cancer multidisciplinary team were seriously impacted due to COVID-19 throughout 2021.



# Appendix 1 Glossary Of Terms

<b>Term</b>	<b>Descriptions</b>
AYA	Adolescent and Young Adults
CAR-T	Chimeric Antigen Receptor T Cell Therapy
CMD	Cancer Molecular Diagnostic
CNS	Clinical Nurse Specialist
DOSA	Day of Surgery Admission.
EAB	External Advisory Board
EBMT	European Group for Blood and Marrow Transplantation
EPR	Electronic Patient Record
GDPR	General Data Protection Regulation
HEPA	High Efficiency Particulate Air Filter
HIQA	Health Information and Quality Authority
HODc	Haematology Oncology Day Centre
IMWG	International Myleoma Working Group
JACIE	Joint Accreditation Committee of the International Society for Cellular Therapy and the European Group for Blood and Marrow Transplantation
KPI	Key Performance Indicator
MDT	Multi-Disciplinary Team
MOU	Memorandum of Understanding
NCCP	National Cancer Control Programme
NCIS	National Cancer Information System
NMBI	Nursing and Midwifery Board of Ireland
NTPF	National Treatment Purchase Fund
OECI	Organisation of European Cancer Institutes
PRG	Patient Representative Group
RCSI	Royal College of Surgeons in Ireland
SABR	Stereotactic Ablative Radiotherapy
SACT	Systemic Anti-Cancer Therapy
SCT	Stem Cell Transplant
TSJCI	Trinity St James's Cancer Institute
WTE	Whole Time Equivalent



To see the full list of Publications for 2021 please access link:  
[www.stjames.ie/cancer/annualreports](http://www.stjames.ie/cancer/annualreports)

To see the full list of Cancer Clinical Trials please access link:  
[www.stjames.ie/cancer/annualreports](http://www.stjames.ie/cancer/annualreports)

