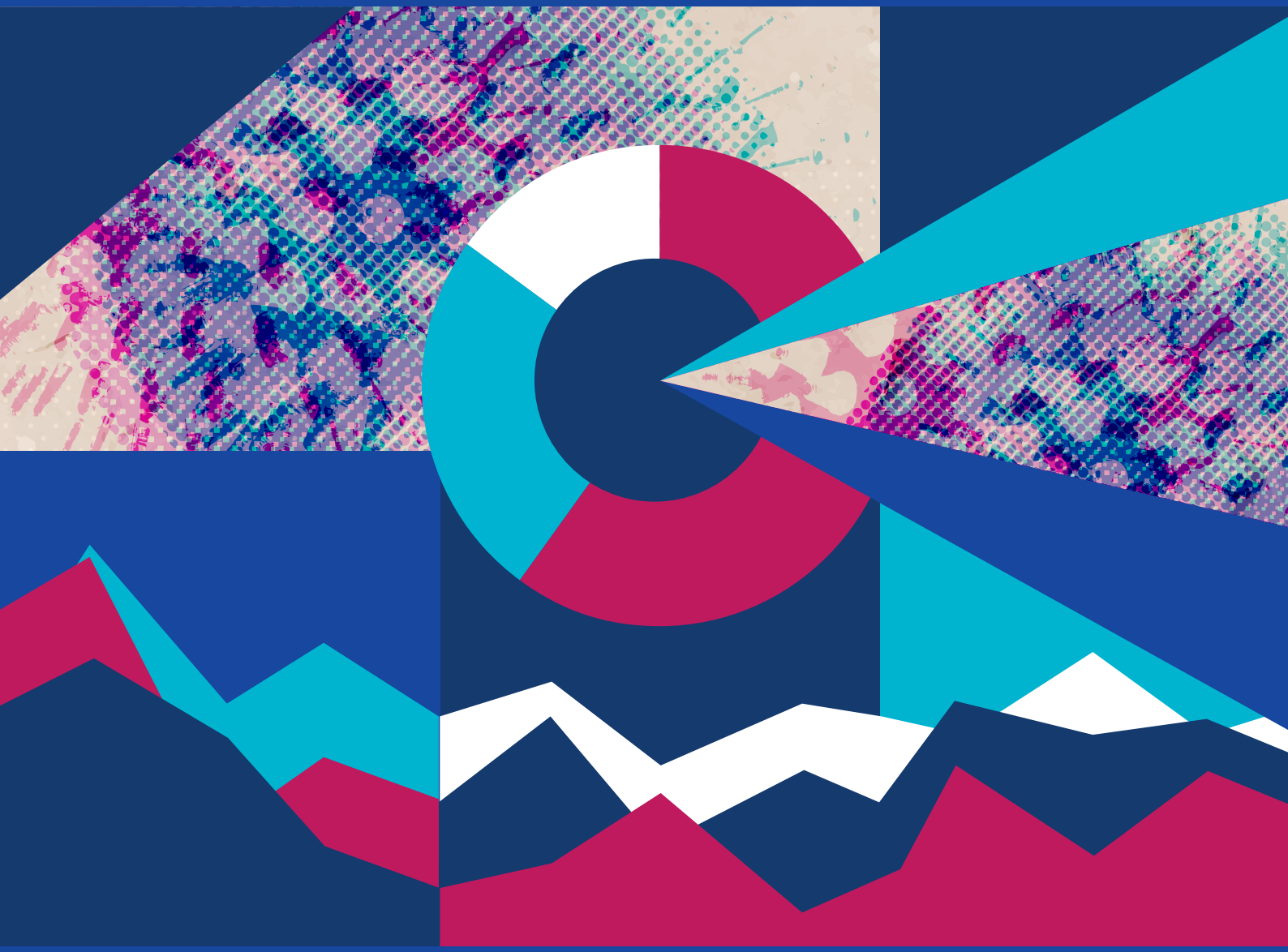
European Union Cancer Research Funding – Ireland's Utilisation (2019–2022)

A review of European Union cancer research grants obtained by partners in Ireland using the Health Research Classification System (HRCS)



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List of Acronyms

- ACOE – Accreditation Council of Oncology Europe
- EC – European Commission
- EISMEA – European Innovation Council and SMEs Executive Agency
- ERDF – European Regional Development Fund
- EU – European Union
- HPV – Human Papilloma Virus
- HRB – Health Research Board
- HRCS – Health Research Classification System
- I3 – Interregional Innovation Investments
- ISCT – Inter-speciality Cancer Training
- JRC – Joint Research Centre
- NCCP – National Cancer Control Programme
- NCRG – National Cancer Research Group
- RA – Research Activity
- RCT Randomised Controlled Trial
- SME – Small and Medium Sized Enterprises
- UK – United Kingdom
- UKCRC – UK Clinical Research Collaboration

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1. Summary

- From 2019 to 2022, research partners in Ireland were awarded almost €46.5 million, across 76 cancer research grants, from six European Union Funding Programmes.

  Nationally, a total of €106.5 million across 397 cancer research grants were provided by eight funders during the same period.

  The combined national and EU funding awarded for cancer research in Ireland between 2019 and 2022 totalled approximately €153.2 million across 473 grants, reflecting an upward trend in investment.

- Unsurprisingly, Horizon 2020 provided the largest proportion of EU funding that partners in Ireland received with approximately €28.7 million provided across 33 grants, representing 61.46% of total EU funding received by Ireland for the review period.

  Horizon 2020 awarded funding of almost €14.4 million or 30.75% of total EU funding received and EU4Health circa €3.4 million equating to 7.25% of total EU funding received.

- Two 'Research Activity' areas accounted for the majority of EU cancer research funding awarded during the review period representing approximately 67% of the total EU funding received.

  - 'Treatment Development' (RA 5) received €21.4 million the largest proportion of EU funding or 46% of the overall total EU funding received.

  - 'Detection and Diagnosis' (RA 4) followed this with €10 million or 21% of total EU funding received.

- Significantly lower levels of funding were obtained for research activities that focused on:

  - the 'Health Services' (RA 8) at €3 million (7%),

  - 'Prevention' (RA 3) at €2.7 million (6%),

  - 'Treatment Evaluation' (RA 6) at €2.5 million (6%) and

  - 'Aetiology' (RA 2) at €2 million (4%).

  No funding was obtained from EU mechanisms by researchers in Ireland to support 'Underpinning' (RA 1) of cancer research.

- The funding instrument through which most cancer research EU funding was obtained was 'Projects and programmes, health system partnerships' which received €25.6 million. 'Interventional and commercialisation studies' received a total of €10.3 million, 'Capacity building and leadership enhancement' totalled €6.1 million and 'Infrastructure, platforms and networks' received €4.6 million.
- There were no areas where gaps in national funding approaches were being supplemented, alleviated, or replaced with EU funding instruments.
- There is a need for enhanced strategic coordinated engagement from stakeholders nationally that are active and funding cancer research, to address research areas with lower levels of funding presently and ensure EU funding opportunities are optimised.

2. Introduction

In 2024, the Health Research Board (HRB), as a member of the National Cancer Research Group (NCRG) and in consultation with the National Cancer Control Programme (NCCP), published *Cancer Research Investment in Ireland (2019–2022): A review of national cancer research investment using the Health Research Classification System (HRCS).*[1] The review was conducted in order to identify potential gaps in current cancer research funding and to assist with prioritisation of future investments in a coordinated and comprehensive manner through the work of the NCRG.

The review found that a total of €106.5 million was invested by 8 funders across 397 cancer research grants in Ireland. It identified that more than 75% (€76.3 million) of cancer research funding was invested across three research activity areas: 'Evaluation of treatment and therapeutic interventions', 'Development of treatments and therapeutic interventions' and 'Aetiology'. Lower levels of investment (less than €5 million combined) were notable across three research activity areas, 'Underpinning research', 'Prevention of diseases and conditions and promotion of well-being' and 'Health and social care services research'.

The HRB decided to build on the national review of cancer research investment by conducting a further review, analysing grants received by partners in Ireland for cancer research via European Union (EU) funding programmes for the same period.

Combining the national and EU reviews enables a more holistic analysis, overview, insight and perspective into cancer research investments in Ireland, creating a solid foundation for future discussions, advocacy, and recommendations.

The purpose of this report is to:

- obtain a comprehensive review of cancer research funding for the 2019–2022 period, ensuring as complete a picture of overall cancer research investment in Ireland as possible within the review limitations
- assess if there were areas that were receiving lower levels of funding at national level, that were conversely being addressed via EU funding obtained by researchers in Ireland during the same period, and
- identify clear gaps in funding to support future discussions, strategy development, and business planning within the HRB and to share insights with NCRG members, to enable enhanced coordination and prioritisation of any future investments in cancer research.

This report presents an analysis of the data collected as part of the review of EU funding.

3. Methodology

The review focused on successful applications from researchers in Ireland to EU funding programmes that enabled cancer research available within the review period from 2019 to 2022. It is important to note the Covid-19 pandemic occurred during the review period.

Data are presented on cancer research funding grants committed by EU funding programmes to applicants in Ireland (either as direct applicants or as part of a wider international consortium). The focus on research activity was identified through the classification of the grant data provided using the Health Research Classification System (HRCS).

For each applicable grant, only the total value over its lifetime to participants in Ireland was included in the analysis; in other words, the unit of measurement was the overall funding commitment made within the grant to research partners in Ireland, and not the overall grant awarded to the wider international applicant team.

