7 DOMAIN GUIDELINE (7DG)

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WP6
STRENGTHENING CAPACITIES AND QUALITY IMPROVEMENT IN EUCCC(s)

THE EUROPEAN COMPREHENSIVE CANCER CENTRE NETWORK

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EDITORIAL NOTE

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This document is a technical and capacity-building resource and does not address questions of legal or other responsibility for acts or omissions on the part of any person or institution. It should not be understood as a reinterpretation of the EUCCC Standards, nor does it replace the official assessment procedures or certification requirements. Likewise, it should not be construed as a formula, a checklist, or an automatic pathway to certification.

The 7DG is conceived as a supportive and illustrative resource intended to inspire reflection, adaptation, and organisational change, and to help candidate centres prepare for the EUCCC certification process. The guidance presented reflect the expert opinion and practical experience of the EUnetCCC WP6 CCC Coordinators and other contributing experts but not intended to represent a formal consensus of all Member States, participating hospitals, or institutions involved in the Joint Action.

Although the 7DG is based on expert consensus, this does not imply full homogeneity across all recommendations and content. The 7DG is not mandatory and should not be interpreted as a single, universally applicable formula for implementation. The recommendations reflect a range of experiences and perspectives from different institutional and organisational contexts, which centres may adapt according to their own circumstances.

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ABBREVIATIONS

7DG	Seven Domain Guideline
AI	Artificial Intelligence
CC Board	Cancer Centre Board
CPG	Clinical Practice Guidelines
DKG	German Cancer Society
ECAC	European Code Against Cancer
EHR	electronic health record
ERN	European Reference Network
EU	European Union
EUCCC	European Union Comprehensive Cancer Centre
EUnetCCC	European network of Comprehensive Cancer Centres
IARC	International Agency for Research on Cancer
IP	Intellectual Property
IT	Information Technology
JA	Joint Action
KPI	Key Performance Indicator
MDT	Multidisciplinary Team
MTB	Molecular Tumour Board
PPI	Patient-Public Involvement
PREM	Patient-Reported Experience Measure
PROM	Patient-Reported Outcome Measure
SAB	Scientific Advisory Board
SOP	Standard Operating Procedures
TRL	Technology Readiness Level
TTO	Technology Transfer Office
RACCC-31	31-item Readiness Assessment Checklist for Candidate Centres

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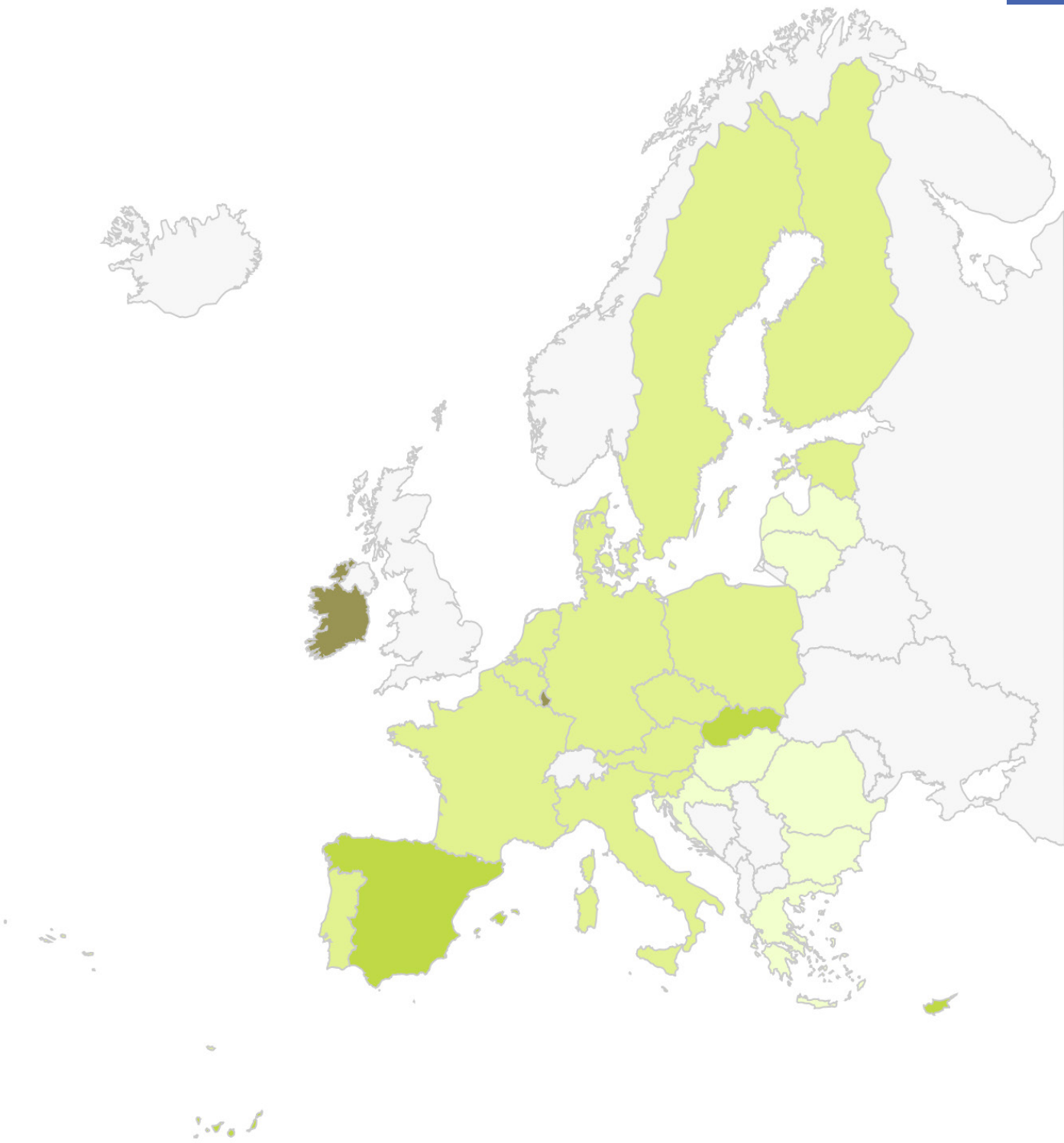
Introduction



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Background

The uneven burden of cancer in Europe

Cancer is one of the leading causes of morbidity and mortality worldwide, with substantial consequences not only for health, but also across social and economic domains (1,2) In Europe, the age-standardised incidence rate of cancer was 546.9 per 100,000 inhabitants in 2024, and a further increase of 18.4% is projected by 2040, largely driven by population ageing (3). However, this burden is not evenly distributed across the continent. Incidence rates vary considerably between European countries, with the highest rates (between 562.7 and 668.0 per 100,000 inhabitants) found in Denmark, Croatia, Netherlands, Belgium, Hungary, Ireland, Slovenia, France, Estonia, Portugal, and Slovakia in 2024 (3). These differences in incidence are likely to reflect variation in exposure to both modifiable and non-modifiable risk factors, including lifestyle-related determinants, genetic susceptibility, population characteristics, and the implementation of primary prevention measures.

Cancer is currently the second cause of death after cardiovascular diseases, although projections suggest that by 2035 it may take the lead (4). Mortality rates, however, are generally higher in Eastern European countries (e.g. Hungary, Slovakia, and Poland), where they ranged between 285.3–307.4 deaths per 100,000 inhabitants (3). Since mortality reflects the combined effect of incidence and survival, these differences are influenced not only by the underlying cancer burden but also by variation in early diagnosis, access to specialised treatment, quality of care and broader health system performance (3,5).

Five-year relative survival in Europe is estimated at 58.0% for women and 50.3% for men, although important differences in outcomes persist between countries and regions (3). In general, cancer survival tends to be higher in Northern and Central Europe and lower in Eastern Europe, although the magnitude of these differences varies by tumour type (3). These inequalities in survival are shaped not only by tumour biology, but also by differences in early diagnosis, access to specialised treatment, care coordination, technological capacity and the overall organisation of cancer services. Taken together, these patterns suggest that countries with a higher recorded incidence do not necessarily experience the highest mortality, and that inequalities in outcomes are shaped by differences in prevention, diagnostic capacity, treatment infrastructure, workforce availability, technological resources and access to integrated models of cancer care (5).

Improving cancer care: a collective effort for Europe

Over recent decades, cancer care in Europe has undergone major advances, driven by improved understanding of tumour biology, innovations in surgical techniques, the development of new therapies, and the implementation of precision medicine approaches, resulting in substantial improvements in outcomes and survival (6). However, these benefits have not been distributed equitably. Persistent inequalities remain in access to specialised care, clinical outcomes and survival across demographic groups and geographical regions. Socioeconomic status, healthcare infrastructure and differences in local health policies all contribute to these inequities (5).

The growing complexity of cancer requires high-quality, multidisciplinary and patient-centred care, with access to advanced diagnostics, innovative treatments and coordinated services across the full continuum of care (4,5) In this context, designation and certification schemes for Comprehensive Cancer Centres (CCCs) have gained increasing relevance. CCCs are specialised healthcare institutions that combine high-quality multidisciplinary cancer care with clinical and translational research, education, technological innovation, clinical trials and patient support (7–9).

Within the European policy framework, Europe's Beating Cancer Plan establishes the development of a European Network of Comprehensive Cancer Centres as a strategic priority to ensure equitable access to high-quality cancer care across the population (4). Building on this policy direction, the EUnetCCC Joint Action (JA), funded by the EU4Health Programme and following the work initiated by the CraNE JA, aims to support the creation of a common European framework for European Union Comprehensive Cancer Centre (EUCCC) development, certification, networking and capacity-building (9,10). This initiative seeks to ensure that all European citizens, regardless of geographical location, have access to high-quality, evidence-based cancer care across the entire care continuum, while also strengthening the integration of research, innovation and training within cancer care systems.

Scope of this guideline

The Seven Domain Guideline (7DG) provides a framework for capacity building and serves as a guide for implementing the criteria and standards for EUCCC certification (see ANNEX 1. Set of criteria and standards for EU Comprehensive Cancer Centres EUnetCCC. Updated version (March 2026)). It identifies the favourable conditions and actions necessary for implementing the process and defines practical and specific considerations for each domain, indicating what needs to be established and in what order of priority in the short or medium/long term. The 7DG specifies the organisational implications that may be transversal in nature for each domain, as well as the necessary resources, such as personnel. It also converts the standards into concrete recommendations, providing practical examples based on the context of the existing CCCs and identifying assessment approaches. The 7DG also highlights the actions that should and should not be taken to address these processes.

In essence, the 7DG connects the main objectives of the EUnetCCC JA. It operationalises excellence by making critical capacities explicit; identifies relevant and desirable elements, as well as those that require contextual adaptation; and fosters continuous improvement by embedding cross-cutting elements throughout the chapters.

Implementing the EUCCC standards: getting started

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Vision: for a European network of Comprehensive Cancer Centres

The overarching vision of the EUnetCCC JA is to provide every cancer patient in Europe, regardless of their location, with equitable access to state-of-the-art medical care and the most advanced therapeutic innovations. Achieving this ambitious goal is a joint effort in every sense of the word, but at ground level, the face of the European Network of Comprehensive Cancer Centres will be its member institutions, which must not be only standalone centres of excellence, but also stars embedded within a larger constellation. Given the centrality of these institutions to the JA as a whole, it is vital to understand the key features that define the EUCCC identity, not only from an external viewpoint but also internally, at an organisational level.

From the outside looking in, an EUCCC is recognisable as:

- **An institution on the vanguard of cancer care**. An EUCCC serves as a major source of clinical care, innovation and discovery into the understanding of cancer, and for the development of more effective approach to prevention, diagnosis and treatment.
- **A model for quality and comprehensiveness.** It directly provides an extensive range of high-quality cancer diagnostics and care, covering major cancers, and the continuum of the patient pathways and demonstrates a reasonable depth and breadth of activities in basic, translational and clinical research as well as clinical trials and population-based research.
- **A leader among peers**. It serves as a focal point of a local, regional, or national network and acts as a driving force promoting high quality of care and research, disseminating guidelines and good practices, engaging the populations within its catchment area, and nurturing the next generation of cancer experts through education, training, and mentorships.
- **A collaborative partner within a non-hierarchical network**. An EUCCC is committed to embodying the cooperation between institutions, networks (including among others: Comprehensive Cancer Care Networks) and stakeholders in prevention, care and research. It takes into account the contribution of each of the stakeholders in its field of activity and competence to build a partnership that maximises the impact in its catchment area. It is also committed to cooperating with other EUCCCs and networks for the development of shared resources in the field of research, care, innovation, education and training.

Internally, an EUCCC is an organisational entity with clear central governance and a high level of organisational and system-based infrastructure and expertise. These attributes necessarily include:

- **Organisational capabilities**. An EUCCC has a defined physical space, leadership positions, administrative/managerial/scientific governance, and a coordinating structure organised through a matrix, consortium construct if needed, or equivalent.
- **Inclusive partnerships.** Relationships between partner institutions are well defined and organised, and community engagement within the institutional catchment area is clearly articulated.
- **Transdisciplinary collaboration and coordination.** Multidisciplinary collaboration is a daily reality, spanning the whole patient pathway, institutional system, and operational processes. In practice, this cooperation means the right knowledge and skills are available in the right place, at the right time. Quality of care is secured, while research-based knowledge and innovations are adopted at an organisational – rather than only departmental – level.
- **Institutional commitment to joint European collaboration.** EUCCCs understand the added value of connecting to other centres of excellence through engagement with and contributions to Europe's Beating Cancer Plan (4) and the Network of EUCCCs (9).

Contextual factors and foundations: is implementation of the EUCCC standards feasible in my centre?

EUCCC Certification is not viable in every centre that delivers cancer care – no matter the high standards of the services provided. Succeeding in certification, moreover, depends on more than a single centre's leadership and commitment. Thus, while all centres can use this guideline to improve their comprehensiveness, quality, and patient-centredness, a dose of realism is necessary to understand the probability of success and the contextual factors that need to be in place to succeed in certification. To quickly assess their readiness for the certification process, centres can use the 31-item **Readiness assessment checklist for candidate centres** (RACCC-31)(11).

Sustained political support

Certification is not a one-off process; re-certification will be necessary to sustain a centre's status. EUCCCs are expected to consistently maintain and push the boundaries of excellence, which in practice means their operations depend on a high, predictable budget – to recruit and retain the country's best specialists, to participate in and lead clinical trials, to purchase new machines and equipment, and to provide innovative (and expensive) anti-cancer treatments, surgery, and advanced radiation therapy to patients who need them. To sustain these levels of expenditures, there must be a broad, non-politicised commitment to cancer control as a national health system priority. Ideally, this commitment should be explicitly laid out in a cancer control plan that defines and delineates the concept of comprehensiveness; recognises the structural value of Comprehensive Cancer Centres as hubs for research, care, innovation, and education; and allocates sufficient resources to enable continuous innovations and investments.

Health system context

EUCCCs depend on a myriad of structural enablers beyond the walls of their institution(s) and even outside the bounds of health care services.

- **Institutional linkages** between the EUCCC and other key health system stakeholders, including the Ministry of Health, the national system of universities, research institutions, and other levels of care, such as regional hospitals, primary or specialised health care should already be established – or at the very least an explicit and shared goal of the health system. These connections will prove essential to fulfil the goal of 'comprehensiveness', that is, providing access to the full range of care along the whole patient pathway, from primary and secondary prevention to palliative and survivorship care, as well as opportunities for education, training, and research.

• **Health care coverage and access to innovative treatment options.** EUCCCs are expected to provide access to state-of-the-art diagnostics and treatments in line with national or international practice guidelines. Restrictions to this access, whether in the form of cost barriers for patients, supply chain challenges, or delays in approvals and reimbursement from the national competent authorities, may be obstacles for the development of research and care capacities that should be attributed to a CCC.

• **Health information system.** EUCCCs are data-driven organisations, making the health information system a central touchpoint for all certification and operational activities. Barriers that may hinder a successful certification bid include the regulatory framework governing data ownership and management, poorly developed digital infrastructure, lack of interoperability between constituent sites of the EUCCC, or restrictions on access to electronic health records (EHR), among others.

Organisational resilience

The term 'resilience' is being increasingly used in relation to health systems to describe the capacity to absorb external shocks and adapt to changing conditions, even while continuing to deliver essential services. Organisational resilience speaks to an institution's ability to quickly redistribute tasks and resources, remodel processes, and work together as a team to address a range of interlocking challenges. During a crisis, these organisational qualities are essential to carry out the institutional mission. But in the absence of a crisis, they can be transformative. In the context of EUCCC certification, it is worth highlighting two enabling operations that favour the organisational flexibility needed for this transformation: infrastructures and human resources.

Based on the experience of mature general hospitals or CCCs, the key commonalities in the infrastructures of these institutions are detailed in the **List of essential care and research infrastructures in Comprehensive Cancer Centres** (12). This document covers the main units, equipment, spaces, and supplies that centres should have available to effectively provide a high quality of research and care.

With regard to human resources, there are no strict minimum numbers of professionals who should be part of an EUCCC, but mature centres stress the benefits of having a good multidisciplinary mix of specialists and other professionals in the delivery of high-quality care, research, and education expected of an EUCCC (Table 1).

Table 1. Human resources needed to support certification

Professional cadre	Description
Medical specialists	Medical oncologist(s) with tumour-specific expertise Surgical oncologist(s) surgeons with organ-specific expertise Radiation oncologist(s) Haematologist(s) Nuclear medicine physician(s) Radiologist(s) Pathologist (s) Palliative care specialist(s)
Nurses	Care coordinator(s)/nurse(s) navigators Medical oncology nurse(s) Radiation oncology nurse(s) Palliative care nurse(s)
Other specialists and allied health professionals	Hospital pharmacist(s) specialised in oncology Onco-psychologist(s) Community healthcare /social worker(s) Nutritionist(s)
Research-specific positions	Nurse(s) and clinical research coordinator(s) Basic and translational scientist(s) (e.g. biologics, biochemistry, genetics, bioinformatics) PhD and postdoctoral researcher(s) Clinical trial operations staff (pharmacist, pharmacologist, biomedical) Biostatistician(s) Methodologist(s) Experienced principal investigator(s)
Administrative and supportive roles	Legal staff Business development staff Administrative staff
Cross-disciplinary roles	Data analyst(s) (e.g. epidemiology, economics) Data scientist(s) (e.g. statistics, computer science, mathematics, engineering) Patient engagement liaison Innovation manager Quality manager Qualified multidisciplinary trainer(s)/supervisor(s)

Organising the preparatory stage of the certification process: keys to success

Sustaining and preparing a centre to enter the certification process is a collective effort. It requires mutual trust, intentional planning, dedicated resources, fluid and multidirectional communication, and responsive governance. The importance of the phase before entering to the certification process cannot be understated, as the implementation process itself must model the participatory methods and integrated ways of working that define the real-world practice and operations of true CCCs. In other words, how the standards are implemented are equally important as what standards are implemented.

The preparatory elements before entering to the certification journey is described in detail in the **Preparatory guideline for aspiring centres to EUCCCC certification** (13), a key resource targeted to the centres' leaders and the core implementation team. This section synthesises the main recommendations and processes that all teams should keep in mind.

Establish robust leadership and governance for implementation by embedding certification into broader strategic goals and processes.

Strong and empowered leadership is crucial for implementing the necessary transformation into a CCC. A Cancer Centre (CC) Board with a clear mandate, together with a broad-based centre-level commitment to EUCCC certification as a strategic objective, are both cornerstones of an institutionally grounded approach. Backing from national or regional health authorities, for example through a national cancer plan aiming to strengthen cancer research and care through a flagship CCC, can further reinforce accountability and legitimacy.

Fit-for-purpose governance structures also need to be in place for supporting the complexities of certification. In practice, some centres will extend the mandate of existing bodies to incorporate certification oversight, while others may experiment with matrix structures that embody the cross-cutting dynamics of CCCs. Regardless of the exact governance structure designed, it should be adaptive, clearly delineated, and compatible with day-to-day operational needs.

For more guidance in this document, see section:

1.3.1 Establish a CC Board.

Do's and don'ts

DO	DON'T
Invest time and resources for institutionalising governance through a CC Board with a clear mandate.	Start the certification process without the support of the CEO and heads of service.
Aim for a decentralised leadership model across tumour-specific leads and thematic coordinators.	Be afraid to experiment with non-hierarchical governance structures to break the traditional siloes.
Frame CCC certification within the centre's overall strategy.	Introduce parallel structures with no clear added value.
Support CCC certification as instrumental to national or regional cancer control strategies.	Think in terms of competition with other centres; true CCCs should be focused on knowledge-sharing and collaboration.

Operationalise the certification process through a project management approach.

Managing the certification process requires a dedicated team, allocated time and resources, and clear organisation, none of which can be improvised. From a project management perspective, the main steps for operationalising certification are as follows:

- **Secure executive endorsement and a clear mandate from the executive board or senior leadership.** This ensures that the team will have – and sustain – the legitimacy, adequate resources, and strategic alignment needed for implementing changes towards becoming a CCC.

- **Designate a project team and responsibilities**. The project leader is typically a senior professional that is already widely respected by staff and management, for example the director of the quality department or of research, who can connect the formal administrative demands of certification with ground-level improvements in quality or patient care. They should be supported by a small core team (2–5 professionals) with dedicated time reserved for certification tasks. These include interpreting and adapting certification standards, coordinating documentation needs, managing timelines, supporting pathway development across departments, and performing internal audits. The composition of the team should be strategic to credibly fill profiles like project coordinator, data/quality management, and clinical liaison. Special working groups may take on different supportive roles as needed. In particular, the integration of the quality and information technology (IT) departments as institutional brokers is pivotal to success.

- **Develop a project plan and timeline**. A comprehensive project plan should outline the activities and milestones leading up to the certification, laying out a realistic timeline and internal deadlines that account for the full scope of work and help maintain the pace of progress.

• **Establish reporting and governance mechanisms**. Implementation objectives should be embedded within the institution's governance structure, for example through regular reporting to an executive committee or steering group, participation of the core group in multidisciplinary boards or tumour-site meetings, integration within existing quality or cancer-specific commissions, or clear lines of permanent accountability for progress. These go hand in hand with ad hoc tools to monitor progress, such as internal audits and tracking tools.

• **Create mechanisms for continuous involvement from top management**. Regular updates to leadership, formal progress reports, the integration of certification oversight into existing governance committees, and real-time connections between the quality department and executive governance facilitates agile problem-solving, broader departmental mobilisation and timely resource allocation when challenges arise.

• **Allocate sufficient financial and human resources to manage the demands of the certification process**. Newly hired staff, protected time for existing staff, administrative support, and flexible funding channels for emerging needs will all enable smoother progress, better risk management, and reduced delays.

Do's and don'ts

DO	DON'T
Invest in structured, routine collaboration across the whole institution, for example by appointing certification focal points in every department.	Overburden clinicians or other professionals with administrative demands; provide support teams that take on procedural tasks while allowing staff to make substantive contributions.
Devise positive incentives like recognition schemes or opportunities for career advancement linked to certification to maintain staff motivation.	Hire an external project leader to manage the certification process; the leader should already have strong internal authority and in-depth knowledge of the institution.
Use the implementation process to model the change you want to achieve; setting positive examples in collaboration and quality will accelerate organisational transformation.	Allow the certification process to become a bureaucratic, administrative exercise focused only on compliance.
Engage with the quality and IT departments as strategic partners in the certification process; their experience with standards and their integration in governance bodies make them crucial allies.	Allow the certification process to derail day-to-day operations; certification activities must be carefully planned to avoid disruptions to routine work and clinical care.

Treat communication as a core component of the certification journey.

Institutional communication is an indispensable means for engaging health professionals, building and sustaining support for changes, and ensuring an adaptive process that is relevant to the local context and resilient to emerging challenges. Multidirectional communication among patients, staff, management, and the implementation team also fosters shared ownership, trust, common values, and realistic expectations. At an operational level, the creation of new synapses between departments and clinical areas exemplifies the integration necessary for becoming a true CCC.

Components of a communication strategy include a dedicated awareness campaign to explain the certification process and manage potential resistance, stressing the benefits for the centre and its patients and its alignment with core organisational values like quality, efficiency, patient-centredness and staff well-being. Decision-making should be transparent and participatory, affording key stakeholders an instrumental role in deliberations and keeping all stakeholders – including patients and communities – informed. At the same time, the core team should establish mechanisms to ensure that managers and staff understand their role in the certification process and how they can contribute. This may include translating guidelines and templates, organising co-creation workshops, and establishing anonymised channels to report problems.

Do's and don'ts

DO	DON'T
Establish a stand-alone communication strategy for the certification process.	Confuse communication with information; communication includes both listening and speaking.
Build a shared understanding of what a Comprehensive Cancer Centre entails across the whole institution, including a thorough understanding of certification standards and requirements.	Assume that all healthcare professionals will easily understand the documents related to certification. Language barriers, cultural differences, and new terminology all need to be addressed through early interpretative work.
Make a persuasive case for certification that all staff can get behind.	Treat resistance as a superficial problem; investigate the root cause and address that.
Develop a website, newsletter or other institutional communication channel to keep all stakeholders up to date, celebrate milestones, and strengthen networks.	

Leverage the certification process to drive institution-wide improvements in information systems.

The certification process entails a heavy administrative burden and requires extensive documentation. To meet these demands without allowing such requirements to monopolise the focus of the centre's transformation, early and strategic investments are necessary in document management software, data managers and IT personnel, together with wider staff training to ensure institution-wide adoption. The shape that the data systems take will vary depending on the existing arrangements but may include comprehensive hospital content management solutions, quality and risk management systems, dedicated online tools, or even spreadsheets. Regardless of the exact form, integrated digital systems that allow data sharing across departments and institutions will support efficiency gains, transparency, traceability, early identification of challenges, and agile, evidence-based decision making.

The data management needs associated with certification can also create momentum for deeper improvements in information systems. In practice, institutions may opt for short-term, ad hoc solutions to reach certification goals, but this process will also create a shared clarity on the real gaps in information systems and what measures would be useful in the medium to long term. Certification can thus increase the urgency of improving data accuracy and consistency, reducing redundancies and manual work, and facilitating learning and collaboration between centres.

Do's and don'ts

DO	DON'T
Create a centralised digital platform where relevant materials like guidelines, standard operating procedures (SOPs), and templates are securely stored and easily accessible to authorised personnel.	Forget to support the adoption of new digital documentation systems with continuous training, dissemination, and technical assistance.
Structure data collection at the source, for example within patients' EHR.	Focus on retrospectively validating and integrating heterogeneous data.
Automate data collection wherever possible.	Depend on outdated manual processes.
Standardise coding to ensure consistency across departments.	Underestimate the importance of fostering an organisational culture of quality; this aspect is essential for instilling a commitment to data-driven transformation.
Invest in interoperable solutions across all sites.	Get bogged down in the face of existing fragmentation; instead, differentiate what is urgent from what is important, and prioritise next steps.
Implement common language models to pull data out in a structured way.	

How to read the document

The 7DG is a living document aiming to provide practical guidance to centres as they work to implement the EUCCC standards). The present version draws from the set of criteria, topics and standards for European Union (EU) Comprehensive Cancer Centres first developed under the CraNE JA (JA) (10), and currently being updated by the EUnetCCC JA (see ANNEX 1. Set of criteria and standards for EU Comprehensive Cancer Centres EUnetCCC. Updated version (March 2026)). The 7DG is loosely organised based on the overarching structure of the standards, under seven domains: (**1**) governance, (**2**) care, (**3**) research, (**4**) integration of research and care, (**5**) innovation, (**6**) prevention, and (**7**) education and training. Given the central role of governance in the EUCCC certification process, this chapter is placed at the beginning and should be read by all centres, regardless of whether their implementation plan focuses on this domain or not.

The main recommendations, which appear as third-level headings, are ordered in line with the logic of implementation rather than following the order of the set of standards. For ease of reference, the relevant topics and criteria appear in a table under the corresponding recommendations, annotated as 'T' for topics and 'C' for criteria while the individual standards (indicated as 'S'), are cited in blue throughout the text. Recommendations are presented in conjunction with implementation guidance, advice on monitoring and evaluation, and a sample of practical examples and insights. Descriptions of the participating centres can be found in ANNEX 2. Finally, complementary tips pertaining to the recommendations are collected at the end of each topic, as a key list of 'Do's and don'ts' intended to provide readers with a reader-friendly reference as they work to apply the general recommendations to the specificities of their own centre.

Periodic updates to the 7DG will be released throughout the JA. The existing structure of the document will thus serve as a framework repository for compiling and synthesising input from relevant literature and real-world experiences, case studies, insights, and learnings acquired through capacity building activities in different centres and more broadly through collaboration in the JA. Subsequent versions of the 7DG will also include a cross-domain chapter that will be focus on relevant topics such as IT systems and patient involvement. In addition, it will also contain the information on documentation to provide evidence during the self-assessment (to attach in the self-assessment tool)[1] and assist with audits. Moreover, the document will be refined to take into account patient perspectives and feedback from centres on the applicability of the guideline in different contexts (e.g. small countries, consortia, low-resource settings).

1. The documentation required to provide evidence during the certification journey is provided in the following document, which includes examples of the supporting documents that may be used for each standard: Forthcoming, available upon request to EUnetCCC

1. Governance

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2. JANE2 – network of palliative care

1.1 Introduction to the EUCCC standards on governance

Good governance is the linchpin for implementation of all EUCCC standards – not only those captured under the governance domain, but across all topics, criteria and standards. An EUCCC is more than the sum of its parts, requiring a shared evidence architecture, transparent decision-making, clear communication channels, careful resource management, and patient involvement every step of the way. Only when these pieces are in place can centres effectively implement standards in other areas. Any robust governance framework of a EUCCC should clearly define and articulate three layers and their alignment: first, a level of decisions and influence; second, a level of execution; third, a level of matrix-based processes.

The model of care represented by a comprehensive cancer centre largely reflects transversal action and dynamics. A siloed mentality, based on services and hierarchies, may undermine the decentralisation of functions in different roles and intermediate positions – a core attribute of the concept of comprehensiveness. Clearly defining the governance setting is a pre-condition to succeed with the implementation of the whole Set of Standards and the effective transformation of the centre into a real EUCCC.

1.2 Summary of recommendations in the Governance domain

Short-term implementation priorities

Institutionalise the Cancer Centre (CC) Board. The establishment of governing body of the EUCCC, the CC Board, is a pre-condition for the development of an EUCCC. The integration of the areas of care, research and education in a single strategy requires the CC Board to be representative and with capacities to interconnect the different levels of the institution.

Promote the concept and culture of patient pathways. Governance of the EUCCC should involve an active use of patient pathways in order to ensure and optimise access to resources, promoting timely care and equity, both internally and externally. Patient pathways embrace as an entire system within the EUCCC given their representation and connection to governance, need for professionals' ownership, content updates, and potential use for connecting the EUCCC with external institutions and levels of care.

Develop sustained and effective communication with all key stakeholders. An EUCCC requires a type of matrix-based approach that is more efficient but, from a management perspective, also more complex. Proper communication channels and representatives are thus vital to explain the model of care that the EUCCC represents. Communication is a strategic driver of engagement, enabling certification to become not just a technical exercise but an organisation-wide transformation.

Medium/long-term implementation priorities

Approach the development of the EUCCC strategy as an opportunity to strengthen institutional ownership and legitimacy and to model the integrated processes and services of an EUCCC. The process of developing the EUCCC strategy should mirror the structure of the centre and involve the professionals that must execute it, including all their departments and institutions. The preparatory processes for strategic planning have a special relevance considering the possibility to gain approval from all the parts.

Strengthen multidisciplinary teams (MDTs). The operative rules of MDTs should be stabilised and their role defined in order to ensure their capacity to shape and institutionalise patient pathways and quality of care across tumour groups.

Frame the development of the EUCCC dashboard following a realistic and prioritised approach. A transition towards the electronic collection of data should be defined to establish a data monitoring system or dashboard. Ad hoc actions and realistic approaches are needed to build some reference metrics that allow the CC Board to discuss critical EUCCC matters.

Promote patient representation at the governance level through a stepwise, integrated perspective. Improvement processes should be anchored by patients' perspectives and involvement, channelled at an operational level at an early stage. A stepwise approach to implementing patient-centredness within CCCs should be foreseen considering the major change implied.

1.3 Structuring the EUCCC governance system: recommendations and implementation guidance

1.3.1 Establish a CC Board.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.1 - Organisation of EUCCC governance
C1.1.1 - EUCCCs have a governance body to coordinate processes internally and externally.

Implementation guidance

The establishment of the CC Board – the governing body of the EUCCC – is a pre-condition for the development of a real EUCCC. The integration of the areas of care, research, innovation and education in an overaching strategy (**S1.1.1.1**) requires the CC Board to be representative and with capacities to interconnect the different levels of the EUCCC. Typically, the CC Board represents a governance layer that translates the institutional strategy into coordinated operational implementation. For that, the model of governance should be decentralised, organised across departments and institutions (i.e. matrix based) and the leadership participatory. The CC Board should be adapted to existing structures (i.e. either flat or hierarchical) and governance levels (i.e. considering the wide diversity of institutional and consortium EUCCC configurations).

In short, the CC Board represents the first governance layer of influence and decision-making in the EUCCC. Executive decisions might need the agreement of the CEO or the Executive Committee of the institution or consortia, so a formal connection should be ensured. Decision-making rules must explicitly apply to all domains of the standards, covering key aspects including prioritisation, escalation, resource allocation, and accountability.

The matrix-based approach should be operational, with designated individuals actively coordinating activities such as the implementation of patient pathways or the integration of research and care. Furthermore, the definition of a CC Board requires the creation of groups or commissions (e.g. multi-layered, inter-hospital, cross-service) supporting it. These groups should reflect the views of all professionals and institutions involved in the EUCCC.

The competences and the specific role of the CC Board should be defined in accordance with the governance culture and structure of the centre. The CC Board need not have formal power itself, particularly in candidate centres that are not cancer institutes but university, teaching hospitals or consortia. In this situation, the members of the CC Board should act within the m governing body should be considered a leader among peers, not the 'boss'.

The roles of the constituent entities of the EUCCC should be clarified based on what they do (**S1.1.1.2** and **S1.1.1.3**), particularly if the EUCCC is a consortium made up of multiple legal entities. Proper role description implies a process of reflection and the capacity to act in a CCC environment. The collaborative entities needed for that should be aligned with the definition of comprehensiveness, which encompasses different elements such as patient pathways, treatment modalities or basic research. The EUCCC may have a vision and a mission, but clear role descriptions, together with a consortium-based collaboration agreement (**S1.1.1.3**) should be defined first to cement the governance structure. Resolving the ambiguities in the relationships and responsibilities of the constituents of the EUCCC is not straightforward. Beyond the legal dimension, some aggregated forms of EUCCC (e.g. consortium) opt to give a greater weight to the concept of pathways while others place more emphasis on the shared areas of activity (see the example from **Karolinska Institute** below).

A participatory approach may foster shared ownership of a single integrated workplan, together with effective management of cross-cutting dependencies. Senior representatives directly responsible for the areas of cancer diagnosis, care, research, innovation, and education should be included in the CC Board (**S1.1.1.4**) to ensure representativeness and embed cross-services dynamics into strategic planning and overall governance of the centre. Their inclusion makes it feasible to capture and articulate the dynamics and challenges of the different programmes and services. Formal patient representation at this governance level can also help ensure that improvement processes are anchored by the patient perspective and that patient involvement is channelled at an operational level.

The composition of the CC Board is context dependent, and practically speaking, it does not always obey the logic of 'the bigger the EUCCC, the more members should be included'. In larger CCCs and EUCCC consortia, not all heads of services can be part of the CC Board.

The potential for overlapping roles (e.g. a head of service is also a leader of a programme for the whole EUCCC) should not be seen as a problem, but as an opportunity to promote both top-down and bottom-up communication (that is, including the perspective of daily operations and care challenges). In reality, trust and proper communication among members of the CC Board is essential. The importance of informal, personal connections should not be underestimated, but communication must be systematised and made sustainable through organisational structures. Regular meetings and explicit collaboration mechanisms should ensure this top-level connection, while pragmatic record-keeping of decisions and their justifications can facilitate traceability, accountability, and operational reviews. In this regard, a dedicated 'secretariat role' could be formalised/identified within the CC Board to assist by ensuring systematic communication flows, maintaining up-to-date contacts, supporting the timely dissemination of information, and overseeing the consistent production and archiving of meeting records and related documentation.

The scope of action of the CC Board is conditioned by the level of development of potential bodies acting 'below' it, such as the Cancer Quality Commission that some mature EUCCCs have also implemented. Such a governance framework should allow cancer pathway leaders to voice their specific needs at the levels of processes that they manage and represent.

Typically, CCCs with a general university hospital as a reference entity lack a specific approach to financing, costs and investments in cancer care and research. Making progressing on this matter is relevant as it leads to discussions with general managers and directors together with representatives from all EUCCC core departments and institutions.