3.1 Data collection: Design

To capture the necessary data, the HRB designed a data collection template, and specific data points were sought in relation to each individual grant so that later-stage analysis could occur (see Table 1 for data collection template data points).

Table 1: Data Collection Template

Template	Data points
Data Collection Template	EU Funding Programme
	Work Programme
	Call Focus
	Call Year
	Topic
	Call Type
	Project Title
	Project Acronym
	Partners in Ireland
	Grant Value for Partners in Ireland
	Project Objective
	Cancer Site
	Coordinator in Ireland
	Total EU Maximum Contribution
	URL

3.1.1 Inclusion and exclusion criteria

Grants that were included in this analysis:

- funding commitments made via EU calls within the period 2019–2022
- grants related to cancer research, supported by EU funding programmes and awarded to project partners/researchers in Ireland
- all types of funding, including fellowships, projects and programmes, infrastructure, networks, and healthcare intervention studies
- total grant funding commitments made to partners in Ireland in any given year as the unit of measurement (the total/overall EU funding contribution to a specific grant or research project was not included) and
- all funding deemed eligible under EU funding programmes, including salary support, dissemination, equipment, and overhead contributions.

Grants that were excluded from the analysis were:

- grants not classified to 'Cancer and neoplasms' in any proportion during the HRCS classification process.

3.2 Sampling Strategy

The Joint Research Centre (JRC) is the science and knowledge service of the European Commission (EC). This department provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society.

The HRB downloaded a dataset of all cancer research funded during the review period from the JRC website.[2] This initial dataset comprised 4,097 'cancer' grants.

The data were subsequently filtered to remove grants that had no participants in Ireland or that fell outside the period of this review. In total, 107 grants remained after this process; these were then classified using the HRCS.

3.3 Data Classification and Analysis

The data were classified according to the HRCS by a qualified external coder to understand the focus of each grant's research activity.

The HRCS was developed by the UK Clinical Research Collaboration (UKCRC) partners and is a system designed to classify and analyse biomedical and health research funding. The system has been widely adopted by United Kingdom (UK) research funders to inform research management and to undertake prospective analyses.

This system classifies awards according to both the 'Health Category' (the focus of the research), and the type of 'Research Activity' that the researcher is undertaking along a continuum from underpinning research to applied health services research (see Appendix A for further details on the HRCS).

The HRCS uses 21 'Health Categories' that encompass all diseases, conditions, and areas of health; and one of these categories is 'Cancer and neoplasms'.

As shown in Table 2, 'Research Activity' is divided into 8 areas.

Table 2: HRCS 'Research Activity' Descriptions

No.	Research Activity	Summary description
1	Underpinning research	Research that underpins investigations into the cause, development, detection, treatment and management of diseases, conditions, and ill health
2	Aetiology	Identification of determinants that are involved in the cause, risk or development of disease, conditions, and ill health
3	Prevention of disease and conditions, and promotion of well-being	Research aimed at the primary prevention of disease, conditions or ill health, or promotion of well-being
4	Detection, screening and diagnosis	Discovery, development and evaluation of diagnostic, prognostic and predictive markers and technologies
5	Development of treatments and therapeutic interventions	Discovery and development of therapeutic interventions and testing in model systems and preclinical settings
6	Evaluation of treatments and therapeutic interventions	Testing and evaluation of therapeutic interventions in clinical, community or applied settings
7	Management of diseases and conditions	Research into individual care needs and management of disease, conditions, or ill health
8	Health and social care services research	Research into the provision and delivery of health and social care services, health policy and studies of research design, measurements, and methodologies

All included grants were classified by 'Health Category' and 'Research Area' with the coder identifying cancer-focused grants and classifying these by 'Research Activity'.

If warranted, the HRCS can assign multiple 'Health Categories' and 'Research Activities' to an individual grant in order to classify the research more accurately and capture the main objectives over the lifetime of a grant. A percentage, representing a proportion of the total grant, is allocated to each 'Health Category' and 'Research Activity'. The total percentage will always equal 100% to ensure that investments are not double counted at later-stage analysis. For this review, if a grant was classified under 'Cancer and neoplasms' in any proportion, it was included in the final data analysis.

Grants designated as 'cancer' by the JRC but not by the HRCS coder were those that were not specific enough to cancer as a disease area, but were more focused on, for example, high-level systemic challenges or projects that had generic health relevance, i.e. research applications relevant to all diseases and conditions or to general health and well-being. A total of 31 grants were removed after HRCS coding as they were not classified to 'Cancer and neoplasms' in any proportion.

The remaining grants were cross-checked on CORDIS,[3] the EU Funding & Tenders Portal,[4] and the Horizon Dashboard[5] to complete all elements of the data collection template; this included the EU funding contribution to participants in Ireland.

The final dataset comprised a total of 76 grants, which were analysed using Microsoft Excel and Power BI to equally split investments across 'Health Category' and 'Research Activity' codes based on the percentages assigned by the coder. This allowed the overall distribution of investment to be properly analysed.

Examples of some of the cancer research funded during this period are included in Appendix B. This review does not present data on individual grants. It is also important to note that the grants included are only those that were successfully funded. We did not analyse the number of overall submissions from researchers in Ireland as the data in relation to unsuccessful grants are not retained by the JRC, hence this was considered outside the scope of this review.

4 Analysis of EU Cancer Research Funding 2019–2022

A total of 76 grants were included for final data analysis.

4.1 Overview of EU Funding Programmes Utilised for Cancer Research 2019–2022

Since 1984, the EU has invested more than €280 billion in research and innovation supporting over 120,000 grants with 75,000 beneficiaries. It has a comprehensive set of funding programmes available to foster collaboration, research and innovation. These are often structured to target specific areas and generally not solely focused on health, however different areas of health research may apply for funding under the various instruments.

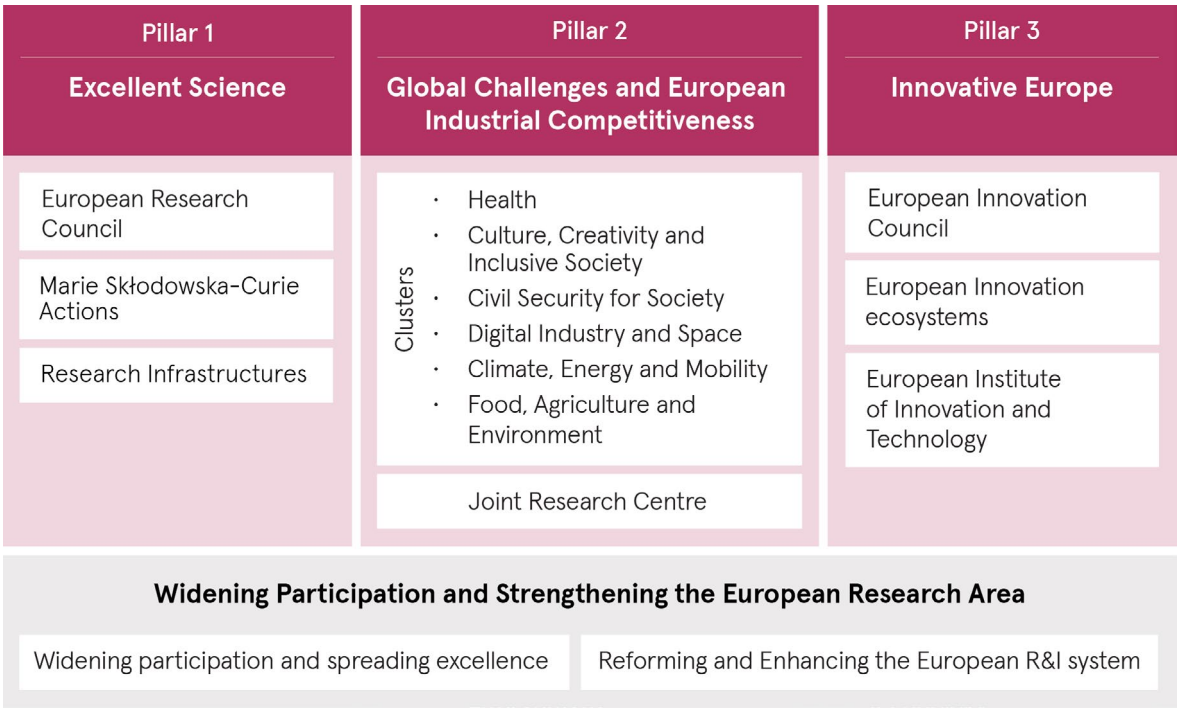
During the 2019–2022 review period, the three main EU funding programmes under which partners in Ireland received cancer research grants were Horizon Europe, Horizon 2020 and EU4Health.

4.1.1 Horizon Europe (2021–2027)

Horizon Europe is the EU's largest and most ambitious research and innovation funding programme to date. It is the ninth EU Framework Programme for Research and Innovation, and it has a budget of over €95 billion.

The Horizon Europe programme is built around three main pillars, as illustrated in Figure 1.

Figure 1: Horizon Europe Framework Structure



Pillar 1 includes the European Research Council and the Marie Skłodowska-Curie Actions. Pillar 2 focuses on the Global Challenges and European Industrial Competitiveness and is centred around six broad thematic 'Clusters' of which 'Health' is the first. All these work programmes had investments supporting cancer research in Ireland during the review period. There are also five missions comprising of cancer, climate change, oceans and water, carbon-neutral cities and soil health. Together, these also form an integral part of Horizon Europe.