The generation of key financial figures on costs and investments in the EUCCC (**S1.1.1.7**) and the influence on financial decisions (**S1.1.1.8**) do not imply full financial independence from the general structures – unless it is a stand-alone cancer centre. However, making financial figures, budget, economic estimations and indicators for cancer more explicit contributes to raising awareness. At a more mature stage, the CC Board can exercise some degree of autonomy in some activities. Such a process is considered one of the most delicate when establishing an EUCCC. Acquiring more financial autonomy can be challenging considering that sometimes budgetary and financial systems are legally based on national or regional regulation.

Contextualised options and experiences

The case of **Westdeutsche Tumorzentrum Essen-Münster**, a multi-site EUCCC consortium, illustrates a 'small' CC Board consisting of an equally distributed number of elected members from the participating sites (see **Fig. 1**).

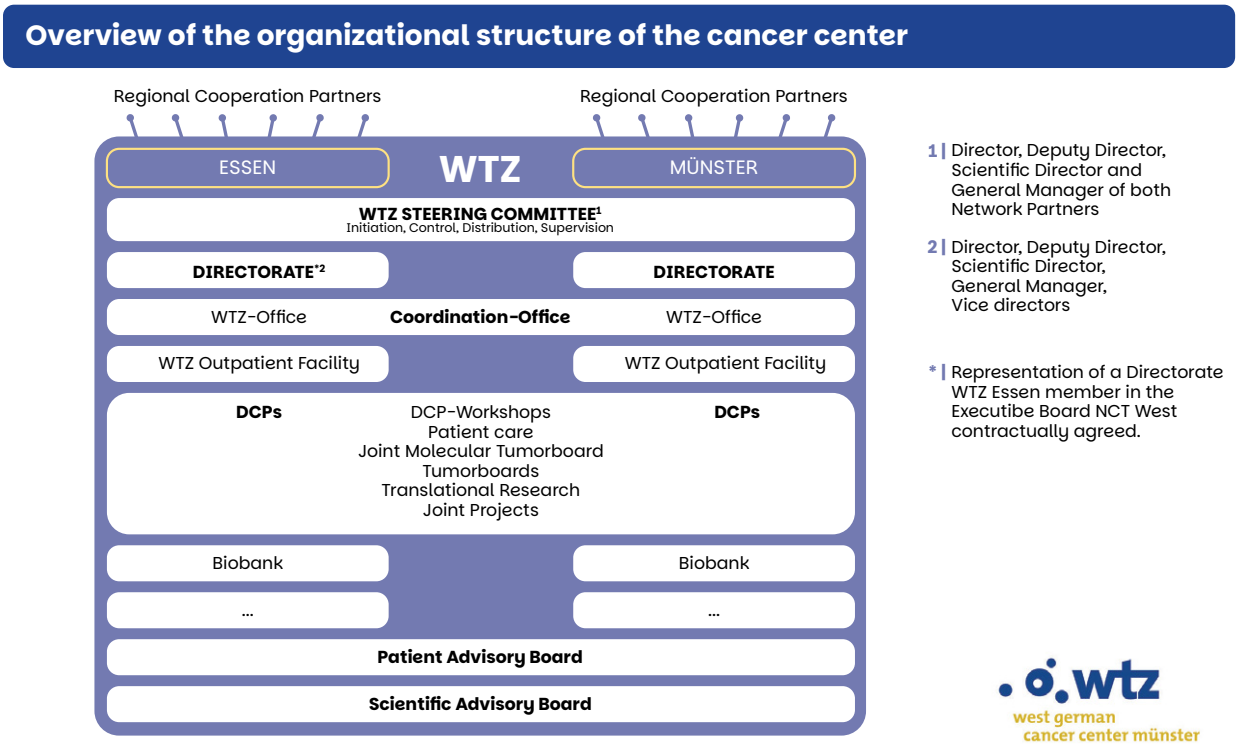

Fig. 1. CC Board of Westdeutsche Tumorzentrum Essen-Münster

In the **Karolinska Comprehensive Cancer Centre**, the Theranostics Trial Centre (TTC) and the Precision Medicine Centre (PMCK) are collaborative bodies founded jointly between the Karolinska University Hospital and the Karolinska Institutet. The creation of these centres was a practical way to adeptly sidestep debates on the ownership of particular activities by choosing to institutionalise – both literally and figuratively – professional collaboration and common goals between partners. Solving the connection between the constituents of the EUCCC can be executed through different means, beyond the mandatory development of pathways.

In **Oslo University Hospital**, the role of both the Research Council and the Professional Council (representing all professional groups) are complementary to the CC Board (**Fig. 2**). These forums have been the arena for developing the EUCCC strategy and are responsible for putting the strategy into practice. Of note, this initiative resulted from hospital's collaboration and not from health authorities.

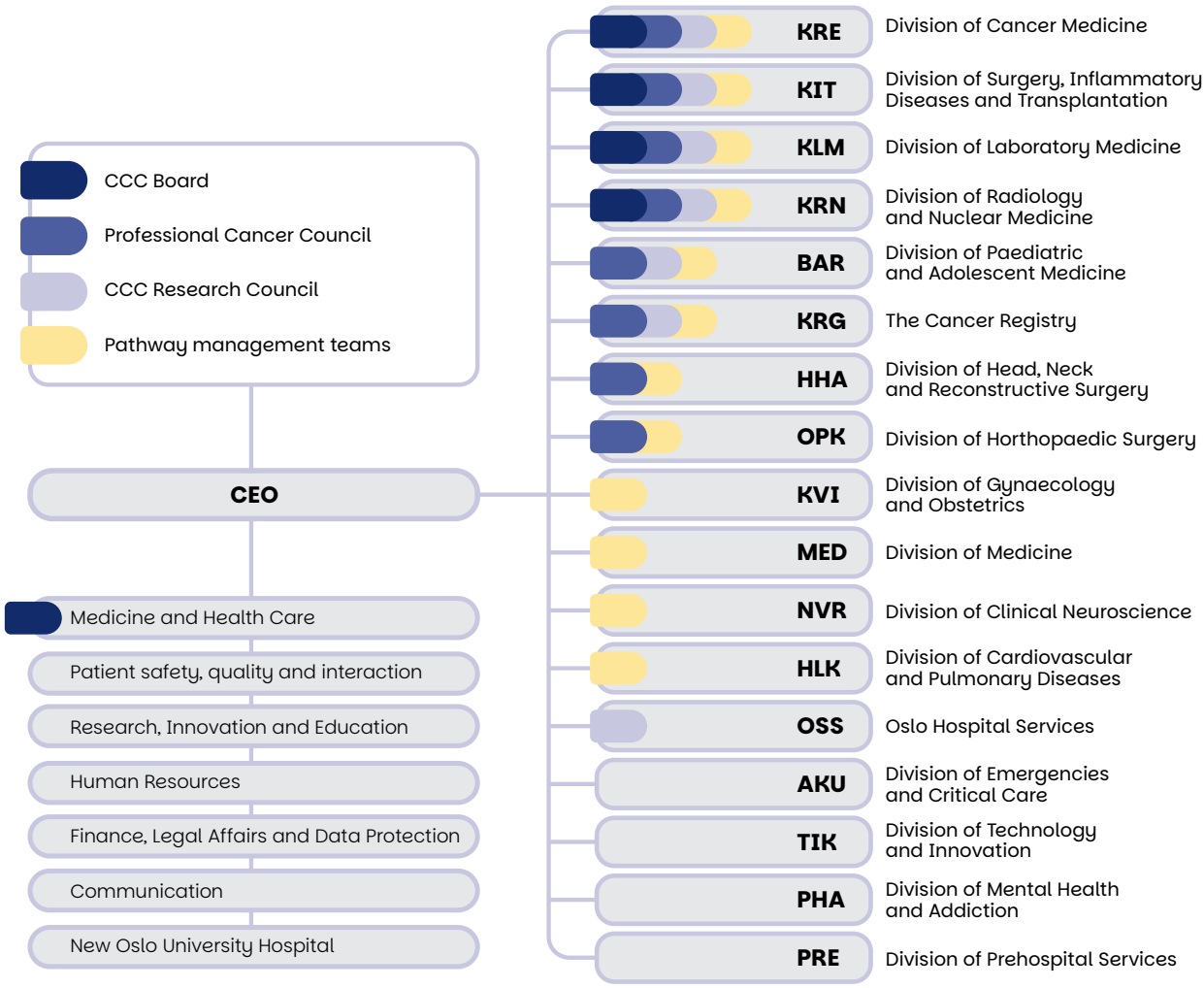

Fig 2. CC Board of Oslo University Hospital

In **Candiolo Cancer Institute FPO-IRCCS**, one of the objectives of the CC Board is to ensure multi-level communication. One board member is the General Director, who also reports back to the Institute's top management. Likewise, both Chief Medical Officer and a Patient Representative sit on the CC Board and provide feedback from and to the Patient Board. Health directors and the quality director ensure a smooth coordination of information between the CC Board and their respective departments.

1.3.2 Define a matrix structure on several levels.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.2 - The processes of EUCCC governance
C1.2.2 - EUCCCs governance facilitates coordination operationally and strategically

Implementation guidance

The EUCCC should define a matrix structure on several levels. These levels can be rather general, such as the research centre, or more specific, such as a colorectal cancer care pathway. A consistent, cross-organisational approach implies the definition of different dynamics for each level, not uniformity. Even at a tumour-based pathway level, no one solution fits all; it depends, for instance, on practical aspects like how diagnoses are specified (**S1.2.2.3**).

One role of the CC Board is to promote the development and support the roll-out of patient pathways (or their local adaptation, if defined at regional or national level), but effective work on this relies on a joint information system that allows the integration and delivery of different types of outputs (both qualitative and quantitative) related to quality of care. Effective decentralisation to line managers (nurses and physicians) allows for justifying pathway deviations with ad hoc organisational practices (**S1.2.2.4**). Notably, IT systems can be a driver or a barrier to fostering pathway adoption and related networking, particularly in multi-institutional consortia. Standardising information from an IT perspective is key.

For more guidance in this document, see section:

2.3.2 Develop patient pathways.

Contextualised options and experiences

In the **Piemonte region**, patient pathways are defined by working groups and issued regionally. Local adaptation is then based on each provider's competency, technological and research capacities, and agreements between centres.

In the **Swedish healthcare system**, there are 32 cancer pathways defined at national level and underpinned by a **Patient Flow Performance Data**, an information system on cancer pathways that indicates waiting times and overall control on diagnostic and treatment procedures. Professionals at each centre have the mandate to collaborate and share their resources, which presume an effective degree of decentralisation of capacities to intervene within care processes.

1.3.3 Establish or strengthen MDTs and molecular tumour boards.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements

T1.1 - Organisation of EUCCC governance

C1.1.2 - EUCCCs have a governance model ensuring high-quality patient care.

Implementation guidance

MDTs are the epicentre of clinical decision-making processes for cancer patients' diagnosis, treatment, and follow-up. The use of MDTs is linked to other areas associated with many domain-based challenges such as the integration of research and care area or with the definition of survivorship care plans. If patients with different tumour types treated by the EUCCC are to benefit from MDTs (**S1.1.2.1**), their operative rules should be defined and stabilised, increasing their internal efficiency and avoiding the typical organisational gaps per cancer disease. Patient pathways require an active role from MDTs, for instance, discussing indicators or fostering CCC integration with other entities based on them (**S1.1.2.2**). While members of MDTs – a clinical decision-making body by definition – might be involved in pathway design, MDTs' crucial role is supporting them and facilitating its adaptation to local realities. The emphasis on clinical coordination (**S1.1.1.5**) should lead the EUCCC to clarify the role of MDTs within the governance structure due to their potential role in shaping patient pathways' and ensuring quality of care across tumour groups. For patients with complex symptom burden, advanced disease, poor-prognosis cancers or significant supportive care needs, access to palliative care expertise should be integrated into MDT processes to support timely symptom control and continuity across care settings. As a medium-long term priority, palliative care specialists should be integrated systematically into the MDT.

The centre should also define a formal governance framework for MTBs, including clear leadership, membership, links to patient pathways including referral criteria to clinical trials and decision-making procedures (**S1.2.4.3**) This helps ensure that MTB activities are consistently integrated into clinical care, aligned with molecular diagnostics capacity, and supported across participating departments and collaborating institutions if applicable.

Patient pathway development, and by extension EUCCC governance, requires a dashboard providing standardised metrics in order for governance and leadership to monitor quality of care and patient outcomes (**S1.1.2.4**). EUCCCs are data-driven organisations, and this step is crucial to their effective realisation.

For more guidance in this document, see sections:

1.4.4 Create an EUCCC dashboard as the main source of decision-making data.

2.6.1 Ensure access and lead the MTB.

2.7.1 Develop an SOP for MDT consultation.

4.5.3 Develop a specific strategy to connect eligible patients with clinical trials, including through MDTs and MTBs.

Monitoring and evaluation

Maintaining reference documentation on MDT and MTB operating rules and protocols, together with records ensuring traceability of practice decisions and any deviations from recommendations, is a basic measure to ensure accountability and sustainability.

1.3.4 Map patient pathways at the centre level as well as regionally or nationally, if applicable.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.1 - Organisation of EUCCC governance *C1.1.1 - EUCCCs have a governance body to coordinate processes internally and externally.* *C1.1.5 - EUCCCs governance includes formal agreements with external collaborators.*

Implementation guidance

The active use of patient pathways – including the regional or national scale – may reinforce collaboration around them together with the establishment of formal agreements. A patient pathway is an evidence-based tool that supports the planning and management of the care process of individual patients within a group of similar patients with complex, long-term conditions. It details the phases of care, guides the whole patient journey by defining goals and milestones, and supports mutual decision-making by the patient and their multidisciplinary care team in collaboration with a comprehensive network of care providers (14). Typically, patient pathways have been a cross-departmental tool describing patients' workflow and specifying the different trajectories for cancer types. However, patient pathways – identified as 'live structures' – should also serve the purpose of *representing* the needs of each disease area from a bottom-up perspective, allowing professionals to voice their perspectives and having the capacity to manage or influence healthcare responses in case of deviations.

On the other hand, better alignment and formalisation may imply extending the pathways regionally – or even nationally – to cover inter-organisational interfaces (**S1.1.1.5**). There is no one-size-fits-all solution when it comes to implementation, but the EUCCC should prove that it is taking care of all patients being referred therein, and the use of patient pathway may satisfy the goal of clinical coordination. Not all services and interventions associated with a process of care (specified in the pathway) need to be provided by the EUCCC; collaboration with other structures or units is encouraged (e.g. rehabilitation, community-based care) (**S1.1.1.6**); in such cases, guidance on handovers should be explicit for both professionals and patients, with a designated professional (usually an advanced practice nurse) acting as patient navigator and focal point for the patient as well as the MDT. Regarding the governance of the patient pathways themselves, a comprehensive repository, accessible to users, should be made available with an inventory of all pathways. Moreover, the owner of the pathway should be defined, along with the cycle for periodic updates.

Besides the use of patient pathways, clinical coordination can also be the result of jointly developing areas such as clinical trials (including centralised referral systems). These initiatives are encouraged inasmuch as appropriate governance structures are implemented (**S1.1.1.6**). It is recommended not to be overambitious about coordinating clinical activity beyond the EUCCC, as this would impede achievement of any results in the short term. In any case, the establishment of CCCs may trigger healthcare regionalisation processes either in case of networks or through collaboration with non-certified entities delivering cancer care (**S1.1.5.1**). Patients are seen as critical partners to make such cooperation feasible and visible (**S1.1.5.2**).

Implementation of patient pathways implies challenges related to adapting them to institutional context and to the transparency of information. Introducing all specifications needed on local realities is essential for the sake of patients and professionals having access to a comprehensive information. Equally important is that patients themselves have access to information on patient pathways, which requires a specific glossary. Adapting pathways to the language of patients would entail full implementation of **S1.1.1.6**.

For more guidance in this document, see sections:

2.3.2 Develop patient pathways.

4.5.3 Develop a specific strategy to connect eligible patients with clinical trials, including through MDTs and MTBs.

Contextualised options and experiences

In **Western Norway**, the creation of the Regional CC Board and of the Regional Cancer Centre Coordination Committee for organising clinical practice and interhospital cooperation paved the way to shape pathway dynamics at a regional level. For instance, favoured by this setting, a joint pathway approach on survivorship care has been developed.

1.3.5 Develop the concept and practice of patient-centredness in EUCCC governance.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.1 - Organisation of EUCCC governance
C1.1.3 - EUCCCs involve patient participation at all relevant levels. *C1.1.4 - EUCCCs governing bodies have adequate administrative and management support.*

Implementation guidance

The involvement of patients in EUCCC governance should be organised through a step-by-step process. Patient participation at all relevant levels of the EUCCC requires key components like developing a patient advisory council (**S1.1.3.1**) and access to an educational programme for patient representatives to enhance their capacity for involvement at governance level (**S1.1.3.2**). But one size does not fit all when it comes to patient involvement in EUCCC governance. For instance, some institutions allocate a seat to patient representatives in the governing body of the EUCCC, while others have created a patient council well connected to it. Also, some EUCCCs include patients representing local or national patient organisations, while others search for a balance between 'real patients' and representatives from patient associations. Regardless of the specific approach, it is recommended that patients sign both a conflict-of-interest form and a confidentiality form, as some of the themes discussed may be sensitive for the EUCCC.

The CC Board should be aware of what patients need to effectively represent the interests of their group (e.g. training, selection) and define a strategy to empower them. Some health systems have a national programme – on how to become a patient representative – that ensures patient representatives' presence in all healthcare levels and positions. Notably, formalising patients' educational background allows centres to trigger these processes.

These programmes and/or other preparatory inputs for patients must be adapted to the local EUCCC concept and structure. In turn, patient education should cover strategic planning and consider staff awareness as a relevant driver for developing a local concept of patient centredness. Informal caregivers should be considered actively in terms of patient involvement in governance settings, particularly due to the low survival of some cancer diseases. In fact, from the perspective of palliative care, the family – and in particular, the primary caregivers – are considered part of the unit to be cared for.

Patient involvement depends – among other things – on the sense of ownership that they have towards the EUCCC. If the EUCCC is open to their views and priorities, then patients may serve as a crucial ally in the dissemination of EUCCCs' relevance and activity. A periodic assessment of patients' involvement by the CC Board is needed to reinforce an area that requires a mature vision and involves cultural aspects. In turn, empowering patients in a context of low staff sensitivity could limit the impact of any initiative on this matter. Some materials on education or dissemination activities could stimulate a better understanding of patients' role in EUCCCs.