Horizon Europe is implemented through various activities, including collaborative projects, individual grants, and innovation initiatives. Horizon Europe aims to have a significant social and environmental impact while also contributing to economic growth and competitiveness.

All three of the Horizon Europe pillars are underpinned by 'Widening Participation and Strengthening the European Research Area' which aims to optimise the impact and attractiveness of the European Research Area by fostering excellence-based participation from all EU member states, including low-performing ones, to facilitate collaborative links in EU research and innovation.

Horizon Europe is also complemented by the European Defence Fund, the Digital Europe Programme, and the Euratom Research and Training Programme (which funded one cancer research grant with partners from Ireland during the review period). Each of these has a separate work programme.

4.1.2 Horizon 2020 (2014–2020)

Horizon 2020 was the EU's research and innovation funding programme that preceded Horizon Europe. It was the financial vehicle to implement the Innovation Union; an EU 2020 flagship initiative aimed at securing the EU's global competitiveness. Horizon 2020's core mission was to drive economic growth and create jobs by synergising research and innovation, placing a strong emphasis on excellent science, industrial leadership, and tackling societal challenges. Horizon 2020 had a particular focus on capacity building, research leadership, and career development initiatives. The programme garnered significant interest, attracting more than 1 million individual applications from 177 countries over 7 years. It funded almost 35,000 projects involving 40,000 organisations.

Horizon 2020 consisted of four overarching groups (Societal Challenges; Excellent Science; Industrial Leadership; and Additional Work Programmes), each with its own individual work programmes, totalling 22 overall. Please see Appendix C for a full list of the Horizon 2020 work programmes.

Horizon 2020 had a budget of almost €80 billion to provide opportunities for industry and academia to draw down research and innovation funding. Within this, the 'Health, Demographic Change and Wellbeing' area had a dedicated budget of €7.4 billion.

Given the extensive reach of Horizon 2020, it would have needed an additional €159 billion over its lifetime, to fund all the high-quality proposals submitted.

4.1.3 EU4Health (2021–2027)

EU4Health is a funding programme adopted as a response to the COVID-19 pandemic and to reinforce crisis preparedness in the EU. The pandemic highlighted the fragility of national health systems; as a result, EU4Health aims to address long-term health challenges by building stronger, more resilient and accessible health systems to improve the overall health and well-being of EU citizens. It does this via funding infrastructure, networks and supports for new legislation and implementation of best practices.

EU4Health had an initial budget of €5.3 billion for the 2021–2027 period; however, this was reduced to €4.4 billion following revisions of the wider EU budget. EU4Health is the main instrument paving the way for a European Health Union. It has four main objectives:

1. Improve and foster health (including health promotion and disease prevention, with a particular focus on cancer),
2. Protect people (including future pandemic prevention and preparedness),
3. Ensure access to medicinal products, medical devices, and crisis-relevant products,
4. Strengthen health systems (including digital methods).

4.2 Total Funding for Cancer Research via EU Programmes 2019–2022

From 2019 to 2022, six EU funding programmes recorded a total of €46,489,909 in funding across 76 cancer research grants that had research partners in Ireland.

The Interregional Innovation Investments (I3) Instrument, Erasmus+, and the 3rd EU Health Programme invested in just one cancer research grant each during the review period. Each of these grants had a value of less than €100,000 and, taken together, account for less than 1% of the total value of all grants in the review. This is unsurprising given the remits of I3 and Erasmus+ had less specified focus on health.

Table 3 shows the funding committed by the three largest EU Funding Programmes that supported cancer research from 2019 to 2022, in descending order; the actual number of cancer research grants made; and the percentage value of the total number of grants.

Table 3: Top Three EU Funding Programmes: Total Cancer Research Grants (2019–2022)

European Funding Programmes	Number of Grants	Value (€)	% of Total value of all Grants
Horizon Europe	33	28,697,691	61.46%
Horizon 2020	25	14,357,634	30.75%
EU4Health	15	3,385,297	7.25%
Total	**73**	**46,440,622**	**99.46%**

*Figures rounded to nearest €

4.2.1 Horizon Europe Funding

Unsurprisingly, Horizon Europe made the highest cancer-related research funding commitments during this period, at almost €28.7 million across 33 grants (representing 61.5% of the total investment during the review period) see Table 4.

Horizon Europe is the EU's largest funding programme and has a remit to support projects, programmes, health systems and partnerships. These are particularly relevant for cancer research; hence, it would be expected that this EU funding programme would account for the largest funding mechanism.

Table 4: Overview of Cancer Research Funding Obtained via Horizon Europe

Horizon Europe Funding Programmes	Value (€)	Number of Grants
European Innovation Council	4,999,999	2
European Research Council	150,000	1
Marie Skłodowska-Curie Actions	3,643,633	13
Health Cluster	13,739,541	6
Cancer Mission	4,702,016	10
Euratom Research and Training Programme	1,462,500	1
Total	**28,697,691**	**33**

*Figures round to nearest €

There are specific programmes focused on funding cancer within Horizon Europe, such as the Cancer Mission however, they did not represent the largest sources of grant funding, as they focus on policy areas. The largest amount of funding for cancer research was delivered by the Health Cluster (€13.7 million) across six grants.

4.2.2 Horizon 2020 Funding

Horizon 2020 accounted for the next highest proportion of cancer research funding, with commitments of €14.4 million across 25 grants (30.8% of the total value of all EU grants for Ireland) see Table 5. It is reassuring that as Horizon 2020 ended, Horizon Europe maintained and continued to fund cancer research. There did not seem to be major funding interruptions or delays with the changeover between EU programmes. Horizon 2020's remit as outlined was to support innovation, excellent science and academia. This was represented by various programmes under Horizon 2020 supporting cancer research. 'Societal Challenges-Health, Demographic Changes & Wellbeing' made the largest funding commitments for Horizon 2020 in the review period, at €4.8 million across 10 grants, and this was closely followed by the Marie Skłodowska-Curie Actions, at €4 million across 8 grants. Three cancer research projects utilising technology were supported by Industrial Leadership.

Table 5: Overview of Cancer Research Funding Obtained via Horizon 2020

Horizon 2020 Funding Programmes	Value (€)	Number of Grants
European Innovation Council	2,357,293	2
Marie Skłodowska-Curie Actions	4,085,614	8
Industrial Leadership – Leadership in Enabling and Industrial Technologies; Information and Communication Technologies	2,629,005	3
Societal Challenges – Health, Demographic Change and Wellbeing	4,843,578	10
Spreading Excellence and Widening Participation	442,142	2
Total	**14,357,634**	**25**

*Figures rounded to nearest €

Focusing specifically on Horizon 2020 and and Horizon Europe, Ireland obtained a total of €84.12 million approx. from the EU during the review period for health areas research, with over 51% of that supporting cancer research (approx €43.06 million).

4.2.3 EU4Health Funding

EU4Health was the third largest funding programme at €3.4 million across 15 grants (7.3% of the total value of all grants for Ireland) within the review period, see Table 6. While EU4Health is implemented by annual work programmes supporting a broad range of actions, it does have a specific remit to support cancer research.

Under 'Cancer', the five projects supported during the review period focused on screening programmes for prostate, lung and gastric cancers; an initiative for inter-specialty cancer training; and monitoring of national cancer control policies.

'Health Promotion & Disease Prevention' funded nine grants, including two focused on human papillomavirus (HPV) research; three grants focused on telemedicine, e-health, and oncological image quality; and four grants examining networks, including Youth Cancer Survivors and Comprehensive Cancer Centres and other training initiatives. This highlights the breadth of opportunities available for funding via the various EU funding programmes that are relevant to cancer research.

Table 6: Overview of cancer research funding obtained via EU4Health

EU4Health Funding Programmes	Value (€)	Number of Grants
Health Promotion & Disease Prevention	726,993	9
Cancer	2,440,084	5
Health Systems & Healthcare Workforce	218,219	1
Total	**3,385,297**	**15**