Contextualised options and experiences

In **Candiolo Cancer Institute FPO-IRCCS**, the CCC formally created a group of patients as a forum to address issues related to the patient experience. With specific support, this group eventually became an association, and today, several patient representatives participate on the CC Board. The medical director coordinates patient involvement through seminars and workshops, and their central position enables them to interact transversally and broker the interest of patients within the EUCCC. Enhancing patient involvement also requires aligning these efforts with the centre's multiple strategic and operational priorities, while proactively addressing potential sources of resistance.

In **Karolinska Comprehensive Cancer Centre**, a local patient network was created with the aim of finding the right profiles for each level (e.g. EUCCC strategy, tumour groups, pathways).

1.3.6 Provide administrative and management support to the governing bodies.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.1 - Organisation of Euccc governance
C1.1.4 - Eucccs governing bodies have adequate administrative and management support

Implementation guidance

Supporting the CC Board and its members and allowing time for discussion and administrative resources (**S1.1.4.1** and **S1.1.4.2**) represents an acknowledgement of the EUCCC's role. The interconnectedness between different entities making up the EUCCC (e.g. consortium configuration, connection with research institutes) may imply, for instance, a challenge in terms of data collection and assessment. The managerial needs and the existing data to be used should be adjusted as well as the level of granularity. For that, competent personnel with capacity and responsibility are needed, and this encompasses also access to project management support (**S1.1.4.3**). A dedicated project manager or 'EUCCC-office' may support the CC Board by coordinating the implementation of the EUCCC strategy, tracking progress of action plans, organising cross-departmental meetings, or preparing dashboards and monitoring indicators required for EUCCC (re)certification.

The role of the quality department is often described as crucial in stabilising the governing body from the perspective of ensuring the presence of roles, administrative support and data needed for its smooth operation. Broadly speaking, making a EUCCC a data-driven institution is challenging. For many institutions, the generation and collection of data is approached after auditors' visit and under the framework of the improvement plan.

Contextualised options and experiences

At **Candiolo Cancer Institute FPO-IRCCS**, the project management team provides a holistic view of the processes connecting the various departments involved. For example, it coordinates data and information flows, ensuring that they are organised and shared across the CCC. For its part, the Secretariat of the CC Board ensures smooth operations and ensures follow-ups. It provides standard documents and templates for the CC Board.

In **Germany**, all CCCs have 'CCC-Offices' that fulfill the project management tasks described above. Project management support is considered necessary to set up an EUCCC and keep it running. People with different professional backgrounds work in these offices, including, above all, project managers, keeping day-to-day operations running smoothly.

In **Westdeutsche Tumorzentrum Essen-Münster**, a multi-site CCC, Jour Fixes (JF) (i.e. regularly scheduled, recurring meetings) are organised for the different groups and levels such as the steering committee (with each location represented), the Directorate (at each location), between the CCC (consortia location) and its members, between the CCC 'offices' at the different locations, etc. In addition, task forces related to different topics (e.g. SOPs, data exchange, research) were set up and have to report on a regular basis within the JF. Only if necessary, highly relevant topics are further reported to the CC Board to make final decisions.

1.3.7 Do's and don'ts

DO	DON'T
Limit the number of people on the CC Board, balancing representativeness with operational practicality and a gender perspective.	Restrict the involvement in the CC Board to heads of services or divisions related to cancer; neglecting issues of representativeness will undermine staff's sense of ownership to the EUCCC concept.
Formalise the cross-cutting dynamics of MDTs within the cancer centre.	Confuse patient pathways for static protocols that cannot be modified.
Make EUCCC reporting and dashboard implementation transparent and widely accessible to reinforce the culture of evaluation.	Include such a large amount of data and indicators in CC Board's discussions that it exceeds the capacity for analysis.
Clearly designate and document all roles, responsibilities, and decision-making channels.	Concentrate decision-making through rigid hierarchies that hinder collaboration and delay needed changes.
Involve patient representatives in developing a version of patient pathways in plain language.	Make payments to ensure patients' presence and role in the governance bodies of the EUCCC.
Engage patient groups and develop a roadmap aimed to increase patients' capacity to be involved in the governance of the EUCCC.	Fulfil the standards without integrating the concept of patient centredness.
Use participatory methods to define the core set of skills and values that should be used locally in patient representatives' selection.	Include 'professional patients' within the governance bodies of the EUCCC.
Hold regular meetings to provide administrative and management support to the EUCCC (e.g. once a month with one hour).	Allow absences at the meetings providing administrative and support to the EUCCC; if someone cannot join they should send a representative.

1.4 Defining the EUCCC strategy and aligning operations: recommendations and implementation guidance

1.4.1 Define an EUCCC strategy covering the areas of care, research, innovation, prevention, and education and training.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.2 - The processes of EUCCC governance
C1.2.1 - EUCCCs have a unified cancer strategy covering care, education and research.

Implementation guidance

The governance of an EUCCC requires the development and approval of a comprehensive cancer strategy covering all aspects of oncology (**S1.2.1.1**), which presumes several key steps. Typically, this strategy has a horizon of five years. For centres aspiring to EUCCC certification, the first strategy embraces all processes and changes related to it.

The process of developing the strategy should mirror and be tailored to the structure of the EUCCC, including all their departments and institutions. Generally, the preparatory processes for strategic planning entail the organisation of workshops involving different stakeholders. The involvement of members of the CC Board (including clinical leaders) in the strategy definition process ensures the presence of the professionals executing it. Whatever the complexity of the EUCCC structure, a process to define the strategy should be defined together with a timeframe, events, monitoring indicators and professionals involved. Gaining approval from all involved institutions when defining the strategy is also key (**S1.2.1.2**); in many cases, approval processes are characterised by the strong involvement of the quality department.

The indicators selected (i.e. considered key performance indicators (KPIs) due to their relevance) to monitor strategy deployment may not cover all areas of activity within the EUCCC, or the data required may not have been generated yet. Improvements should be achieved in all areas but not at the same time, so departments should accept the process of priority-setting related to the selection and use of indicators. In reality, most EUCCC activity areas (e.g. early detection, personalised cancer medicine) are connected to each other, which in practical terms means that improvements are visualised (and this prioritisation accepted) by all departments and institutions.

The EUCCC cannot be effectively governed if there are wide knowledge gaps (e.g. role of the biobank). In connection with **S1.2.1.1**, ad hoc training interventions should narrow the gap among the members of the CC Board. Likewise, dissemination strategies and patient training programmes can be organised, covering strategic planning and avoiding tokenism, paternalism, or one-way communication. Making a difference on strategic planning is crucial to set the proper line of action and influence the environment (15).

Monitoring and evaluation

A periodic review of the strategy should be defined and carried out in accordance with each institution's capacity to tackle the review process and change management (e.g. annually, every three years). 'Rolling targets' may also be useful, that is, the indicators or targets that embrace dynamic goals or implementation progress and require an adaptive perspective.

Monitoring through reporting of the different task forces or transversal groups can also serve the purpose of monitoring progress of the strategy. In this line, if the EUCCC has a scientific advisory board (SAB), it may have a role in the monitoring and evaluation of the strategy.

The EUCCC is not always autonomous in making decisions about the evaluation indicators chosen to assess the implementation of the strategy and the expected outcomes (**S1.2.1.4**). Sometimes there are regional or national requirements – and external accountability mechanisms – or the need to align these indicators at a consortium level.

Contextualised options and experiences

In **Oslo University Hospital**, a working group was created to develop the CCC strategy. Around 10 seminars (held during half a year) were organised, covering all the topics decided. Departments involved were informed during the process and invited to comment on the draft strategy, seeking a special commitment from them. Then, patient representatives and labour unions were involved through the different councils together with some external partners. The whole process lasted a year and a half; the strategy is accessible online (16).

1.4.2 Facilitate coordination and effective responses within the governance system.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.2 - The processes of EUCCC governance
C1.2.1 - EUCCCs have a unified cancer strategy covering care, education and research.

Implementation guidance

The CC Board has a clear mandate to guide cross-organisational matters and establish internal rules for it (**S1.2.2.1**). However, these rules cannot be interpreted as an SOP. Standardising cross-organisational action can be counterproductive, as it requires flexibility. This type of approach should be tailored to each activity and largely reflect the structure of the hospital and the configuration of the EUCCC (e.g. university hospital, multi-site consortium).

1.4.3 Develop action plans to guarantee efficient EUCCC governance.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.2 - The processes of EUCCC governance *C1.2.1 - EUCCCs have a unified cancer strategy covering care, education and research.* *C1.2.2 - EUCCCs governance facilitates coordination operationally and strategically.*

Implementation guidance

Action plans are an essential EUCCC governance tool since the strategy of the EUCCC should be implemented along with the improvement processes guided by EUCCC certification (**S1.2.2.2**). By defining action plans, the EUCCC makes decisions on priorities, which requires a learning curve and significant maturity. Effective work on cross-organisational matters – linked to action plans – proves stable levels of governance and interaction. A typical case is the role of the biobank in CCCs, as it requires a matrix approach based on a team or a task force (to be built up) and an annual action plan (**S1.2.1.3**) connected to the strategy. The above-mentioned 'internal rules' (**S1.2.2.1**) imply that the action plan is properly communicated, results from the quality management system shared, and the distribution of responsibilities specified.

Monitoring and evaluation

The execution of action plans should be written. Quite often, there are too many implicit points and actions that are not properly clarified. In general, a cultural adaptation to the different professional groups and entities is advisable. Reporting and assessment of the ongoing plan should be the basis of the next one.

1.4.4 Create an EUCCC dashboard as the main source of decision-making data.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.2 - The processes of EUCCC governance
C1.2.3 - EUCCCs leadership stays informed about care and research activities.

Implementation guidance

The availability of a digital infrastructure determines the capacity to set up a dashboard or data monitoring system enabling real data-based decision-making process at the EUCCC level (**S1.2.3.1** and **S1.2.3.2**). A realistic approach is needed, since this goal may depend on investments in IT systems. Transforming cancer centres into data-driven organisations implies that the practical use of these metrics (especially in research and care) presumes that data are collected with a monitoring system that, in turn, is used by the CC Board for managerial purposes (**S1.2.3.2**).

The experience of mature CCCs indicates that a transition towards the electronic collection of data should be defined, if the dashboard cannot be immediately built up. For a general hospital or a consortium setting (with potential interoperability difficulties), one way to cope with this challenge is collecting care and research data manually and preparing the CC Board meeting with ad hoc presentations.

A specific plan – and a task force – is needed, and that includes defining priorities on areas, setting a dialogue with the IT department to generate and collect data, and introducing the culture of routine monitoring in the EUCCC governing bodies. Besides the need for investments and dashboard implementation, the data needed may be held in different sources and systems (locally centralised or regionalised) that, in turn, do not talk to each other.

Monitoring and evaluation

The Cancer Centre dashboard should include three types of data to be selected and prepared: (i) activity data (ii) patient outcomes data (e.g. time to diagnosis, mortality, clinical data) and (iii) cancer registry data, if available.

Contextualised options and experiences

The **Candiolo Cancer Institute FPO-IRCCS** has normalised the use of data to underpin strategic discussions at a top-management level. The scientific direction gathers the data related to research and documents the metrics (e.g. number of studies, patients enrolled into trials, papers published). For their part, clinical leaders monitor the care data. Key figures are then discussed at the directors' board level. Discussions also encompass what is needed from a digital perspective. It is a process of understanding and maturity.

1.4.5 Do's and don'ts

DO	DON'T
Develop a strategy that differentiates main areas, goals, targets, measures and tools covering a specified period.	Disconnect the strategy-making from the institutions in charge of its implementation or from the patients who will be affected from the consequences.
Define a limited set of indicators for priority areas of the strategy.	Conduct complex assessment with a large number of items.
Define flexible actions plans.	Make investments lacking a specific strategy on digitalisation and data management, including a transition.
Periodically review the strategy, paying particular attention to rolling targets.	

1.5 Collaboration and networking: recommendations and implementation guidance

1.5.1 Embed the EUCCC in its local healthcare setting.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements

T1.1 - Organisation of EUCCC governance

C1.1.5 - EUCCCs governance includes formal agreements with external collaborators.
T1.1 - The processes of EUCCC governance
C1.2.4 - EUCCCs collaborate regionally with other hospitals for equal access to care and research

Implementation guidance

Regardless of the specific configuration, EUCCC Certification pertains to the CCC, not to other providers that are not contractually part of it. However, agreements with other health and social care services are of great value to align cancer care and research activities and delve deeper into a EUCCC concept that is rooted in the healthcare system.

Intensity and formality of collaboration with 'external collaborators' varies greatly, from formal networking to no collaboration. It largely reflects political readiness – either that of EUCCC's representatives or that of other potential collaborators, so an analysis of local conditions is needed. The setup of an EUCCC represents a clear opportunity to formalise and shape external collaborations (**S1.1.5.1**). In terms of governance, the CC Board may approach it as an internal goal, and a coordinating committee can be created for this purpose. In this line, continuity of care with primary care (**S1.1.5.5**) or with other research institutions or universities is also encouraged (**S1.1.5.6**). The formality of such agreements and the need to prove – through structured reporting – (**S1.1.5.4**) that they work is a key aspect.

This criterion calls for patient pathways to be used as the basis for CCCs' collaboration and networking with external entities (**S1.1.5.2**) considering that the level of clinical expertise and technological capacity may vary among the institutions engaged in the same pathways. Indeed, sharing patient pathways allows for the effective division of responsibilities and tasks and the setup of coordination mechanisms between the EUCCC and other entities (**S1.1.5.3**), with a clear delimitation on how diagnosis and treatment is carried out at a regional level (**S1.2.4.4**). These situations presume a mutual acknowledgement of each other's roles and the possibility to expand collaboration to the fields of research, care, innovation, education, and training (**S1.2.4.1**).

EUCCCs commonly establish joint clinical pathways together with online MDT meetings with partner hospitals, allowing coordinated decision-making (e.g. through multi-level tumour boards) while improving access to clinical expertise, cancer trials, and molecular tumour boards (**S1.2.4.2** and **1.2.4.3**). Notably, such direction has the direct benefit of ensuring continuity and timely care for all cancer patients, regardless of the origin or destination of the referral.

A consolidated collaboration with other providers may make the EUCCC the 'spokesperson' of the regional cancer care and research. Such an organisational environment may require specific materials on communication to properly explain EUCCC's role in the region or country. Dissemination activities are recommended.

Monitoring and evaluation

Structured reporting on the coordinated activities with local networks or providers associated with the EUCCC would contribute to stabilising the connection and the regional role of the EUCCC.

Contextualised options and experiences

In **Germany**, the ONCOnnect Initiative (accessible at: www.EUCCC-onconnect.de) was launched to support local outreach of EUCCC Care, considering that most cancer patients are not diagnosed and treated in the CCCs. Such an initiative implies the development of outreach networks that address aspects such as insufficient funding and regional disparities in care. All 14 German EUCCCs, including the 26 university locations, are aligned in this matter.

1.5.2 Consistently participate in and select international projects.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T1.1 - The Processes of EUCCC governance *C1.2.5 - EUCCCs participate in European and/or international networks.*

Implementation guidance

Cross-border networking among CCCs should be fostered. For certification, the EUCCC must participate in at least one cross-border network, organising collaborative institutional activities between EUCCCs. One example is the European Rare Cancer Network. The EUCCC should also be involved in European and/or international collaborative research consortia (**S1.2.5.2**), for instance the ECRAIN project for translational research. The role of the Grant Office, typically linked to scientific management, can be very relevant in the process of promoting and selecting avenues for collaboration.

Collaboration at the level of the EU network of CCCs can contribute to fulfil some of these standards, stimulating areas with a clear added value in CCCs missing such connections.

Contextualised options and experiences

In **Candiolo Cancer Institute FPO-IRCCS**, the board of directors (i.e. the CC Board) regularly includes this aspect on the agenda, which implies that the general director and senior representatives of the different specialties – those caring for patients – may obtain direct information and co-decide on EUCCC's collaborative involvement.

1.5.3 Do's and don'ts

DO	DON'T
Adapt outreach coordination to the specific healthcare system and readiness for it.	Provide evidence of clinician-to-clinician or services-based agreements as proof of EUCCC's external collaboration.
Use examples to jointly develop patient pathways to showcase collaboration.	Establish collaboration with multiple entities at the same time to prove EUCCC's local embedment.
Map the different scientific strengths and weaknesses of the centre and define strategy with different steps and timelines.	Try to be leader of different scientific areas in the short term without embedding them in a coherent strategy.
Set up a minimum structure and competent professionals to manage large projects.	Overload researchers with multiple projects or with projects that do not match centres' capacities to cope with them.
Share and discuss the identification of new areas for research with PIs.	Allow the CC Board to make unilateral decisions on research directions.
Monitor the areas in which the centre does not have any strength or position and identify potential collaborations.	

2. **Care**

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2. JANE2 – network of palliative care

2.1 Introduction to the EUCCC standards on care

EUCCCs provide high-quality, patient-centred, evidence-based, and safe cancer diagnosis and care. Their excellence rests on four pillars: clinical expertise, robust organisational systems, structured multidisciplinary collaboration, and an ongoing commitment to continuous quality improvement. In EUCCCs, care is conceived as comprehensive, covering the whole journey of care, continuous process spanning initial diagnosis, treatment including near the end of life or long-term survivorship services. The clinical care journey should be seamless, with timely access to advanced diagnostics, treatment (including precision medicine supportive and palliative care, and experimental treatments); well-coordinated, multidisciplinary specialist care; and careful attention to patient safety and individual risk profiles. Patients should be actively consulted and involved at all stages, with their needs, priorities and experiences integrated into both individual decisions and the design of patient pathways. This patient perspective is balanced with the systematic use of scientific evidence and clinical practice guidelines (CPGs) for clinical decision-making, along with a continuous commitment to learning and improving the organisation of care and the patient experience.

Implementation of the EUCCC criteria for care should cover the whole journey of care and not be limited to the clinical arena. The candidate EUCCC requires clear organisational structures and responsibilities, a defined work plan, and excellent data management. The EUCCC must ensure that the delivery of oncology care is supported by governance mechanisms and information systems that enable effective and flexible coordination across clinical departments, professionals, and care and research settings. It should contemplate mechanisms for updating practice in light of evolving evidence; the availability of innovative treatments and technologies; regional, national and European requirements; and changes in patients' needs and expectations. In an EUCCC, clinical care is enriched with links to research, innovation, and education. This integration entails protected time for research and training activities by clinicians, systematic access to clinical trials and health services research, and collaborative ties with universities, research institutes and other hospitals.

2.2 Summary of recommendations in the Care domain

Short-term implementation priorities

Provide a comprehensive range of services at EUCCC level, formalising cooperation where necessary. Comprehensive, high-quality diagnostics and treatment must be available for a minimum number of tumour types, defined as three of the five major cancer groups ((i) breast and gynaecological; (ii) lung and thoracic; (iii) gastrointestinal; (iv) genitourinary; and (v) skin cancers), and two of the less prevalent groups (rare; paediatric; and haematological). If this is not feasible in-house, cooperation with other centres can be formalised, ensuring that patient pathways consistently cover these cancers.

Co-create patient pathways for the most common tumour types. Centres should reach a consensus on which CPGs to follow and define workflows to ensure access to diagnosis, treatment, supportive and palliative care and clinical trials. When necessary, pathways may be articulated in cooperation with other centres and hospitals, and they should be shaped and informed by patients themselves. Clear algorithms should be available for managing patients and establishing optimal time intervals through the different steps of the oncological process.

Institutionalise the evidence-to-practice process. Centres must establish institutional processes for translating emerging evidence into practice through the adoption of international or national CPGs for treatment algorithms or patient pathways, local refinements where needed, and systematic updating. An institutional repository and routines will support clinicians' access to and application of the latest guidance.

Establish an action plan to operationalise the quality improvement programme. Patient experiences should enrich the hospital's quality improvement programme. These may be captured through a structured consultation process to identify patient needs, involving both patient associations and the CC Board.

Establish the organisational foundations for safety and risk management. A formal board should be responsible for assessing and guiding the management of complications. The board would oversee the development of SOPs for managing serious/emergency situations along the care process and creating clinical protocols to support staff in managing complications including severe adverse events an associated with specific treatments. Serious or unforeseen adverse events and complications should be defined, reported, registered, and monitored.

Make patient involvement operational. Together, the CC Board and patients should co-create a policy to ensure patients are treated with sensitivity and respect and that their preferences are considered in all aspects of their care. Time and resources should be allocated for implementation of the policy, which must necessarily include a specific component for patient communication.

Guarantee access to MTBs. Centres may consider pursuing a leadership role in MTBs, whether these are internal, shared, regional or national. Patient eligibility criteria need to be defined in light of the complex aspects involved, such as legal and ethical requirements, implementation processes for identifying eligible patients, and secure information-sharing procedures. Workflows should be articulated with clinical trial participation and molecular assessments, ensuring that results are integrated into clinical decision-making, including for off-label treatments. Members of the MTB may need to be highly qualified specialists.

Embed multidisciplinary decision-making into routine practice. Multidisciplinary teams (MDTs) should operate in line with national guidelines, considering specific tumour characteristics and treatment goals. Defined workflows should contemplate the roll-out of clinical trials, and consensus-based recommendations – and any deviations from them – should be clearly documented. Designate a coordinator responsible for preparing and coordinating the MDT.

Develop SOPs and clinical protocols for each treatment, plus a work plan to organise the units and allocate resources. Sufficient staff and resources are needed to deliver surgery, radiotherapy, systemic treatments and palliative and supportive care. All interventions should be supported by appropriate SOPs and clinical protocols, with regular training updates to keep staff informed and qualified to deliver them.

Medium/long-term implementation priorities

Establish a dedicated team responsible for coordinating the development, monitoring and updating of patient pathways. Patient pathways may require periodic reviews and updates, and an IT system should be equipped to monitor and evaluate time intervals between steps.

Complete a full institutional learning cycle, covering everything from data collection and problem identification to action, training and re-evaluation. A formal protocol/action plan for patient involvement during both outpatient and inpatient care should be adopted in order to integrate this knowledge into the quality improvement programme. The support and involvement of top management in this area is essential. Learning cycles should be held about twice a year to discuss the action plan.

Prepare and update information materials for patients. The content should include the most relevant information for patients (their needs and wishes), such as their rights, diagnosis and prognosis, and treatment options, including palliative care. Content updates should be standardised, prepared in different formats, and adapted according to the language, cultural needs, health literacy, cognitive limitations and sensory impairment in different target groups.

Strengthen patient-centred decision-making. Centres should consider including a shared-decision process in their action plan to provide tailored materials designed to present options based on research findings and allow people to consider what best fits their personal situation and preferences.

Palliative and supportive care should be integrated early throughout the cancer care pathway. Integrate it early across the disease process, including in referral patient pathways, CPG development, MDT discussions, and communication about goals of care.

2.3 Comprehensive diagnostics and treatment: recommendations and implementation guidance

2.3.1 Assure comprehensive diagnostics and treatment for a minimum number of priority tumours, either in-house or in collaboration with other centres.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.1 – Comprehensiveness of care *C2.1.1 - EUCCCs deliver complete set general and advanced diagnostics and treatment for a minimum number of specified cancer diagnoses*

Implementation guidance

To achieve certification, candidate CCCs must assure high-quality treatment and the availability of qualified specialists for at least three of the five following major cancer groups: (i) breast cancer and gynaecological cancers such as ovarian and uterine cancer; (ii) lung and thoracic cancers; (iii) gastrointestinal cancers; (iv) genitourinary cancers; and (v) skin cancers (**S2.1.1.1**). Centres must also cover care for at least two less prevalent cancer diagnoses, which may include rare cancers, paediatric cancers, or haematological cancers (**S2.1.1.2**). Not all types of cancer require treatment at the same level of hospital, nor are all healthcare services provided at every hospital. Establishing cooperation with other centres may be necessary in cases where the candidate EUCCC cannot diagnose or treat at least three of the five major cancer types or two less prevalent cancers (**S2.1.1.1** and **S2.1.1.2**) or if they cannot provide specific services or complex procedures.

Contextualised options and experiences

In the **National Cancer Institute of Ukraine**, where oncology facilities are separate from general facilities, ensures that oncology patients have 24/7 access to all emergency medical care through formal cooperation agreements with the relevant acute care providers. This cooperation includes defined patient pathways and referrals to guarantee timely clinical assessment**.**

Monitoring and evaluation

In a medium term, centres may consider establishing a quality measurement system for each cancer type for which the candidate EUCCC provides care.

2.3.2 Develop patient pathways.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.5 - EUCCCs deliver patient-centric and continuity in care based on managed patient pathways

Implementation guidance

A patient pathway usually structures the care process into phases such as entry into the hospital, diagnosis, treatment planning, treatment (including clinical trials), follow-up, rehabilitation, supportive and palliative care, and transition to other care settings (including cooperation with primary care or hospitals) or out of the pathway. While not all phases are present in every hospital or for every disease, this provides a standard reference structure. Patient pathways support care delivery and can be translated into the operational and organisational context of the candidate EUCCC. The candidate EUCCC could follow the phases below for patient pathway development and implementation (further details are provided in the iPAAC Patient Pathway Guide(17).

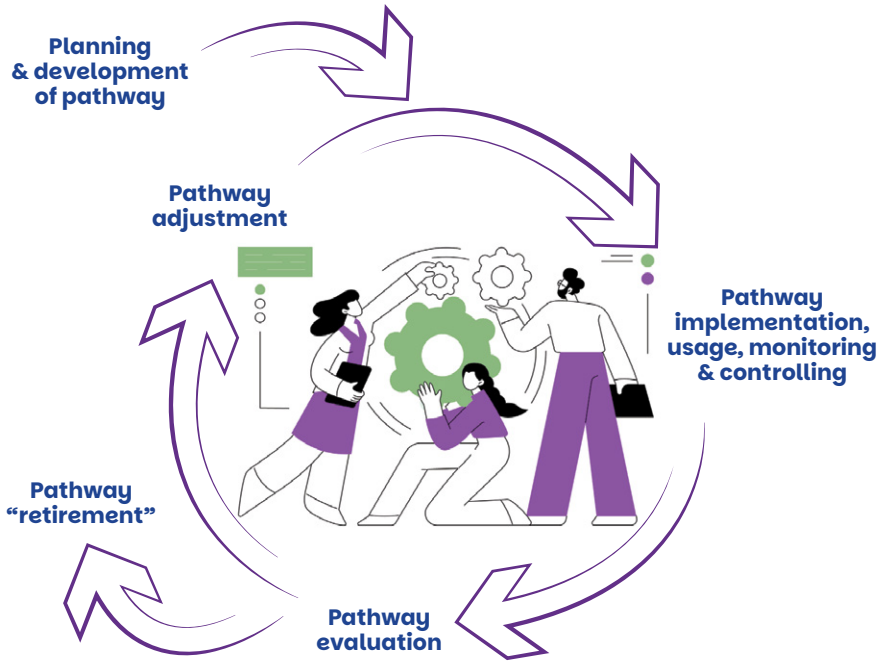


Fig. 3. Patient pathway lifecycle (adapted from Richter P, et al. 2021 (18).

(i) **Initiation of the pathway development process:** The first step is to initiate the pathway development process within the hospital by defining the scope of the patient pathway, including the tumour site, and its boundaries. A practical starting point may be to focus on the most common tumour types within the centre context, in order to minimise bureaucracy and enable contextualised implementation. The candidate EUCCC may benefit from establishing a dedicated team within a quality unit or department to coordinate the development, monitoring and updating of patient pathways, including through co-creation with patients (**S2.2.5.1**). This team should ideally include expert clinicians and nurses involved in tumour care, quality staff, hospital managers, information systems professionals (e.g. pathway modelling expert), and patient representatives to co-create the pathway with them. The team should be trained in the development process and supported by a structured work plan with clear timelines, tasks, responsibilities and resources.

(ii) **Review of the literature and collection of current practice inside and outside the hospital**: The next step is to collect and review of evidence, including CPGs, internal protocols, existing patient pathways (e.g. existing European pathway templates as for colorectal (19), pancreatic (20), or lung cancer (21) and quality indicators for the tumour site addressed (detailed information on how to define quality indicators for monitoring and improving oncological care (22). At this stage, the candidate should decide which clinical practice duidelines to use as a reference – broader or more general (national or international) or local guidelines. To complement the evidence review, an analysis of the centre's current and future care for the tumour site should be carried out from both the centre and patient perspectives.

(iii) **Construction of the patient pathway**: A patient pathway should then be designed for the tumour entity addressed. This includes defining inclusion and exclusion criteria, describing all phases across the continuum of care (**S2.2.5.3**), and specifying key components such as interventions (e.g. surgery, radiotherapy, systemic treatment and others), multidisciplinary discussions (e.g. MTB and MDT meetings), consultations (e.g. prior to treatment initiation, diagnosis communication, shared decision-making), as well as responsibilities and tasks related to different medical specialities and nursing; required resources (medical technology, infrastructure); documentation (molecular test results, images); timelines; and indicators. It is particularly important to define timelines or algorithms, including, where appropriate, maximum intervals between steps, such as time to treatment initiation, in line with national regulations and professional recommendations (**S2.2.5.8**). At this stage, the format and tooling for pathway representation should also be selected. Typically, BPMN process models or flow charts are used. Tool-wise, generic process drawing tools such as BPMN.io, MS Visio or MS Power Point, yEd Graph Editor, or patient pathway design and management tools such as PATHOS can be used (Fig. 4). The patient pathway should be reviewed by external experts not involved in the development process and approved internally within the centre. Once validated, patients may also be provided with a simplified version of the pathway.

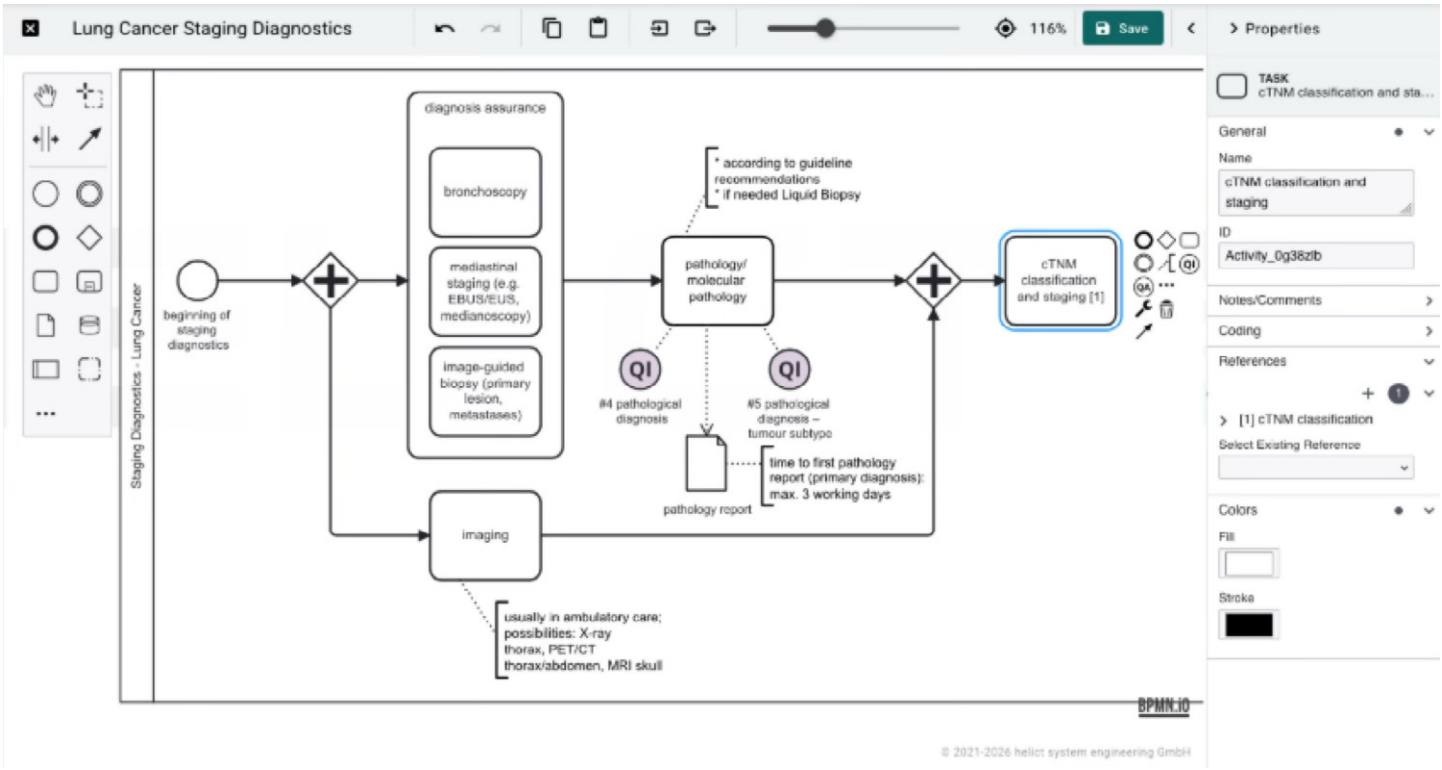


Fig. 4. Pathway construction phase (example using the helict PATHOS pathway design and management tool).

(iv) **Implementation in the centre:** Once developed, the patient pathway should be integrated into routine care. The candidate EUCCC should define an implementation plan, including the level of integration and the timeline for rollout. Three elements are especially important for successful implementation: training the professionals who will use the pathway, assigning ownership of the pathway and appointing a coordinator with a patient-centred perspective (e.g. a nurse navigator), and ensuring that it can be applied in daily practice, ideally with workflow integration into the centre's IT system.

In the medium to long term, a process for periodic reviews and updates of the pathways should also be established (**S2.2.5.1**), along with mechanisms for interconnectivity between patient pathways and clinical trials. Clear decision points at which trial participation is considered and interconnecting patient pathways and clinical trials should also be defined.

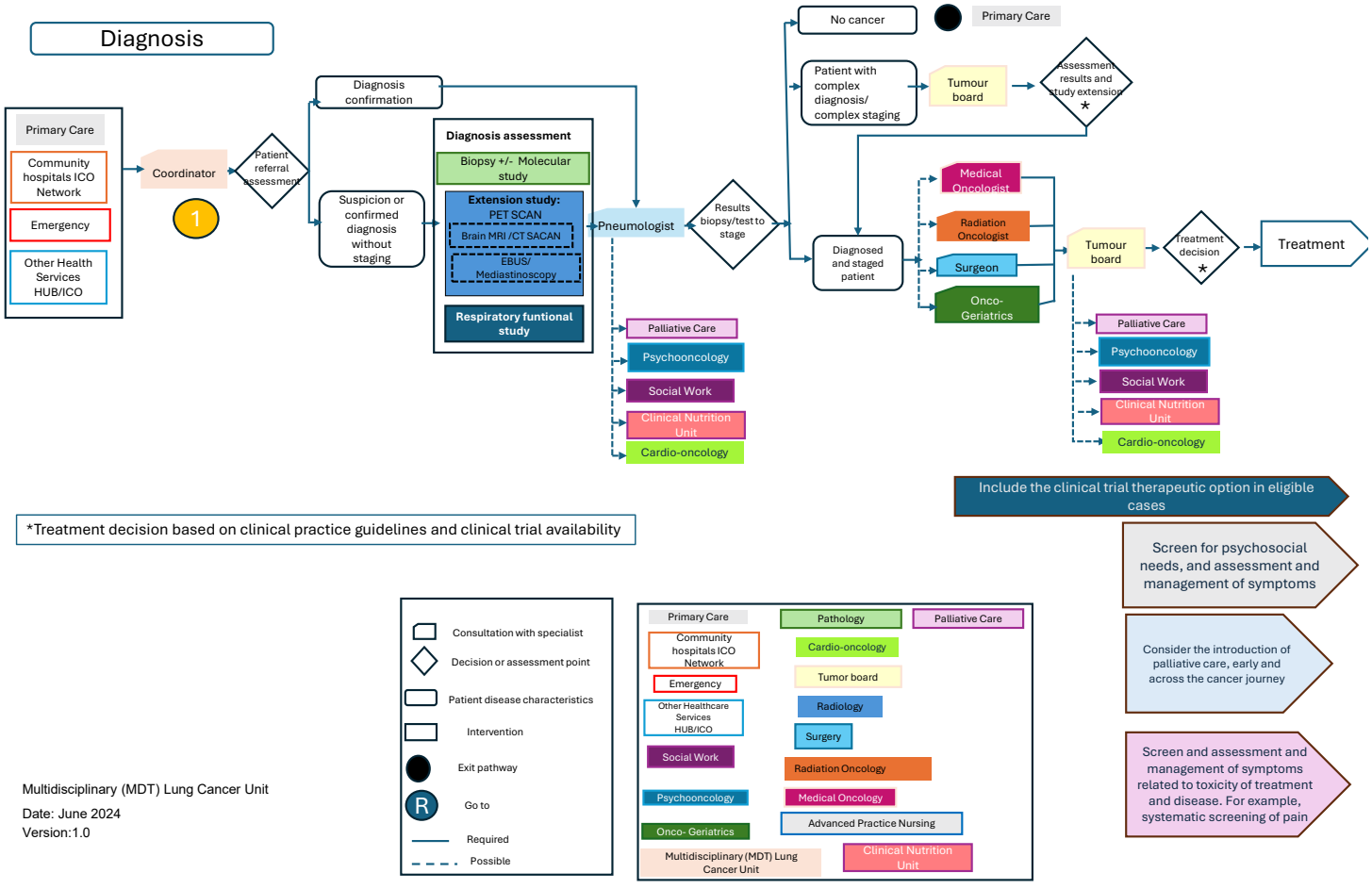
For more guidance in this document, see section:

4.5.3 Develop a specific strategy to connect eligible patients with clinical trials, including through MDTs and MTBs.

Contextualised options and experiences

The **Institut Català d'Oncologia** has developed a patient pathway for lung cancer that includes palliative care in the early stages of the disease. It also provides recommended referral times to palliative care from the time of diagnosis (Fig. 5).