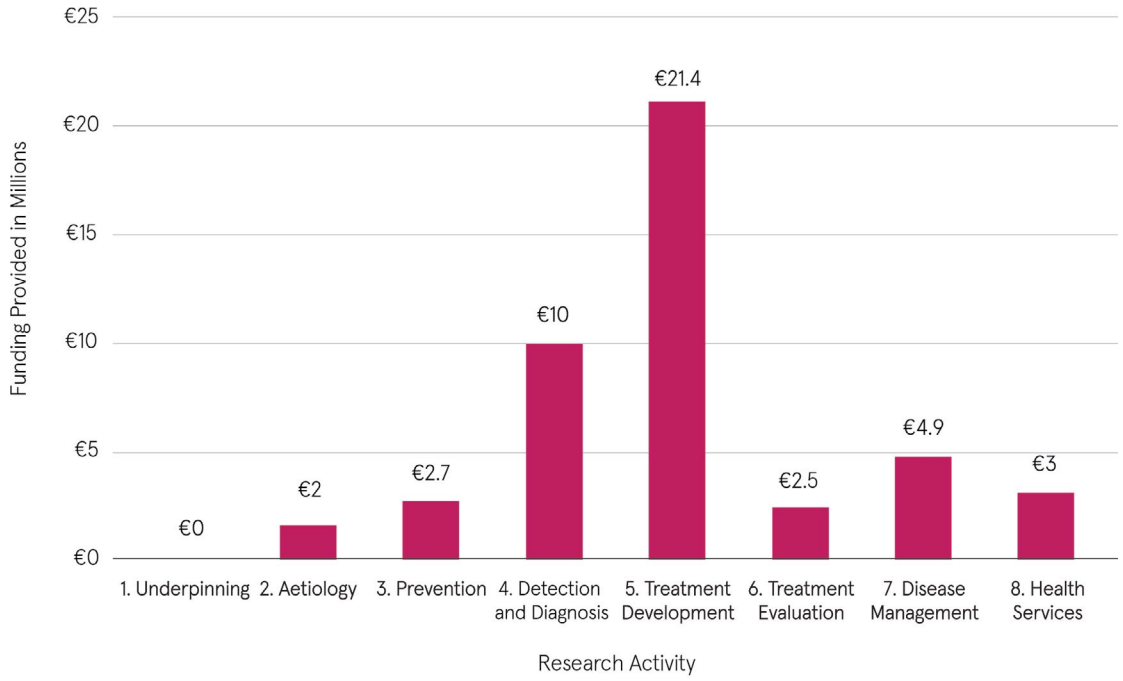
*Figures rounded to nearest €

Given the nature and remit of the remaining funding programmes, two of which had less of a focus on health (see Appendix D), it is not surprising that the Interregional Innovation Investments (I3) Instrument and Erasmus+ had only one grant each during the review period (totalling €98,109, €92,303 respectively). The 3rd Health Programme had a lower budget and preceded EU4Health. It also only had one grant of €58,874 and collectively the three accounted for 0.52% of the overall funding received for cancer research via EU funding programmes by researchers in Ireland during the review period.

4.3 Distribution of EU Cancer Research Funding by HRCS 'Research Activity' and Subcodes

Figure 2 indicates the distribution of cancer research investments across each HRCS 'Research Activity'.

Figure 2: Distribution of EU Cancer Research Funding by HRCS 'Research Activity' (2019–2022)



Two 'Research Activity' areas received most of the cancer research funds accessed via EU Funding Programmes within the review period. These were:

1. 'Treatment Development' (RA 5) received the largest proportion of EU funding accounting for 46% of the overall total investment at €21.4 million

2. 'Detection and Diagnosis' (RA 4) followed this with €10 million (21% of total investment).

'Disease Management' (RA 7) received the next highest amount of EU cancer research funding at €4.9 million (11% of total investment), but this is notably less when compared with the top two research activities which combined represented 67% of the overall total funding received.

Significantly lower levels of funding were also obtained for research activities focused on the 'Health Services' (RA 8) at €3 million (7%); 'Prevention' (RA 3) at €2.7 million (6%); 'Treatment Evaluation' (RA 6) at €2.5 million (6%) and 'Aetiology' (RA 2) at €2 million (4%).

No funding was obtained from EU mechanisms by researchers to support 'Underpinning' (RA 1) of cancer research in Ireland.

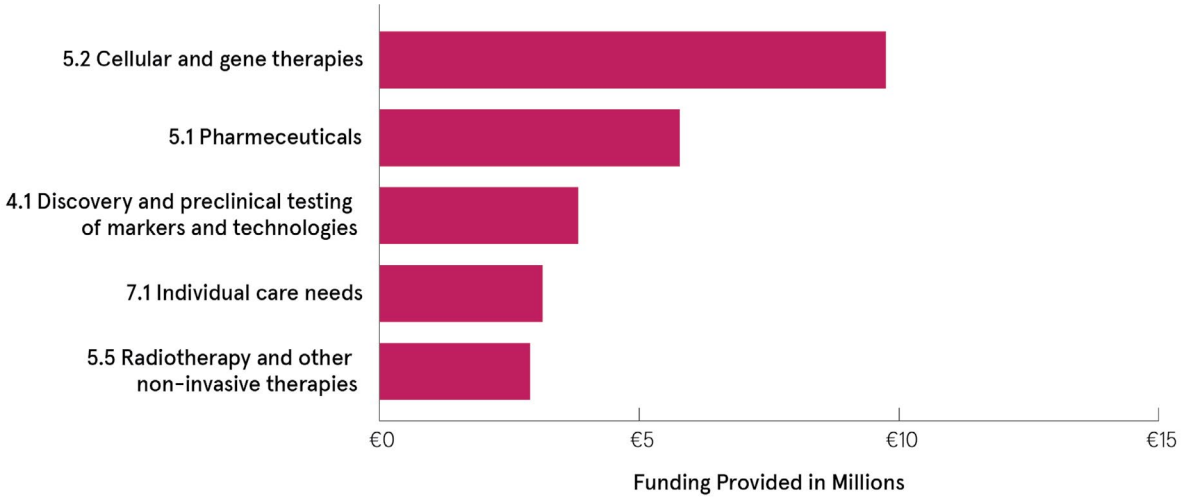
This highlights deficiencies and gaps across the 'Research Activity' areas supporting cancer research obtained by partners in Ireland during the review period.

We did not review the number of unsuccessful applications by partners in Ireland, as these data were unavailable as stated in Section 3.3. Therefore, we do not know if there were applications across all eight 'Research Activity' areas and participants in Ireland were simply not successful in obtaining additional grants, or whether there were limited/no applications across these areas, which resulted in the lower levels of funding obtained.

It also highlights a discrepancy in the distribution of funding across the spectrum of research activities supporting cancer research, with all other areas receiving less than €5 million each and clear deficits between the top funded and lower funded areas, with a gap of €21 million evident.

The eight overarching HRCS 'Research Activities' can be further broken down into 48 subcodes. The analysis showed that a total of 25 of the 48 HRCS subcodes received some investment (see Appendix A for the full list of the HRCS subcodes). It is important to note that 23 subcodes received no funding at EU level.

Figure 3: Top Five HRCS Subcodes in Ireland Receiving EU Cancer Research Funding (2019–2022)



- Cellular and Gene Therapies' (subcode 5.2) within 'Treatment Development' (RA 5) saw an investment of almost €10 million, or 21.1% of the total. This was attributable to a single grant.
- 'Pharmaceuticals' (subcode 5.1) within 'Treatment Development' (RA 5) received €5.2 million in investment, or 11.3% of total investment.
- 'Discovery and Pre-clinical Testing of Markers and Technologies' (subcode 4.1) within 'Detection and Diagnosis' (RA 4) saw 9.6% of total investment, or €4.5 million.
- 'Individual Care Needs' (subcode 7.1) within 'Disease Management' (RA7), saw €3 million in investment, which was 6.6% of total investment.
- 'Radiotherapy and Other Non-invasive Therapies' (subcode 5.5) within 'Treatment Development' (RA 5) saw €2.6 million invested, or 5.6% of total investment.

4.4 Distribution of Cancer Research Investment by Grant Type

This section looks at how and where investment is made. A grant 'type' can be considered the overall focus of the grant as funded through a particular scheme (a funding mechanism) within a programme.

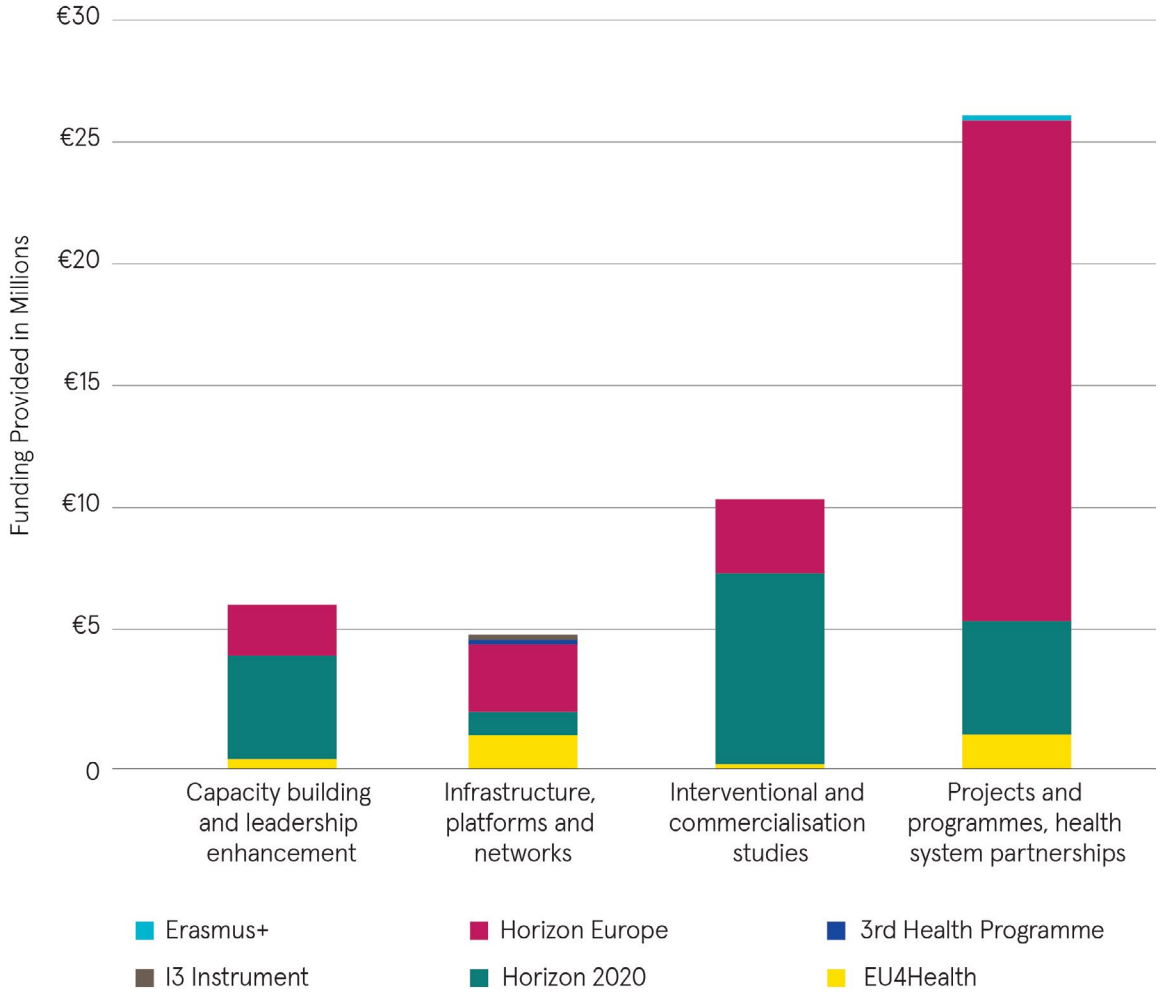
Depending on its objective, the scheme or funding programme can also be targeted at one or more specific audiences who are best placed to deliver the desired outcomes, such as postgraduate or postdoctoral researchers. The HRB categorised all grants into four overarching funding areas to better understand how and where investment is made. The four broad funding instrument types are described in Table 7.