Pathway : LUNG



Multidisciplinary (MDT) Lung Cancer Unit
Date: June 2024
Version:1.0

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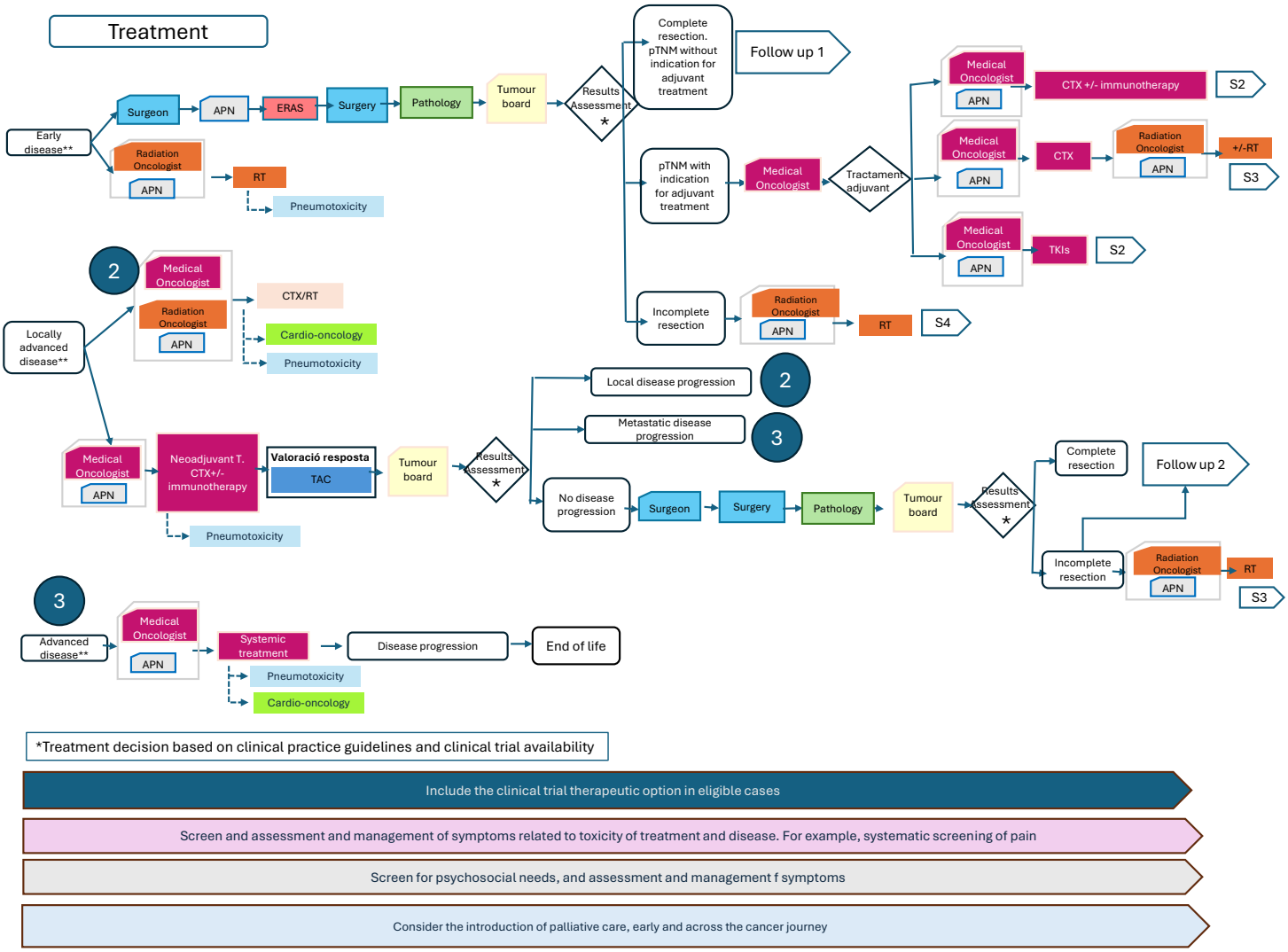

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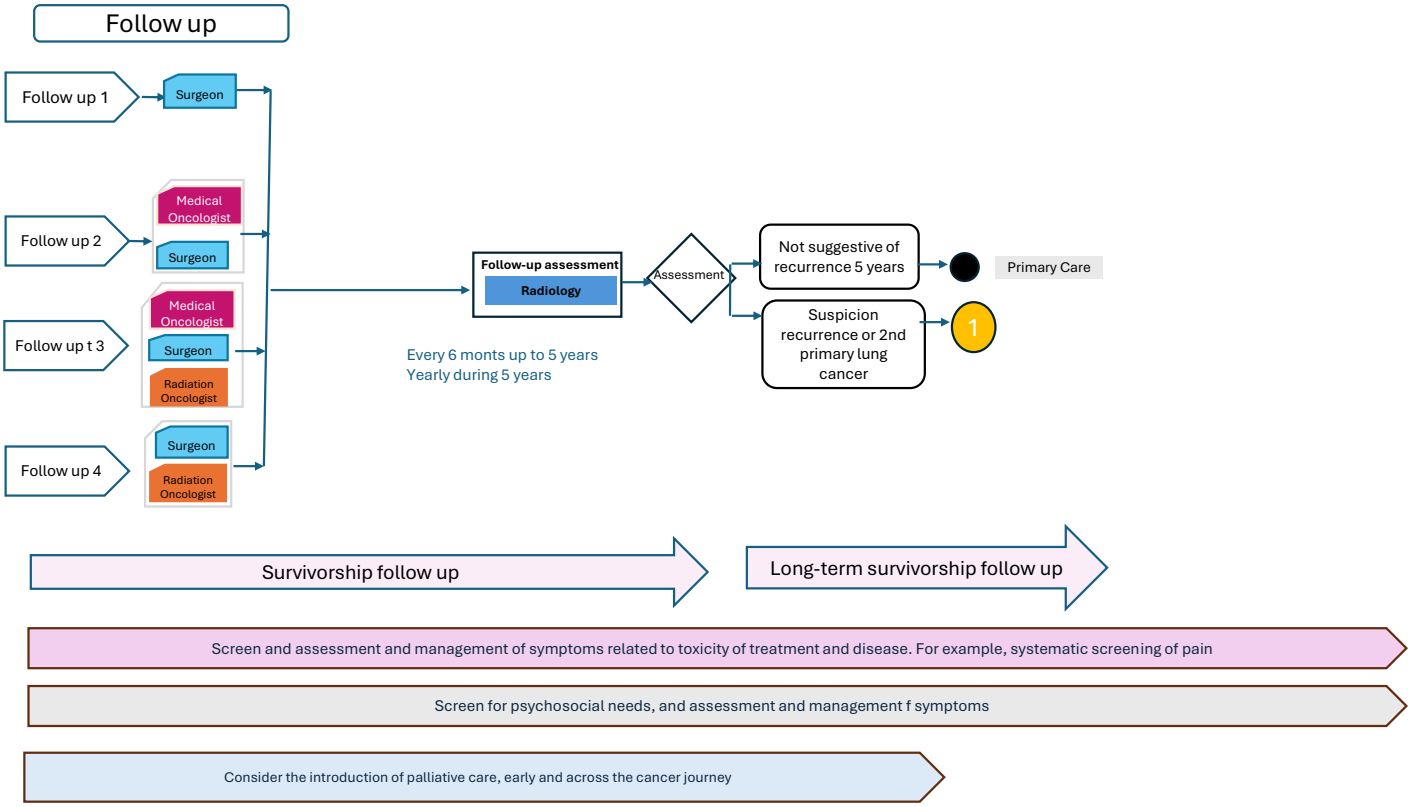


Fig. 5. Patient pathway for lung cancer implemented in the Institut Català d'Oncologia, integrating palliative care in early stages of the disease.

Monitoring and evaluation

In the medium to long term, the EUCCC candidate should implement an IT system to monitor and evaluate the indicators such as performance indicators (e.g. time intervals between steps documentation of deviations) and outcomes indicators. A comprehensive patient pathway evaluation framework is presented in (23). The candidate should also ensure that the established pathway is being followed or example by conducting compliance audits (**S2.2.5.4**).

2.3.3 Agree on which clinical practice guidelines to follow for treatment, involving an interdisciplinary team with palliative care specialists in the development of any new guidelines.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment
C2.4.2 - EUCCCs carry out treatment based on evidence

Implementation guidance

The candidate EUCCC should rely on national and international CPGs, which may sometimes be complemented with institution-level adaptations (**S2.4.2.1**). The proper development of guidelines for each tumour type requires broad interdisciplinary participation, helping ensure that all professionals share consistent information and messaging. In this context, the inclusion of the palliative care team can further strengthen consistency in symptom management, triggers for referral to palliative care, communication about the objectives of the oncological care process, and the sequencing of key components of care (**C2.4.7**).

The candidate EUCCC should have an IT platform to host documents, including an institutional repository where all available and updated CPGs are stored.

Contextualised options and experiences

In centres like **Vejle Cancer Centre – Lillebælt Hospital**, high-quality national and international (e.g. European Society of Medical Oncology) CPGs serve as the main reference, precluding the need to develop institutional-specific guidelines. Typically, teams within each clinical department review national guidelines and discuss how to apply or tailor them to the patient's needs. An internal IT system provides access to clinical guidelines covering treatment, palliative care, and other services. This system is linked to the national repositories, with automatic updates emailed to all staff as soon as guidelines change. In these settings, having guidelines easily accessible and distributed to all staff is considered mandatory.

At the **Institut de Cancérologie de l'Ouest**, national CPGs remain the main reference followed, but the centre is free to incorporate refinements at the institution-level. MDT/MTB members are familiar with clinical guidelines but frequently rely on personal knowledge**.**

At the **Institut Català d'Oncologia,** CPGs are referenced in a report that explains the algorithm for treatment decision-making. These guidelines can be found in the institutional repository.

Monitoring and evaluation

The candidate EUCCC should ensure that CPGs are followed in clinical practice (**S2.4.2.2**). One possible approach would be to use a set of KPIs to monitor compliance with the guidelines. These KPIs should be adapted to align with the local guidelines and context of the centre.

2.3.4 Do's and don'ts

DO	DON'T
Establish cooperation with other centres in cases where the candidate EUCCC cannot diagnose or treat at least three of the five major cancer types or two less prevalent cancers.	Attempt to develop patient pathways for every tumour type.
Consider broader action involving other parts of the health system or levels of hospital care.	Define patient pathways too narrowly, as this may reduce clinical flexibility and hinder personalised, patient-centred care.
Prioritise patient pathways for major tumour types.	Expect theoretical pathway models to be applied automatically in clinical practice.
Invest in training and support for healthcare professionals, especially in centres with limited prior experience in patient pathway development and management.	Assume informal or implicit agreement on adopted CPGs.
Ensure appropriate IT support for patient pathways, including monitoring intervals between steps.	
Ensure CPGs are easily accessible in daily clinical practice.	

2.4 Quality of care and patient safety: recommendations and implementation guidance

2.4.1 Establish a quality improvement action plan to operationalise the quality improvement programme, ensuring the integration of the patient experience.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.2 - EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients

Implementation guidance

The candidate should develop or formalise a quality improvement action plan to operationalise the quality improvement programme. Its development should integrate patient involvement as a useful early implementation step in the programme (**S2.2.2.2**). To collect patients' experiences during both outpatient and inpatient care and integrate this knowledge into the centre's programme, top management should support and be involved in achieving the objectives (**S2.2.2.1** and **S2.2.2.2**). A structure for patient consultation also needs to be established, including mechanisms for patients to raise issues and concerns and explore solutions together with healthcare professionals (**S2.2.2.1** and **S2.2.2.2**). Patient associations can be a valuable ally in supporting the design of processes for patient involvement (**S2.2.2.2**). Quality teams could be involved in coordinating these processes. It may be necessary to assign the responsibility of capturing the patient experience to specifically designated staff (**S2.2.2.1**). Fully integrating the knowledge gained from patients' experiences into quality improvement programmes requires a specific allocation of financial resources and time, for example to arrange learning events (**S2.2.2.1** and **S2.2.2.5**).

In that line, medium- to long-term actions could contemplate a full institutional learning cycle for quality improvement plans, encompassing data collection and problem identification to action, training and and re-evaluation. This cycle could follow an iterative improvement model, such as a Plan-Do-Check-Act (PDCA) cycle, with governance reviews at least twice a year and more frequent monitoring of key indicators to translate registry and patient-reported data into corrective actions, updated SOPs and measurable follow-up indicators.

Contextualised options and experiences

At the **Institut de Cancérologie de l'Ouest**, quality teams involve patients by inviting them regularly to quality improvement meetings.

Institut Català d'Oncologia has established safety rounds that are conducted once or twice a year by shift and by specialty to identify and assess potential risks to patients. These rounds include, for example, risks related to the IV pole that could cause patient injury, as well as checks of medication errors and related safety controls. Different professionals participate in these assessments, including healthcare professionals directly involved in care delivery and quality managers.

Monitoring and evaluation

The data collection process may require an electronic system to record the information and support subsequent analysis of the results (**S2.2.2.1**).

2.4.2 Designate a safety or risk management board.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.4 - EUCCCs ensure patient safety and risk management in Care

Implementation guidance

As a short-term priority, the candidate EUCCC may consider designating a safety or risk-management board responsible for receiving, assessing and guiding the management of complications and treatment-related side effects and symptom control (**S2.2.4.3**). This board may also have a role in ensuring hospital-level safety protocols are sensitive to the area of oncology, for example by intensifying interventions in infection and prevention control in immunocompromised cancer patients.

2.4.3 Develop an SOP for management of adverse events and complications.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.4 - EUCCCs ensure patient safety and risk management in Care

Implementation guidance

As a short-term priority, the candidate EUCCC should develop an SOP for any emergencies that may arise along the care continuum, from admission to hospital stay, discharge, treatment, and post-treatment follow-up (**S2.2.4.3** and **S2.2.4.5)**. Updating the SOP should be a medium- to long-term priority.

Moreover, the candidate should elaborate clinical protocols to support staff in managing complications, including adverse events associated with anti-cancer drugs (e.g. chemotherapy, immunotherapies, targeted therapies, and advanced therapies) (**S2.2.4.5** and **S2.4.5.16**), or treatments for symptom control (e.g. opioid, ketamine or intrathecal analgesic medication). These documents should include corrective measures to prevent and minimise harm to patients resulting from the most common adverse events, such as febrile neutropenia, nausea, and vomiting (**S2.2.4.6**). For unexpected treatment-related side effects or uncommon adverse events, if the centre is managing a larger volume of cases, the candidate could develop specific clinical protocols for them. In parallel, candidate EUCCCs may establish a system to ensure appropriate specialists are on call in case of an emergency, for example professionals with expertise in neurology.

Given that many events may occur on a daily basis, the candidate EUCCC may benefit from defining clear criteria for which complications and adverse effects need to be reported and registered, potentially through a predefined list (**S2.2.4.4** and **S2.4.5.16**). This could include selection of the most serious or unforeseen cases. Particularly, a list of common complications related to chemotherapy or other anti-cancer drugs (immunotherapies, target therapies or advanced therapies) could be helpful (**S2.2.4.3**). Explicit procedures should also be in place for notifying regulatory authorities and pharmaceutical companies of any suspected or unexpected adverse events relating to a drug.

Contextualised options and experiences

At **CCC Niedersachsen**, where CAR-T is infused, there are specific SOPs and/or clinical protocols for toxicities related to these advanced therapies.

The **National Cancer Institute of Ukraine** has various SOPs in place to address patient safety and infection control issues.

Monitoring and evaluation

As a short-term priority, a structured database may be used to register the most serious or unforeseen adverse events and complications (**S2.2.4.6**). If the same adverse event occurs again, the case should be reviewed to determine whether the response was timely, appropriate, and consistent with the expected management measures, and whether patient harm was avoided or reduced as far as possible.

To ensure periodic review of SOPs and clinical protocols, the candidate EUCCC should integrate regular internal and external quality management audits (e.g. from the cancer society) and provide mechanisms to assess whether corrective actions are effectively implemented (**S2.2.4.6**).

2.4.4. Ensure oncology-specific equipment is included in the maintenance programme.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.4 - EUCCCs ensure patient safety and risk management in Care

Implementation guidance

The central quality management unit is usually responsible for developing and regularly reviewing a maintenance programme for medical equipment. This is done by a facility engineer who is responsible for maintaining equipment. Although maintenance programmes are typically managed centrally at hospital level, the candidate EUCCC should ensure that oncology-specific equipment (e.g. radiotherapy devices, imaging systems, infusion pumps and laboratory and molecular diagnostic platforms) is explicitly included and monitored within this system (**S2.2.4.10**).

2.4.5 Do's and don'ts

DO	DON'T
Address legal, ethical and data protection constraints regarding the collection of patients' experiences before using information in the institutional quality improvement programme.	Assume data sharing is straightforward.
Designate a formal safety or risk-management board.	Operate a safety or risk-management board without clearly defined roles and responsibilities
Establish clear criteria and a predefined list of adverse effects and complications that must be reported and recorded, supported by an IT system.	Require registration of every single side effect or minor complication.
Maintain a documented schedule for the maintenance of equipment with traceability of dates, responsible engineers, actions performed and next review date.	

2.5 Materialising all dimensions of patient involvement: recommendations and implementation guidance

2.5.1 Create or adopt an SOP for information delivered or communicated to the patient.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.1 - EUCCCs facilitate and ensure patient empowerment

Implementation guidance

As a short-term priority, the candidate EUCCC should ensure that SOPs are in place for patient communication (**S2.2.1.1** and **S2.2.1.7**). The SOP should include the procedure for consultations to ensure that necessary information (such as their rights, diagnosis and prognosis, treatment options including reconstructive surgeries and palliative care, adverse effects, contact information for clinical staff) is provided systematically and explicitly (**S2.4.3.10**, **S2.4.4.4**, **S2.4.5.12** and **S2.4.7.8**). This is relevant for the first consultation and subsequent ones, since patients may find it difficult to absorb all information at once. Information delivery can therefore be postponed, organised, and divided into different phases (**S2.2.1.7**). The information shared should consider patient needs and the type and amount of information they wish to receive (**S2.2.1.1** and **S2.2.1.4**). Training staff on the SOP will help facilitate implementation (**S2.2.1.7**). Specifically, healthcare professionals need to be informed about all the available materials and when and how different types of information should be delivered (**S2.2.1.1** and **S2.2.1.7**). A checklist can support what should be communicated. They should also record the relevant information communicated to the patients in the patient file (**S2.2.1.2**).

The candidate EUCCC should ensure that the information materials are prepared and updated including both physical documents (booklets, leaflets, information sheets, videos) and virtual formats (website, information portal or social media) (**S2.2.1.1**). One possible approach would be to establish a dedicated unit responsible for this purpose. A physical information centre or stand may provide a central point for distributing materials like leaflets and booklets and for directing patients to the institutional website for further information.

In the medium- to long-term, the candidate EUCCC should identify how to integrate patients' needs and wishes in the creation of these materials (**S2.2.1.1**) by systematically involving them in their design through a co-creation process (**S2.2.1.1**). Likewise, the candidate should standardise content updates (**S2.2.1.6**), assessing which information needs frequent updating (e.g. weekly or monthly) and which can be adapted in the long term. Additionally, the content should be adapted to the local context, taking into account linguistic and cultural needs, health literacy, cognitive limitations, sensory impairment,

and periods of high emotional burden. The candidate should also define the target groups for whom adaptations are prioritised and apply a proportionate approach to translation and tailoring, focusing comprehensive adaptation on core, longer-term materials, while providing timely updates for frequently changing information in the most accessible formats possible.

In the short term, healthcare professionals will need training and allocated time during clinical practice to communicate relevant information to the patients and to document this communication (**S2.2.1.1** and **S2.2.1.2**). In particular, nurses are often closest to patients and could play a central role in communicating about treatment-related decisions and patient preferences, including for sensitive topics like whether to continue or cease treatment (**S2.2.1.4** and **S2.2.1.5**).

Monitoring and evaluation

To assess adherence to the communication SOPs, it could be useful to monitor the physician's document in the patient record as a medium- to long-term priority, to check that the relevant information has been communicated (**S2.2.1.2**). An EHR is required to collect this information (**S2.2.1.2**).

2.5.2 Develop a policy that ensures that patients are treated with sensitivity and respect and that their preferences are considered in all aspects of their care.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety *C2.2.1 - EUCCCs facilitate and ensure patient empowerment* *C2.2.2 - EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients*

Implementation guidance

As a medium-long term priority, the CC Board may oversee the joint development of a policy by all relevant stakeholders, including patients, on the interpersonal and relational dimension of care. This policy should address and reinforce how patients are listened to, informed, involved, and treated with sensitivity and respect during the medical consultations, enabling the necessary time and resources to be allocated for its implementation (**S2.2.1.4**). In addition to communication on care pathways, other systematic structures and information channels could include periodic surveys, complaint forms, and focus groups. The data collected should then be routed back to the owner of the process (e.g. patient pathway, MDT, clinical unit), with defined procedures to update training programmes, CPGs, and service organisation.

Periodic updates to the policy should be envisaged, for example in response to demographic or cultural shifts. The policy development process may include asking patients about their preferences regarding what type of information they would like to receive (**S2.2.1.4** and **S2.2.1.1**). The policy should be disseminated to all cadres of healthcare professionals, including nurses (**S2.2.1.4**).

Monitoring and evaluation

Centres should periodically review whether the policy is being implemented in daily practice (**S2.2.2.1).** The candidate EUCCC could consider the repeated use of patient-reported experience measures (PREMs) and patient-reported outcome measures (PROMs) to evaluate the medical consultations as part of a continuous quality improvement cycle: first, patient experience is assessed through PREMs and PROMs; next, the results are analysed to identify areas for improvement and the adapted actions accordingly; measures are subsequently repeated to assess whether the changes have improved patient experience and consider further action. Another option is using patient satisfaction questionnaires to evaluate the effects of the communication policy.

A formal document may also be released to demonstrate that the policy has been approved and implemented (**S2.2.1.4**).

2.5.3 Establish a shared decision-making process.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.1 - EUCCCs facilitate and ensure patient empowerment

Implementation guidance

Centres should consider defining two different procedures in their action plan: one specific for patient-informed decision making, and as a medium long term goal, another for patient-shared decision-making covering diagnostic, treatment, follow-up and survivorship (**S2.2.1.5**). To ensure a common understanding among professionals, it is important to clarify the concepts. Identifying and involving a patient representative could support this approach.

Shared decision-making is usually used in situations where the evidence does not clearly support one option over another, or where different options may be similar. In cases facing advanced-stage disease or complex situations where systemic treatment may have a significant impact on their quality of life, shared decision-making should include options for supportive and palliative care. This process should provide materials on the available options based on the evidence, allowing patients to consider in light of their personal situation, values, preferences, and priorities. This process can be done on their own or with health professionals (24).

Ideally, a dedicated unit or team, preferably with specific training in the methodology of algorithmic clinical decision analysis, could be responsible for preparing and regularly updating shared decision-making materials, such as booklets or videos for different cancer types and treatments. The materials would highlight the next steps and available treatment options, as well as the pros and cons of each option. These materials may also include information and uncertainties around prognosis and the potential consequences of each decision (**S2.2.1.1**).

Contextualised options and experiences

In the **Institut de Cancérologie de l'Ouest**, patients traditionally rely on clinicians to make decisions. In this context, the provision of clear, written information and a reflection period of a few days could support patients in making informed decisions about what they want before finalising the treatment plan.

On the other hand, at **Vejle Cancer Centre - Lillebælt Hospital**, shared decision-making is well established and supported by the health care system. Its consistent adoption is facilitated by specific guidelines, and it is supported by a dedicated unit that is responsible for preparing booklets.

At **Vall d'Hebron Barcelona Campus Hospitalari**, a clinical situation illustrating informed decision-making could be the management of a malignant breast node for which surgery is the recommended treatment option. Although alternative approaches may exist, the available evidence is robust enough to support surgery as the standard option, and most patients would be expected to choose this approach once they have been adequately informed about its benefits, risks, and possible alternatives. By contrast, an example of shared decision-making could be localised prostate cancer. Several options may be considered, such as surgery, radiotherapy or hormone therapy, but there is limited evidence to establish a standard of care. The most appropriate choice depends on the on the clinical context and the patient's priorities.

Monitoring and evaluation

The candidate EUCCC may track patient decisions and the use of patient decision aids where appropriate to support monitoring relevant KPIs, for example, the number of patients reporting informed and shared decisions in their treatment plans.

2.5.4 Actively involve caregivers.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 - Quality of care and patient safety
C2.2.3 - EUCCCs facilitate active involvement by caregivers

Implementation guidance

The centre should support the involvement of caregivers throughout flexible visiting hours or overnight stay arrangements, facilitating caregiver participation in supportive daily activities (e.g. eating and showering) during inpatient care (**S2.2.3.2** and **S2.2.3.3**).

The patient's main caregiver should be identified and provided with training or information to enable them to support the patient at home with confidence. When a patient is hospitalised, the centre could provide practical information on care after surgery or medication administration where relevant. During the administration of radiotherapy or systemic treatment, caregivers could receive clear guidance on what to expect during and after treatment administration, management of expected side effects, and warning signs to be alert for.

2.5.5 Do's and don'ts

DO	DON'T
Ask patients what information they would like to receive and what their preferences are regarding it.	Assume that health professionals can speak for patients.
Co-create with patients information materials in both physical and virtual formats. Ensure that materials are readable, up-to-date, appropriate, and available.	Assume that patients understand complex medical language.
Define the target groups for whom document adaptations are prioritised, and how frequently updates to changing information should be made in the most accessible formats possible.	Limit communication training only to physicians; other professionals such as nurses and administrators can also be the ones to deliver information.
Train staff on how to deliver information to patients, family members, and caregivers and set aside time for communication during visits.	Ignore conflicts of values within the team or between healthcare professionals and patients before implementing a policy.
Involve the CC Board in the development of the policy that ensures patient preferences.	Allow cultural habits or hospital structures to act as barriers to implementation of shared decision-making.
Share the concept and align understanding of shared decision-making among professionals, through a patient representant	Assume that patients prefer to be told what to do rather than being involved in decisions about their care.
Use existing shared decision-making practices within the clinical pathway to ease implementation.	
Ensure patients are offered options and appropriate information to support informed consent and engagement with the shared decision-making process.	
Provide guidance to caregivers supporting the patient at home during inpatient and/or outpatient care.	

2.6 Advanced diagnostics: recommendations and implementation guidance

2.6.1 Ensure access and lead the MTB.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.3 - Diagnostics
C2.3.1 - EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics

Implementation guidance

The centre should ensure the review and discussion of the molecular aspects of tumours in a MTB. Depending on the characteristics, capacity and configuration of a candidate EUCCC (e.g. a consortium), the MTB could be established at different levels. These include internally in one institution, shared locally between different institutions, or as part of a regional or national structure (**S2.3.1.7** and **S2.3.1.12**). As a short-term priority, the candidate EUCCC may consider not only ensuring access to an MTB but also taking a leading role in its coordination and management (**S2.3.1.7**). MTB members are typically highly qualified specialists.

The candidate EUCCC may contemplate establishing a mechanism to identify and select eligible patients who should be assessed by an MTB, considering complex aspects such as legal and ethical requirements, implementation processes for identifying these patients, and secure information-sharing procedures (**S2.3.1.10**).

Contextualised options and experiences

The **Institut de Cancérologie de l'Ouest** has access to both local and national MTBs.

Monitoring and evaluation

The candidate EUCCC should routinely use a structured electronic MTB patient list to manage and monitor cases discussed.

2.6.2 Ensure access to molecular biology expertise and appropriate molecular detection systems.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.3 - Diagnostics *C2.3.1 - EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics*

Implementation guidance

Candidate CCCs should ensure they have the infrastructure, equipment and specialised personnel to deliver a wide spectrum of diagnostic tests, ranging from imaging to molecular pathology, so that accurate diagnostic results are available in a timely fashion (**S2.3.1.1** and **S2.3.1.3**). This includes ensuring timely access to appropriately skilled molecular biology expertise (not necessarily disease-specific), capable of identifying alterations in genes and chromosomes to support diagnosis, prognostic stratification and personalised medicine (**S2.3.1.7**). In parallel, centres should ensure access to the relevant molecular detection systems, based on genomic sequencing, including NGS, real-time or digital droplet PCR. Clinical laboratories providing this molecular analyses should operate within a formal quality management and assurance framework to ensure technical competence, reliable results, and continuous quality improvement. Where whole-genome analyses are performed, the candidate EUCCC should also ensure that patient consent is appropriately obtained and documented, and that governance arrangements support lawful handling, storage and use of genomic data in line with ethical and regulatory requirements.

Monitoring and evaluation

The candidate EUCCC should create or use a database capable of storing and managing molecular and genomic data. Ideally, this database would be interoperable with national systems.

2.6.3 Establish workflows for managing genetic and molecular results.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.3 - Diagnostics *C2.3.1 - EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics* *C2.4.6 – EUCCCs provide access to advanced and innovative therapies*

Implementation guidance

The candidate EUCCC should consider how they will handle and integrate results from genetic analyses into clinical decision-making (**S2.3.1.9**). The candidate EUCCC may also consider defining workflows for sharing of genetic and molecular results with colleagues for interpretation and assessment in specific cases, such as complex cases.

The candidate EUCCC should establish a systematic screening process for trial eligibility and procedures to ensure that eligible patients are referred promptly during the recruitment phase (**S2.4.6.4**). As MTBs may suggest off-label therapeutic options, the candidate EUCCC could benefit from creating a plan or procedure to authorise off-label options for individual cases.

2.6.3 Do's and don'ts

DO	DON'T
Define which patients are eligible for assessment by an MTB.	Overload the MTB with cases where molecular results are unlikely to change standard clinical management.
Ensure access to molecular biology expertise. It may not need to be disease-specific.	Recommend off-label treatments without a formal authorisation process.
Ensure patient consent is obtained and documented for whole-genome analyses.	
Define how genetic and molecular results are incorporated into clinical decision-making.	
Define a process to ensure that patients identified as eligible for clinical trials in the MTB are referred promptly during the recruitment phase.	

2.7 Multidisciplinary teams: recommendations and implementation guidance

2.7.1 Develop an SOP for MDT consultation.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment *C2.4.1 - EUCCCs ensure a multidisciplinary treatment approach* *C2.4.7 – EUCCCs ensure palliative care*

Implementation guidance

The eligibility criteria for an MDT consultation should be defined in accordance with national guidelines. Candidate CCCs may consider developing adequate SOPs for identifying eligible patients in specific situations (**S2.4.1.1** and **S2.4.1.3**), taking into account the particularities of each tumour type, whether the treatment intent is curative or palliative, and any significant changes to or deviations from the recommended treatment plan (**S2.4.1.2** and **S2.4.1.4**). The candidate should ensure that the appropriate number of MDTs are available to discuss all eligible patients, also taking into account the medical urgency for each case. The SOP should detail how to identify patients who are eligible for clinical trials and mechanisms for interconnectivity with them. The SOP should define criteria for referring patients to the MTB, for example whether this should be for all patients or only for those receiving systemic treatment. The SOP should ensure that MDT recommendations are developed through consensus (**S2.4.1.4**). A standardised process to communicate the MDT approach to patients should also be developed (**S2.4.1.5**).

The SOPs for MDTs should also define the mandatory representation of specialities for each tumour site, ensuring the consistent participation of relevant specialists such as surgeons, medical oncologists, radiologists, and pathologists. MDT representatives should be fully trained specialists with sufficient seniority to contribute meaningfully to decision-making. In the medium to long term, MDT discussions should include palliative care specialists (**S2.4.1.4**). Integrating palliative care specialists into the disease process early allows for a multidimensional assessment, including symptom control, psychosocial, ethical, and social care. Their involvement is particularly relevant for patients with poor-prognosis cancers, such as pancreatic and lung cancer (**C2.4.7**). In some cases, other experts should participate as social workers, nutritionists (e.g. gastric cancer) and physiotherapists (**S2.4.1.4**). Finally, representatives from all mandatory specialties in the MDT must also attend MTBs (**S2.3.1.2** and **S2.4.1.4**).

A designated coordinator (e.g. a nurse, navigator, trained administrative professional or a junior physician) should be responsible (and accountable) for preparing and co-ordinating the MDT. The coordinator should ensure that essential tests have been completed, compile all required information prior to the meeting and manage an electronic patient list to ensure that all specialists access the same dataset and documentation.

Regarding infrastructure, a dedicated, well-equipped room with appropriate IT systems for remote counselling (video-conference tools) will ensure that all MDT participants can view the screen. All diagnostic information should be electronically compiled and shareable so all MDT participants can access imaging results, pathology results and other relevant data.

For more guidance in this document, see section:

4.5.3 Develop a specific strategy to connect eligible patients with clinical trials, including through MDTs and MTBs.

Contextualised options and experiences

In the **Medical University of Vienna**, follow-up MDT meetings are often required for ongoing non-curative treatments (e.g. radiological assessment of progression and changes the systemic treatment and symptomatic radiotherapy).

For their part, in **CCC Niedersachsen** MDTs discuss all newly diagnosed patients as well as those who have relapsed or require staging of their disease again. All in all, over 95% of patients are referred to MDT. These adhere to the standards set by the German Cancer Society (DKG) regarding which patients are eligible for an MDT meeting, and there, specialists make decisions about whether to continue or change treatment.

For the **DKG**, it may be appropriate to consider the particularities of tumour types when defining patients as eligible for MDT discussions.

Monitoring and evaluation

The candidate should ensure that the IT system has the necessary functionality to enable the centre to record which experts attend each meeting.

2.7.2. Ensure that MDT recommendations are followed.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment
C2.4.1 - EUCCCs ensure a multidisciplinary treatment approach

Implementation guidance

The candidate CCCs should ensure that MDT recommendations are followed as the default plan of care (**S2.4.1.2** and **S2.4.3.4**). MDT recommendations should be systematically documented, including general and alternative recommendations. Where an MDT recommendation is not followed, the responsible clinician should also document the deviation and the reasoning in the EHR (**S2.4.1.2**). Furthermore, defined governance procedures should explicitly address changes in MDT recommendations that occur without documented input.

A standardised process to communicate to MDT members and patients the reasons for not following the MDT approach should also be developed (**S2.4.1.2**). Moreover, patients should have access to the MDT recommendations so they can verify that the proposed treatment aligns with expert advice and discuss the treatment plan with their doctor (**S2.4.1.2, S2.4.1.5** and **S2.4.3.5**).

Contextualised options and experiences

Each year, **CCC Niedersachsen** selects certain MDT meetings and checks adherence to their recommendations. If the decision and follow-up do not match, they analyse what happened and discuss it with all MDT members. If a doctor needs to change the plan due to the patient's wishes, a tumour progression, or the deterioration of the patient's condition, they need to attend another MDT meeting. If a decision has to be made urgently on the same day, the doctor can make it as a clinician. If necessary, it can also be discussed with other colleagues. Then the case will be presented to the next MDT. In the centre 17 weekly MDT meetings are in place.

The **National Cancer Institute of Ukraine** holds control meetings only in the event of comorbidity or mortality. For example, if a patient experiences complications following a treatment that is related to a comorbidity or mortality, the MDT must review the case. Any changes to the treatment protocol must be made via the MDT. However, if the MDT finds that a patient's treatment has changed without a supporting multidisciplinary protocol or document, this is also evaluated.

At the **Institut de Cancérologie de l'Ouest**, MDT conclusions are considered recommendations rather than binding decisions. Specialists such as medical oncologists may legitimately disagree with these recommendations, as many patients may opt for alternative treatment choices based on their preferences. In these cases, any deviations should be documented and recorded. Severe deviations may trigger a new MDT discussion.

DKG considers that the meaning of 'significant change to the treatment plan' or 'significant deviation from the MDT recommendation' should also be defined.

Monitoring and evaluation

MDT recommendations should be collected in the IT system together with who participated in the meeting. MDT recommendations should be also documented in the EHR.