Table 7: Overarching Funding Area Types and Objectives

Funding Area Type	Objective
Capacity Building and Leadership Enhancement	Increase the capacity, capability and expertise of researchers in Ireland in a particular area of health research, either in academia, the healthcare system, the enterprise sector, or in policy bodies
Projects and Programmes, Health System Partnerships	Expand and advance knowledge and understanding in a particular area of health or disease in academia, the healthcare system, the enterprise sector, or in policy bodies
Interventional and Commercialisation Studies	Advance the testing, uptake or commercialisation of a technological innovation, product or service that benefits people's health or healthcare
Infrastructure, Platforms and Networks	Provide the infrastructure, networks and platforms required to underpin/support a particular area of health research

Figure 4 shows the distribution of cancer research investment by funding area type and EU funding programme.

Figure 4: Distribution of EU Cancer Research Investment Across Grant Type and EU Programme (2019–2022)



During the review period (2019–2022), 'Projects and programmes, health system partnerships' received the highest level of funding for cancer research (€25.6 million). This is not unexpected given that most cancer research would occur within these formats. All these projects, programmes and health system partnerships are seeking to expand and advance knowledge and understanding of cancer in some form; therefore, it was expected that this would be the area receiving the highest value of grants from EU Funding Programmes. Horizon Europe committed the largest proportion of funding at €20.3 million (71% of its total funding commitments) in this period, which is again expected, given Horizon Europe's remit which is focused on collaborative projects and partnerships.

'Interventional and commercialisation studies' saw a total of €10.3 million, with €6.4 million (60%) of that coming from Horizon 2020. Supporting an innovative and industrial EU was a key focus of Horizon 2020.

Investment in cancer research through the funding of 'Capacity building and leadership enhancement' totalled €6.1 million. These awards invest in people who can make a difference by driving changes and leading to positive health impacts in cancer. Horizon 2020 made the biggest contribution to this area with a total investment of €3.2 million. Supporting capacity building, leadership, and career development was a key focus of Horizon 2020.

'Infrastructure, platforms and networks' received the least amount of EU funding, with a total investment of €4.6 million, of which Horizon Europe contributed the largest contribution at €2.1million. While networks play an important role within cancer research, it is notable this area received lower levels of EU funding when compared to the other areas.

4.5 Analysis of National and EU Funding for Cancer Research across HRCS 'Research Activities' and Subcodes

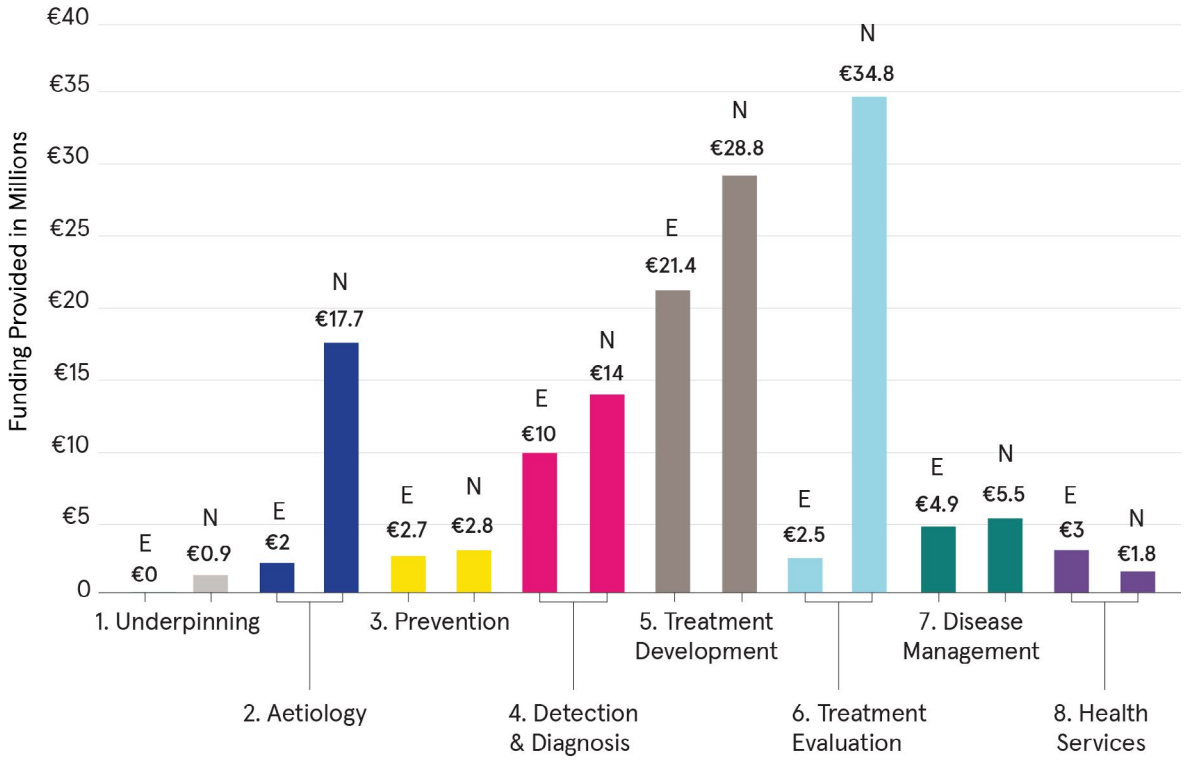
EU cancer research funding was analysed for the period from 2019 to 2022, to build on the national review of the same period, to identify potential gaps and inform future coordination of cancer research investments via the NCRG. It was important to analyse EU funding to assess and identify if there were areas – particularly those receiving lower levels of investment nationally – that were potentially being supported by and availing of EU funding mechanisms to mitigate this or not.

Figure 5 shows a comparison of national and EU cancer research funding across HRCS 'Research Activity' areas.

The combined national and EU funding available for cancer research in Ireland totalled approximately €153.2 million across 473 grants during the review period.

Three research activities accounted for 72.9% of total investment: **'Treatment Development'** (RA 5) received the highest value of combined investment at €50.2 million (33% of the overall total, comprising €21.5 million from EU grants and €28.7 million from national grants), followed by **'Treatment Evaluation'** (RA 6) at €37.5 million (24.5% of the overall total) and **'Detection and Diagnosis'** (RA 4) at €24 million (15.6% of the overall total). This replicated the national review, with three 'Research Activity' areas receiving most of the funding. However, **'Aetiology'** (RA 2) placed in the top three nationally funded research activities; this was due to receiving significant national investments of €17.7 million compared with only €2 million received from EU funding programmes and it accounted for 13% of all cancer research funding in Ireland within the period evaluated.

Figure 5: National (N) and EU (EU) Cancer Research Funding across HRCS 'Research Activity' (2019–2022)



*Figures rounded to one decimal place

Most importantly, the analysis identified several research activity areas where lower levels of investment were made including **'Disease Management'** (RA 7) at €10.5 million (6.9%), **'Prevention'** (RA 3) at €5.5 million (3.6%) and **'Health Services'** (RA 8) at €4.8 million (3%).

Remarkably, **'Underpinning'** (RA 1) of cancer research received no grants via EU funding programmes during the review period and only €947,000 from national supports (0.6%). This is important in the wider cancer research area given that it supports research that underpins investigations into the cause, development, detection, treatment and management of diseases, conditions, and ill health. There is a clear funding deficit in this area which should be considered for future investments.

There is some overlap noted between the top five subcodes funded by EU grants and the top five subcodes supported by national funding. 'Pharmaceuticals' (subcode 5.1) within 'Treatment Development' (RA 5) featured in the top five nationally, receiving €21.6 million of national investment as did 'Discovery and pre-clinical testing of markers and technologies' (subcode 4.1) within 'Detection and Diagnosis' (RA 4) received €10.8 million of national investments.

'Radiotherapy and other non-invasive therapies' (subcode 5.5) did not feature in the top five nationally funded subcodes but was within the top five EU funded subcodes. Therefore, EU funding programmes were utilised to support research within this area during the review period (2019–2022).

There were no areas where gaps in national funding approaches were being supplemented, alleviated, or replaced with EU funding instruments. To enable a comprehensive cancer research environment, 'Research Activity' areas that received lower levels of investment should be considered for future prioritisation and efforts coordinated regarding future investments nationally via the NCRG.

5 Conclusion: Investment in Cancer Research

This report has presented an analysis of the data collected as part of the review of EU funding programmes that support cancer research, including cancer-related research projects, programmes, and supporting infrastructures.

The review was conducted to:

- facilitate a comprehensive, collective overview of resources that are being invested to support cancer research at both national and EU level
- identify and assess potential gaps or duplication of current cancer research funding
- support the coordination of cancer research activities through shared learning and the open exchange of information
- assist with business planning and future prioritisation of areas for future investment, and
- benefit Irish patients and the wider public.

Combined with the national review for the same period (2019–2022), this review enables a wide-ranging analysis of the funding supports that have been invested to support cancer research in Ireland. It provides a thorough overview of where cancer research funding is being invested across the full spectrum of research activity, from fundamental cancer-related research to health system improvement research, thus creating a solid foundation for future discussions, advocacy, business planning, strategy development and prioritisation.

Overall, the reviews find that cancer is a well-funded health research area in Ireland. Between 2019 and 2022, cancer researchers in Ireland obtained over €153.2 million across 473 cancer research grants through funding opportunities with national funders and EU programmes. Moreover, given that this review does not capture all potential funding commitments within this space, the actual total investment and figures are likely to be even greater. During the review period, cancer research alone accounted for 51% of all funding obtained by Ireland from Horizon 2020 and Horizon Europe to support health research. However, as the previous national report, *Cancer Research Investment in Ireland (2019–2022): A review of national cancer research investment using the Health Research Classification System (HRCS)*[1] included all the main national funders within this space; and this report examines all grants that partners in Ireland received to support cancer research from EU funding programmes during the 2019–2022 period, it can therefore be recognised as an accurate estimation of the reality.

The combined reviews enable the clear identification of which 'Research Activity' areas are receiving the highest proportion of funding in cancer research. Of these, three areas accounted for 72.9% of all investment during the 2019–2022 period. They were:

- **'Treatment Development'** (RA 5) at €50.2 million (33% of the overall total)
- **'Treatment Evaluation'** (RA 6) at €37.5 million (24.5% of the overall total), and
- **'Detection and Diagnosis'** (RA 4) at €24 million (15.6% of the overall total).

These areas are well funded across both the national and EU funding mechanisms. This is not entirely surprising given the extensive national commitments previously identified, with the HRB being the largest contributor (39%), followed by Research Ireland (25%).

The HRB is providing significant levels of funding for infrastructure and networks to support cancer research and clinical trials, hence the higher levels of funding identified across the top three 'Research Activity' areas. Despite this, the national review identified that overall funding support for investigator-led cancer clinical trials is very low, and this remained the case even following the addition of funding sources via EU funding programmes. Strategies are required into the future for building capability and/or supporting investigators to avail of dedicated funding sources for investigator-initiated studies and encouraging international collaborations. The HRB's Investigator-Led Clinical Trials scheme* is one opportunity that currently exists at national level; however, a coordinated national approach is likely to be required to enhance Ireland's capabilities and competitiveness going forward.

More notably, there are several 'Research Activities' which are receiving lower levels of funding including **'Prevention', 'Disease Management'** (particularly survivorship), and **'Health Services'** research. The EU4Health and Cancer Mission provide funding in 'Prevention' (through screening programmes), although only small levels of funding have been obtained in this area.

Likewise, at a national level, there is no national funder supporting preventive cancer medicine or research in health and social care services in a meaningful, strategically focused way. The HRB could play a role in addressing these areas as they fall within the agency's funding remit; however, an uplift and enhancement of the HRB's existing budget would be required to support delivering this.

'Underpinning' was identified as the only 'Research Activity' that received no funding from EU supports during the period 2019–2022. Only €947,000 was invested to support it, representing the lowest level of funding across national investments. 'Underpinning' is a vital area, as it enables and supports the wider cancer research ecosystem.

There is also a need for enhanced strategic engagement from other stakeholders nationally that are active and funding cancer research. Efforts should be harmonised to ensure enhanced, targeted coordination is progressed at national level, with stakeholders engaged to actively address areas within their existing remit to ensure that areas with lower levels of funding are considered and mechanisms to address these progressed.

* https://www.hrb.ie/funding-scheme/investigator-led-clinical-trials-ilct-programme-2025/

This is particularly important with the move towards EU partnerships to ensure there is inter-agency engagement, alignment and promotion of opportunities to guarantee Ireland is maximising our potential impact for cancer research.

For example, the establishment of a dedicated National Cancer Mission Hub in Ireland which is currently being advocated for by stakeholders nationally, could be utilised to enhance Ireland's ability to identify funding opportunities, raise national awareness, and engage all the key stakeholders in cancer research - patients, advocates, funders, policymakers, charities, scientists, and healthcare professionals who would collaborate and work towards common cancer research goals. This may also potentially increase Ireland's ability to strategically compete for funding within EU Funding Programmes. The 'Health Cluster' and 'Cancer Mission' work programmes offer unique and valuable funding opportunities for researchers in Ireland; funding from these programmes is available up to 2030. For example, the recently announced '2025 Cancer Mission Work Programme' has six call topics under four mission clusters and one transversal topic, which addresses areas of cancer research such as 'Understanding' (€35.45 million budget), through to 'Quality of Life' (€15 million budget). This represents a significant opportunity for the research community in Ireland and should ideally be supplemented by national funding in order to enhance funding supports across these areas.

This report only examines successful grants obtained from EU Funding Programmes. Researchers in Ireland demonstrated success in applying for grants to support cancer research focused on 'Treatment Development' and 'Detection and Diagnosis'. However, as highlighted, this is not replicated or evident across all 'Research Activity' areas with many receiving significantly lower levels of EU funding.

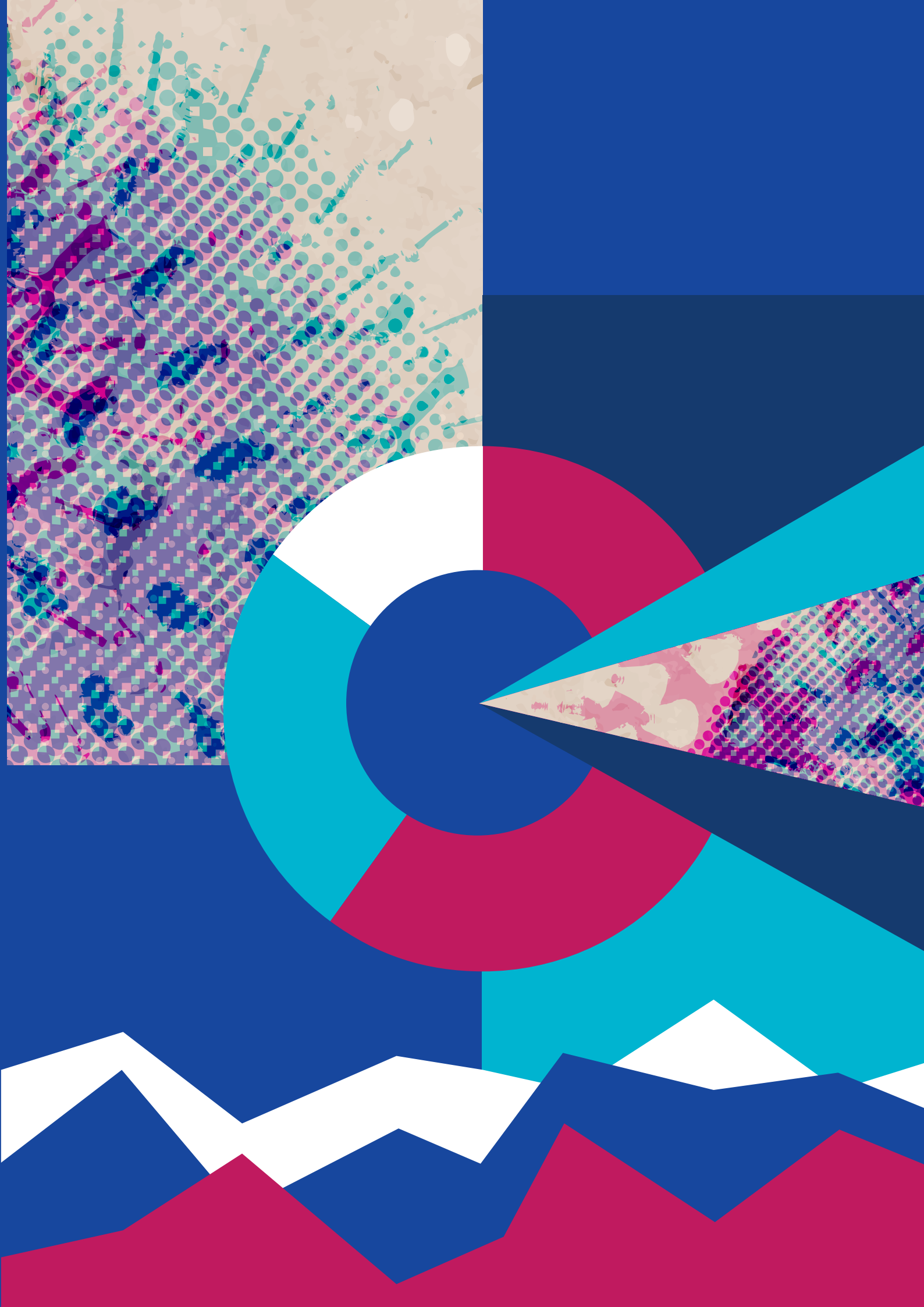
This may potentially be due to a lack of applications focused within these areas, or applications of lower quality. EU funding programmes such as EU4Health and Horizon Europe's 'Cancer Mission' require government support as the competent authority; hence, there needs to be a mechanism for stakeholders, including the Government and the cancer research community, to prioritise timely engagement. The 'Cancer Mission Hub' aligned with the workings of the NCRG, may support this.

Coordination of national and international efforts and supports to enable cancer research across the full spectrum of research activities and to improve cancer patients' outcomes will be critical going forward. It reinforces the current cancer strategy's proposal to support the National Cancer Control Programme (NCCP) through the NCRG to advance a more strategic and coordinated approach to cancer research.

6 Next steps

The HRB and the NCRG will use the insights from this report to consider a more comprehensive plan-based strategy for Ireland that could feed directly into the next National Cancer Strategy. The current National Cancer Strategy concludes in 2026.

Appendices



Appendices

Appendix A: The Health Research Classification System

The tables below present an overview of the Health Research Classification System (HRCS) 'Research Activity' and 'Health Category' classification and are taken directly from the HRCS website*.

(A) Research Activity Descriptions

No.	Research Activity	Summary Description
1	Underpinning research	Research that underpins investigations into the cause, development, detection, treatment and management of diseases, conditions, and ill health
2	Aetiology	Identification of determinants that are involved in the cause, risk or development of disease, conditions, and ill health
3	Prevention of disease and conditions, and promotion of well-being	Research aimed at the primary prevention of disease, conditions or ill health, or promotion of well-being
4	Detection, screening and diagnosis	Discovery, development and evaluation of diagnostic, prognostic and predictive markers and technologies
5	Development of treatments and therapeutic interventions	Discovery and development of therapeutic interventions and testing in model systems and preclinical settings
6	Evaluation of treatments and therapeutic interventions	Testing and evaluation of therapeutic interventions in clinical, community or applied settings
7	Management of diseases and conditions	Research into individual care needs and management of disease, conditions, or ill health
8	Health and social care services research	Research into the provision and delivery of health and social care services, health policy and studies of research design, measurements, and methodologies

(B) Health Category Classifications

Health Category	Summary
Blood	Haematological diseases, anaemia, clotting (including thromboses and venous embolisms) and normal development and function of platelets and erythrocytes
Cancer and neoplasms	All types of neoplasms, including benign, potentially malignant, or malignant (cancer) growths. This includes leukaemia and mesothelioma.
Cardiovascular	Coronary heart disease, diseases of the vasculature and circulation including the lymphatic system, and normal development and function of the cardiovascular system
Congenital disorders	Physical abnormalities and syndromes that are not associated with a single type of disease or condition including Down's syndrome and cystic fibrosis
Ear	Deafness and normal ear development and function
Eye	Diseases of the eye and normal eye development and function
Infection	Diseases caused by pathogens, acquired immune deficiency syndrome, sexually transmitted infections and studies of infection and infectious agents
Inflammatory and immune system	Rheumatoid arthritis, connective tissue diseases, autoimmune diseases, allergies and normal development and function of the immune system
Injuries and accidents	Fractures, poisoning and burns
Mental health	Depression, schizophrenia, psychosis and personality disorders, addiction, suicide, anxiety, eating disorders, learning disabilities, autistic spectrum disorders and studies of normal psychology, cognitive function and behaviour
Metabolic and endocrine	Metabolic disorders (including diabetes) and normal metabolism and endocrine development and function. This includes all research on the pineal, thyroid, parathyroid, pituitary and adrenal glands.
Musculoskeletal	Osteoporosis, osteoarthritis, muscular and skeletal disorders and normal musculoskeletal and cartilage development and function

Health Category	Summary
Neurological	Dementias, transmissible spongiform encephalopathies, Parkinson's disease, neurodegenerative diseases, Alzheimer's disease, epilepsy, multiple sclerosis and studies of the normal brain and nervous system
Oral and gastrointestinal	Inflammatory bowel disease, Crohn's disease, diseases of the mouth, teeth, oesophagus, digestive system including liver and colon, and normal oral and gastrointestinal development and function
Renal and urogenital	Kidney disease, pelvic inflammatory disease, renal and genital disorders, and normal development and function of male and female renal and urogenital system
Reproductive health and childbirth	Fertility, contraception, abortion, in vitro fertilisation, pregnancy, mammary gland development, menstruation and menopause, breastfeeding, antenatal care, childbirth and complications of newborns
Respiratory	Asthma, chronic obstructive pulmonary disease, respiratory diseases and normal development and function of the respiratory system
Skin	Dermatological conditions and normal skin development and function
Stroke	Includes both ischaemic stroke (caused by blood clots) and haemorrhagic stroke (caused by cerebral/intracranial haemorrhage)
Generic health relevance	Research applicable to all diseases and conditions or to general health and well-being of individuals. Public health research, epidemiology and health services research that is not focused on specific conditions. Underpinning biological, psychosocial, economic or methodological studies that are not specific to individual diseases or conditions.
Disputed aetiology and other	Conditions of unknown or disputed aetiology (such as chronic fatigue syndrome/myalgia encephalomyelitis), or research that is not of generic health relevance and not applicable to the top 19 specific health categories with specific pathological/physiological determinants.

(C) Research Activity Subcodes

Research Activity subcodes shown in bold received funding during the period 2019–2022.

Research Activity	Subcodes
Underpinning research	1.1 Normal biological development and functioning 1.2 Psychological and socioeconomic process 1.3 Chemical and physical sciences 1.4 Methodologies and measurements 1.5 Resources and infrastructure (Underpinning research)
Aetiology	**2.1 Biological and endogenous factors** **2.2 Factors relating to physical environment** **2.3 Psychological, social, and economic factors** 2.4 Surveillance and distribution 2.5 Research design and methodologies (Aetiology) 2.6 Resources and infrastructure (Aetiology)
Prevention of disease and conditions, and promotion of well-being	**3.1 Primary prevention interventions to modify behaviours or promote well-being** **3.2 Interventions to alter physical and biological environmental risks** 3.3 Nutrition and chemoprevention **3.4 Vaccines** **3.5 Resources and infrastructure (Prevention of disease and conditions, and promotion of well-being)**
Detection, screening and diagnosis	**4.1 Discovery and pre-clinical testing of markers and technologies** **4.2 Evaluation of markers and technologies** **4.3 Influences and impact** **4.4 Population screening** **4.5 Resources and infrastructure (Detection, screening and diagnosis)**

Research Activity	Subcodes
Development of treatments and therapeutic interventions	**5.1 Pharmaceuticals** 5.2 Cellular and gene therapies 5.3 Medical devices **5.4 Surgery** **5.5 Radiotherapy and other non-invasive therapies** 5.6 Psychological and behavioural 5.7 Physical 5.8 Complementary **5.9 Resources and infrastructure (Development of treatments and therapeutic interventions)**
Evaluation of treatments and therapeutic interventions	**6.1 Pharmaceuticals** 6.2 Cellular and gene therapies 6.3 Medical devices 6.4 Surgery **6.5 Radiotherapy and other non-invasive therapies** 6.6 Psychological and behavioural 6.7 Physical 6.8 Complementary **6.9 Resources and infrastructure (Evaluation of treatments and therapeutic interventions)**
Management of diseases and conditions	**7.1 Individual care needs** 7.2 End-of-life care **7.3 Management and decision-making** **7.4 Resources and infrastructure (Management of diseases and conditions)**
Health and social care services research	**8.1 Organisation and delivery of services** 8.2 Health and welfare economics 8.3 Policy, ethics and research governance 8.4 Research design and methodologies (Health and social care services research) **8.5 Resources and infrastructure (Health and social care services research)**

Appendix B: Examples of Cancer Research Funded by EU Programmes

1. 'INTERACT-EUROPE – Innovative collaboration for Inter-specialty cancer training across Europe'

EU scheme: EU4Health Programme (2021–2027) as part of Europe's Beating Cancer Plan
Lead Partner in Ireland: Professor Niall O'Higgins (University College Dublin)
EU contribution: €2,131,072 (80% of the overall budget)
Total drawdown for Ireland: €29,532
Research Activity: 8.1 Organisation and delivery of services; 8.5 Resources and infrastructure (Health and social care services research)

The INTERACT-EUROPE project, funded through the EU4Health programme 2021–2027 as part of Europe's Beating Cancer Plan, is an Irish-led initiative that brings together 33 partners from 17 countries. Its objective is to develop a multidisciplinary training curriculum for cancer specialists that can be applied to any cancer centre within the EU, ultimately improving cancer care in Europe. Professor Niall O'Higgins, University College Dublin, conceived the original training idea and is the co-chair of the project.

Collaboration among cancer specialists from different disciplines is essential for delivering high-quality patient care; however, cancer specialists from different specialties are rarely trained in each other's discipline. This pioneering initiative has developed a curriculum for an inter-specialty training programme across oncology surgery, medical oncology, radiation oncology and cancer nursing.

It has also set the foundations for a follow-up project – INTERACT-EUROPE 100 – also funded through the EU4Health programme, which utilises the developed curriculum to implement the Inter-specialty Cancer Training (ISCT) across 100 cancer centres in Europe, including the Royal College of Surgeons in Ireland. The programme has received formal accreditation from the Accreditation Council of Oncology in Europe (ACOE), and its activities promote greater understanding and communication between different professions involved in cancer care. This fosters a patient-centric approach to cancer and supports the standardisation of training programmes throughout Europe, as well as facilitating the exchange of expertise across the EU.

2. 'PRAISE-U project: an initiative to implement prostate cancer screening in Europe'

- **EU scheme:** EU4Health Programme (2021–2027) as part of Europe's Beating Cancer Plan
- **Lead Partner in Ireland:** Professor David Galvin (University College Dublin)
- **EU contribution:** €9,8491,062
- **Total drawdown for Ireland:** €1,184,295

- **Research Activity:** 4.4 Population screening; 4.5 Resources and infrastructure (Detection, screening and diagnosis)

The 'PRostate cancer Awareness and Initiative in the EU' (PRAISE-U) project, funded by EU4Health, aims to provide better ways of detecting prostate cancer, thus addressing a global health challenge. This initiative, led by the European Association of Urology, brings together key experts from various disciplines across Europe.

Prostate cancer is the most common cancer in men, and the third most common cause of cancer death. While early cancer detection through screening programmes has many benefits, it also carries potential risks. The aim of the PRAISE-U project is to design, implement and evaluate a prostate cancer screening programme that accurately identifies men who will benefit from treatment, while avoiding unnecessary diagnosis and medical interventions for those unlikely to need intervention. To do so, the project will identify current prostate cancer screening and early detection practices across Europe, develop a risk-based prostate cancer screening model suitable for use in multiple countries, and evaluate its effectiveness through pilot studies. These studies will determine, among other things, how well different methods can detect men at higher risk of developing a potentially harmful form of prostate cancer.

Ireland is one of the five European sites involved in the pilot study. The Health Service Executive National Screening Service is currently recruiting 8,000 men to assess their risk – either currently or in the future – of developing prostate cancer. The insights gained from this project will be used to guide future decisions on prostate cancer screening models both at national and EU level. Overall, this project will not only raise awareness about prostate cancer but will also contribute to reducing morbidity and mortality caused by prostate cancer in the EU.

3. 'EU NAVIGATE – Enhancing Supportive and Palliative Care for Older Cancer Patients'

EU scheme: Horizon Europe 2021–2027 (Health Cluster)
Lead Partner in Ireland: Professor Andrew Davis, Trinity College Dublin
EU contribution: €5,993,225
Total drawdown for Ireland: €964,170

Research Activity: 7.1 Individual Care Needs EU NAVIGATE (2022–2027) is an interdisciplinary project involving researchers from Belgium, Ireland, Italy, the Netherlands, Poland, and Portugal. They aim to enhance supportive and palliative care for older adults (aged 70 years and over) living with cancer and their family caregivers.

The project explores how volunteer or professional 'navigators' can bridge communication and service gaps between hospital oncology teams, primary care, palliative care, and community services – areas that are often characterised by fragmented care.

It adapts and evaluates the proven Canadian Nav-CARE (Navigation: Connecting, Advocating, Resourcing, Engaging) model for European healthcare systems. It will assess the Nav-CARE intervention from both a cost and effectiveness perspective through a randomised controlled trial (RCT) across the participating countries, which embeds mixed-methods process evaluation and implementation studies.

The project is coordinated by Vrije Universiteit Brussels, Belgium and Professor Andrew Davis, Trinity College Dublin leads the research team in Ireland with responsibility for:

- implementing the intervention within community and oncology care settings in Ireland
- coordinating the Irish arm of the multi-country RCT
- collecting qualitative and quantitative evidence on service integration, patient and carer experiences, and local care coordination challenges, and
- contributing to cross-national analysis, cost-effectiveness studies, and policy translation.

4. '4P-CAN – Personalized CANcer Primary Prevention research through Citizen Participation and Digitally Enabled Social Innovation'

EU scheme: Horizon Europe 2021–2027 (EU Mission on Cancer)
Lead Partner in Ireland: European Connected Health Alliance Ireland
EU contribution: €5,199,480
Total drawdown for Ireland: €385,250
Research Activity: 3.5 Resources and infrastructure (Prevention of disease and conditions, and promotion of well-being)

Led by Romania, 4P-CAN brings together 17 organisations across 11 countries. It addresses systemic, behavioural and policy barriers to adopting effective primary prevention strategies across diverse settings, guided by the European Code Against Cancer.

The project uses Living Labs and co-creation methods to design personalised digital tools for cancer prevention. Ireland engages via the European Connected Health Alliance Ireland (now known as the Global Health Connector) and leads on cross-country networking and knowledge dissemination, leveraging its international health ecosystems to ensure scalability and policy impact.

5. 'PREVENT – Improving & Upscaling Primary Prevention of Cancer by Addressing Childhood Obesity Through Implementation Research'

EU scheme: Horizon Europe 2021–2027 (EU Mission on Cancer)
Lead Partner in Ireland: European Association for the Study of Obesity Ireland
EU contribution: €7,469,250
Total drawdown for Ireland: €354,687
Research Activity: 3.1 Primary prevention interventions to modify behaviours or promote well-being

Led by Greece, PREVENT unites 20 partners across 7 countries to combat childhood and adolescent obesity, a major risk factor for multiple cancers, including colon, breast, kidney and endometrial.

The project develops and tests scalable interventions in school and community settings, supported by digital tools and policy packages. It applies implementation research to identify barriers, evaluate cost-effectiveness, and inform sustainable upscaling. olreland contributes expertise in obesity policy, clinical practice and advocacy, and supports policy engagement and the translation of research into national strategies as part of its role on the project.

Appendix C: Horizon 2020 Work Programmes

Societal Challenges

- Health, Demographic Change and Wellbeing 2018–2020
- Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy 2018–2020
- Secure, Clean and Efficient Energy 2018–2020
- Smart, Green and Integrated Transport 2018–2020
- Climate Action, Environment, Resource Efficiency and Raw Materials 2018–2020
- Europe in a changing world - Inclusive, innovative and reflective societies 2018–2020
- Secure societies – Protecting freedom and security of Europe and its citizens 2018–2020

Excellent Science

- Future and Emerging Technologies 2018–2020
- Marie Skłodowska-Curie Actions 2018–2020
- Research Infrastructures, including e-Infrastructures 2018–2020
- European Research Council Work Programme 2020

Industrial Leadership

- Leadership in Enabling and Industrial Technologies 2018–2020
- Information and Communication Technologies 2018–2020
- Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology 2018–2020
- Space 2018–2020
- Access to risk finance 2018–2020
- Innovation in SMEs 2018–2020

Additional Work Programmes

- Spreading Excellence and Widening Participation 2018–2020
- Science with and for society 2018–2020
- European Innovation Council (EIC)
- Dissemination, Exploitation and Evaluation 2018–2020
- European Green Deal Call

Appendix D: Additional EU Funding Programmes Accessed for Cancer Research 2019–2022

• Interregional Innovation Investments Instrument (I3)

The Interregional Innovation Investments instrument is a new European Regional Development Fund (ERDF) funding instrument that aims to strengthen economic cohesion in the EU by helping businesses work with innovation actors in other regions. It is designed to promote innovation and interregional collaboration by supporting the commercialisation and scaling up of interregional innovation projects. The objective of I3 is to:

- encourage the development of EU value chains by mobilising innovation ecosystems to scale up and commercialise interregional innovation projects
- through the linkage to mainstream Cohesion policy operational programmes, mobilise additional investments in the selected priority areas and enhance the cooperation with partners from different Member States
- Strengthen complementarities between different EU, national and regional funding.

The instrument provides funding for mature joint innovation projects and supports stakeholders involved in smart specialisation to develop and set up such projects in value chain investment portfolios. The I3 instrument is implemented by the European Innovation Council and SMEs executive agency (EISMEA) based on a biannual work programme.

• Erasmus+

Erasmus+ is the EU programme that supports education, training, youth, and sport across Europe. The 2021–2027 programme places a strong focus on social inclusion, the green and digital transitions, and promoting young people's participation in democratic life. It has a budget of approximately €26.2 billion. This is almost double the funding of the predecessor Erasmus+ programme (2014–2020). It offers funding and opportunities for individuals and organisations to participate in projects that promote European exchange, cooperation, and learning.

• 3rd Health Programme

The 3rd Health Programme was a funding programme to support cooperation among EU countries and underpin and develop EU health activities. It was the main instrument used by the European Commission (EC) to implement the EU Health Strategy, which supported the Europe 2020 Strategy.

The 3rd Health Programme (2014–2020) had a budget of €449.4 million for this period, and via 23 priority areas, served four specific objectives: to promote health, prevent disease and foster healthy lifestyles through 'health in all policies'; to protect EU citizens from serious cross-border health threats; to contribute to innovative, efficient and sustainable health systems and to facilitate access to high-quality, safe healthcare for EU citizens.

References

1. Cancer Research Investment in Ireland (2019–2022) A review of national cancer research investment using the Health Research Classification System (HRCS) Cancer Research Investment in Ireland (2019–2022)

2. European Commission Joint Research Centre https://joint-research-centre.ec.europa.eu/index_en

3. CORDIS CORDIS | European Commission

4. EU Funding & Tenders Portal

5. Horizon Dashboard EU Funding & Tenders Portal