Candidates could implement procedures to monitor adherence with decisions made by the MDT, such as conducting periodic audits to identify and analyse cases of non-adherence. They should also establish processes to review specific cases, such as morbidity and mortality due to complications from treatments.

2.7.3. Do's and don'ts

DO	DON'T
Define MDT eligibility criteria in line with national guidelines and specify re-discussion of cases.	Wait for the end-of-life phase to involve palliative care.
Ensure that the appropriate number of MDTs are available to discuss all eligible patients.	Use remote participation without adequate, shared information systems.
Specify MDT mandatory specialties per tumour entity and ensure that are fully trained specialists with sufficient seniority to contribute to decisions.	
Ensure MDT recommendations are consensus-based. Define particularities of each tumour type, whether the treatment is curative or palliative, and any significant changes to or deviations from the recommended treatment plan.	
Define how deviations from MDT recommendations are managed.	

2.8 Surgery, radiotherapy and systemic therapies: recommendations and implementation guidance

2.8.1 Develop SOPs, clinical protocols, and a work plan for each treatment.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment *C2.4.3 - EUCCCs ensures high operational standards in surgery for its patients* *C2.4.4 - EUCCCs ensure high operational standards in radiotherapy for its patients* *C2.4.5 - EUCCCs ensure high operational standards in systemic therapies for its patients*

Implementation guidance

Key specialists involved in surgery, radiotherapy, systemic treatments and symptom control treatments must know how to proceed with each treatment, using an appropriate SOP and clinical protocols (**S2.4.3.2** and **S2.4.5.7**). Likewise, each discipline needs a clear workforce plan to organise the unit, ensuring sufficient staffing capacity, resources, infrastructure, and interdisciplinary communication to jointly deliver high-quality and safe surgery (**S2.4.3.1** and **S2.4.3.2**), radiotherapy (**S2.4.4.1** and **S2.4.4.9**), and anti-cancer treatments (**S2.4.5.1** and **S2.4.5.8**) and symptom control treatments (**S2.4.7.5**). Surgical units need to have appropriate infrastructure, such as adequate connections with recovery rooms and perioperative care areas.

Contextualised options and experiences

An SOP for the administration of anticancer drugs may be required for systemic therapies. This SOP should be addressed to all disciplines, particularly medical oncologists, pharmacists and nurses, and cover safety measures such as double-checking doses.

The **Medical University of Vienna** has a number of SOPs for radiotherapy, which cover issues relating to radiation protection.

At the **National Cancer Institute of Ukraine**, departments coordinate bed availability and procedural capacity to ensure timely access to oncological treatment. However, periodic capacity limitations may occur due to high patient volumes.

At the **Institut Català d'Oncologia**, the SILICON system has been established as an electronic prescribing and hospital pharmacy management tool covering the full medication-use process.

Monitoring and evaluation

The EUCCC should provide an adequate IT system that collects relevant clinical data regarding safety, accuracy, and quality of care.

The candidate should establish a system that incorporates various supervision steps for the different phases of systemic therapy, from prescription and preparation to administration, in order to prevent safety issues (e.g. misidentifying a patient could lead to the incorrect administration of a medicine, or improper dose errors of opioids) (**S2.4.5.2**). These protocols can be integrated into IT systems to ensure that pharmacists adhere to recommendations. Each step of the administration process should be digitally documented (e.g. start time, end time, dose) and supervised and validated by nursing staff. This documentation should be recorded in the EHR.

2.8.2 Ensure qualified and competent personnel.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment *C2.4.3 - EUCCCs ensures high operational standards in surgery for its patients* *C2.4.4 - EUCCCs ensure high operational standards in radiotherapy for its patients* *C2.4.5 - EUCCCs ensure high operational standards in systemic therapies for its patients*

Implementation guidance

Through the management of the clinical department, the candidate EUCCC should ensure that the relevant teams (qualified personnel) are properly trained and kept up-to-date (**S2.4.3.1, S2.4.3.2, S2.4.4.1** and **S2.4.5.1**). When new therapies or techniques are introduced, the candidate EUCCC should consider how to proceed in order to ensure that all relevant staff, including surgeons, radiotherapists, medical oncologists, pharmacists and nurses, are informed and trained (**S2.4.5.10**).

In the case of drug administration, the candidate EUCCC should ensure that anti-cancer and analgesic drugs are administered only by authorised personnel who have successfully completed a specific training programme (e.g. intravenous, subcutaneous or intravesical systemic anti-cancer therapies, intravenous opioids or lidocaine, and intrathecal analgesia) (**S2.4.5.10**). Administration is not restricted to nurses; other appropriately qualified healthcare professionals may also administer these treatments.

In the case of radiotherapy, the candidate EUCCC should ensure that radiotherapy is delivered only by authorised and appropriately trained personnel (**S2.4.4.1**).

Contextualised options and experiences

At the **National Cancer Institute of Ukraine**, surgical practice is organised according to tumour-specific expertise**.**

Centres including the **Institut Català d'Oncologia** are only reimbursed by the public healthcare system for surgeries if they perform a minimum number of interventions each year. Such thresholds help ensure high-quality expertise.

The **Institut de Cancérologie de l'Ouest** considers that providing clear explanations for why a specific treatment is chosen can help to ensure a consistent understanding of the new approach.

In Germany, the **CCC Niedersachsen** relies on the Academy (institutions offering specialised and higher education programmes), responsible for the education and upskilling of nursing staff. They have developed anti-cancer drug administration training aligned with nationwide standards. This training is regularly updated to reflect changes in national requirements and the introduction of new therapies. In addition, the centre's departments run an annual review session to assess current treatment protocols for newly introduced therapies.

At the **National Cancer Institute of Ukraine**, staff involved in administering anti-cancer drugs usually receive formal training. However, there are no dedicated university courses that focus specifically on the administration of anti-cancer drugs. In practice, training is often based on interpretations of European or other international CPGs (e.g. NCCN), but there is no nationwide programme. Nevertheless, the centre ensures that staff have received this formal training in line with agreed guidelines.

In many countries, the centre ensures that experienced shadowing nurses receive formal training in line with agreed guidelines (**Vall d'Hebron Barcelona Hospital Campus**).

Monitoring and evaluation

As a medium-term priority, the candidate EUCCC should monitor some KPIs regarding the quality of surgery such as 30-day or 90-day mortality after surgery, readmissions and another surgery within 90 days.

2.8.3 Ensure a medical consultation before starting treatment.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.2 Quality of care and patient safety *C2.2.1 - EUCCCs facilitate and ensure patient empowerment* *T2.4 - Treatment* *C2.4.3 - EUCCCs ensures high operational standards in surgery for its patients* *C2.4.4 - EUCCCs ensure high operational standards in radiotherapy for its patients* *C2.4.5 - EUCCCs ensure high operational standards in systemic therapies for its patients*

Implementation guidance

Medical consultation before starting treatment should be incorporated into the patient pathway (**S2.4.4.3**, **S2.4.5.11** and **S2.2.5.11**). This consultation should be conducted by a physician and additionally, could be also conducted by another appropriately trained healthcare professional such as a nurse. It should be structured and documented, covering at least the following: comprehensive examination of the patient and their perfor-

mance status, the treatment plan, duration and logistics, common and serious adverse effects, alert signs and symptoms requiring medical attention, and the contact details to be used in case of doubts or emergencies (**S2.4.4.4** and **S2.4.5.12**). Written information materials should also be provided, as they may help patients to better understand and recall the information given during the consultation (**S2.2.1.6** and **S2.2.1.8**).

The candidate EUCCC should ensure that informed consent (oral or written) is obtained prior to initiation of surgery, radiotherapy or systemic therapy and documented in the EHR. Where required by national regulations, written informed consent should be signed and recorded in the EHR.

2.8.4 Do's and don'ts

DO	DON'T
Ensure availability and suitability of the key professionals (surgeons, radiologists, medical oncologists and nurses).	Manage drug prescription, preparation and administration through fragmented or non-integrated IT systems.
Include a medical consultation in the patient pathway before treatment starts.	

2.9 Palliative care: recommendations and implementation guidance

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T2.4 - Treatment
C2.4.7 - EUCCCs ensure palliative care

2.9.1 Integrate palliative and supportive care throughout the cancer care pathway from an early stage.

Implementation guidance

Palliative and supportive care is an integrated component of quality cancer care, focused on preventing and relieving physical, psychosocial, social and spiritual suffering, improving quality of life throughout the illness, not only at the terminal stage(25)(26)(27).

As a medium- to long-term priority, the palliative care approach should be integrated early in the cancer care process (**S2.4.7.1**). Early discussions and timely referral to palliative care services may help prevent or relieve physical implications throughout the oncological process and ensure that patients are not surprised or alarmed when referred and can support better communication and shared decision-making. Early involvement of palliative care specialists may help place quality-of-life improvement at the centre of care throughout treatment, as well as psychosocial and spiritual suffering aspects. This should also include clear organisational responsibility for referral pathways to supportive and palliative care, including how palliative care expertise is accessed across inpatient, outpatient, and networked care settings (e.g. primary health care) (**S2.4.7.7** and **S2.4.7.8**).

The palliative care team should participate in the development of specific interdisciplinary CPGs for each tumour type and clinical protocols (**S2.4.7.6**) and should be included in the MDT discussions (**C2.4.1**).

For more guidance in this document, see section:

2.3.2 Develop patient pathways.

2.6.1 Ensure access and lead the MTB.

2.7.1 Develop an SOP for MDT consultation.

Contextualised options and experiences

The **Institut Català d'Oncologia** has developed an early palliative care intervention programme. Members of the Palliative Care Service work within functional units for specific cancers, such as lung, pancreatic, and head and neck cancers, among others.

Monitoring and evaluation

Monitoring systems should support identification of patients with high symptom burden or treatment-related complications who may benefit from referral to palliative care.

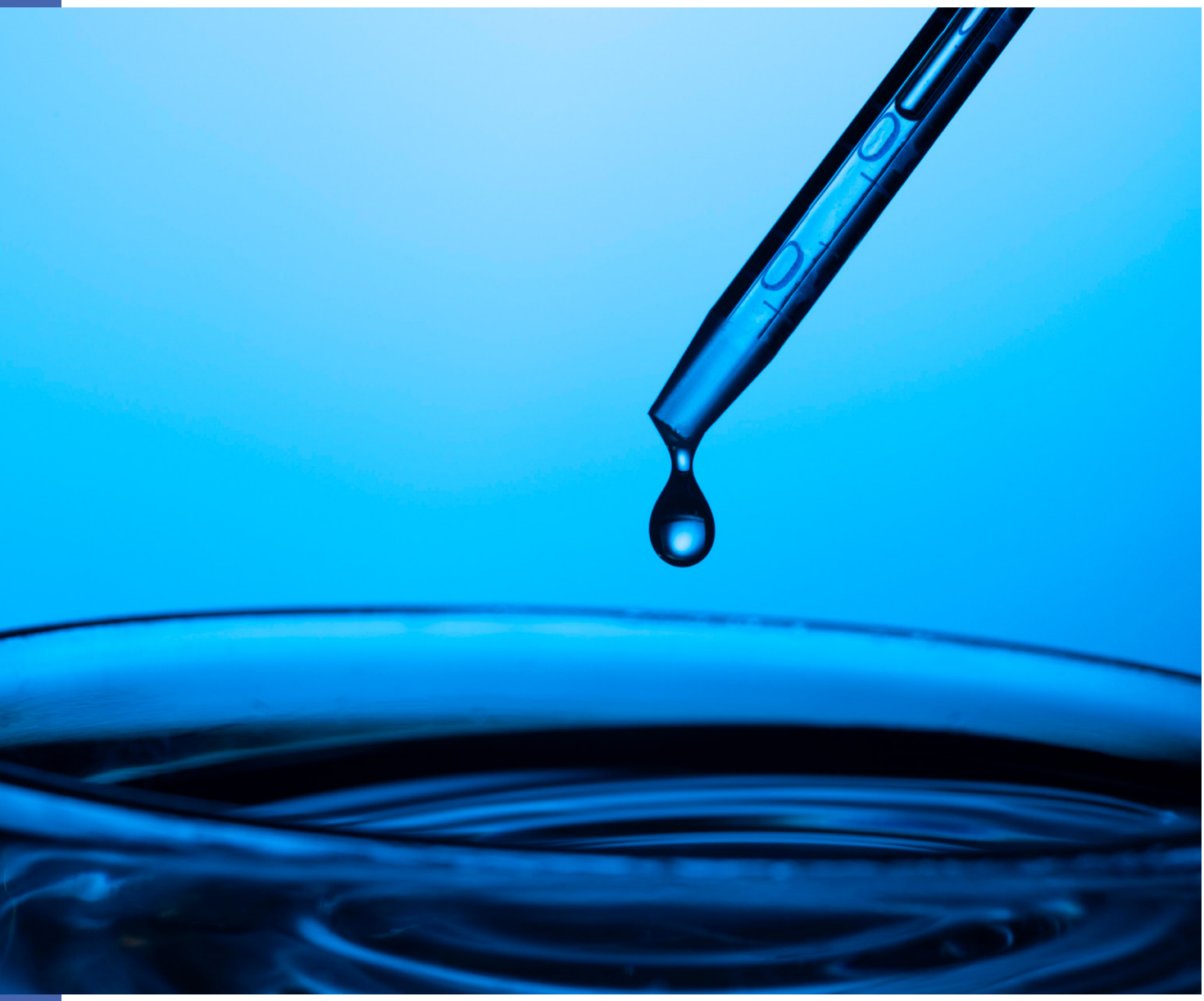
2.9.2 Do's and don'ts

DO	DON'T
Promote awareness of palliative care among healthcare professionals and patients.	Restrict palliative care to end-of-life situations.

For guidance on cancer survivorship, see section:

6.5 Tertiary prevention and survivorship: recommendations and implementation guidance

3. Research



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2. JANE2 – network of palliative care

3.1 Introduction to the EUnetCCC standards on research

Research serves as a foundational cornerstone of the EUCCC mission, driving clinical practice advances and quality improvements as emerging evidence is seamlessly integrated into care pathways. For EUCCCs, the strength of the research domain rests on three primary pillars: the comprehensiveness of research, research practice, and research leadership. This structure enables a continuous bench-to-bedside and bedside-to-bench translation model, integrating basic, translational, and clinical research to accelerate the clinical implementation of scientific findings. By encompassing the entire patient journey – from prevention and early detection to diagnostics, treatment, and palliative care – the EUCCC ensures a personalised, patient-centred approach that addresses the full spectrum of cancer entities.

Operational excellence is maintained through a commitment to research practice, which prioritises research integrity, ethical compliance, and the development of core infrastructures and shared IT platforms. Research leadership provides strategic governance through regularly updated strategies, rigorous internal and external evaluations, and formal academic and international collaborations. To ensure future sustainability, the EUCCC invests in the development of research talent and mentoring programmes while fostering active patient involvement in research prioritisation and ethical planning. Together, these components strengthen national and international networks, positioning research as the primary driver of innovation and high-quality cancer care.

3.2 Summary of recommendations in the Research domain

Short-term implementation priorities

Formulate an institutional research strategy. The strategy should integrate perspectives from clinical and laboratory professionals, academic researchers and patient representatives. This strategy should guide prioritisation of programmes, allocation of resources and overall portfolio development, ensuring that the research direction is explicit, coordinated and aligned with the centre's goals, and sensitive to the clinical and patient-centred perspective.

Establish the annual reporting rhythm early. Produce a report using a consistent structure that combines yearly activity reporting with a forward-looking two-to-three-year plan. The report should provide a centre-wide overview of research programmes, groups, outputs and portfolio coverage across basic, translational and clinical research, using activity indicators where publication output remains limited.

Ensure access to a biobank and to a centralised database linked to it, supported by clear procedures for sample storage and handling, data collection and linkage, access rights, data sharing and governance. The IT systems needed to build, maintain and use this database should be operational, so access to samples and associated data is routine, compliant and traceable.

Operationalise ethics principles and integrity research define and implement protocols that ensure adherence to ethical principles and research integrity across the organisation. This should include a traceable ethics approval pathway, operational procedures for misconduct handling and data-breach response, and workable patient informed consent registration and access rules for eligible researchers, aligned with national requirements and supported by appropriate stakeholder consultation where relevant.

Make the research portfolio comprehensive. Prioritise tumour areas where clinical pathways, case volume and clinical teams already allow studies to be initiated. Research should reflect the broader patient pathway including diagnostics, survivorship, palliative care, and health services research.

Establish patient participation in research. A stable patient committee and an educational programme that prepares patient representatives for participation in cancer research are good starting points. This should clarify role boundaries, expectations and how contributions will be collected, considered and used. Relevant professionals should also receive training so that patient participation is applied consistently and does not depend on individual familiarity with participatory approaches.

Define research collaboration with other centres and leadership expectations, defining what research participation and leadership mean in practice for the centre, including sponsor capability, principal investigator responsibilities and the minimum operational support needed to open and run multicentre studies or international projects. This should be aligned with the practical constraints related to contracting, data access and patient informed consent, so that collaboration models are feasible and auditable.

Medium/long-term implementation priorities

Conduct external scientific evaluation to strengthen the centre's internal evaluation. Establish the external Scientific Advisory Board and use their recommendations to improve the strategy update cycle, including the appointment of an external Scientific Advisory Board, ideally with international expertise, to review research activities at least every three years and to provide structured identification of strengths, gaps and development needs.

Expand research in less prevalent tumours and other patient pathway stages. Research activity should encompass low-prevalence cancers, including rare, paediatric and haematological tumour groups, through structured collaborations, routine MDT or MTB participation and, where required, involvement in European Reference Networks (ERNs). In parallel, research should also expand into prevention and early detection, including genetic counselling and screening activities.

Embed patient-centred and personalised research as a measurable portfolio feature. Track patient-centred research using practical portfolio indicators, including the number of projects where patient-related objectives (including patient-reported outcomes) are primary endpoints. Over time, this can be expanded through structured collaborations to additional cancers and more integrated, patient-centred and personalised research approaches.

Deepen patient participation in prioritisation and co-design. Patient participation should be embedded into the prioritisation of research programmes and the ethical dimensions of research, and patient representatives should help co-create selected projects, particularly those focused on patient-centred care. Their involvement should be structured to improve relevance while maintaining clear governance boundaries and continuity of participation.

Stabilise talent and career development mechanisms, ensuring that mentoring, PhD and postdoctoral participation, exchange opportunities and grant-support services operate as routine institutional mechanisms with clear uptake and outcome tracking. Protected time and split-role arrangements between care, research and academia should be stabilised through predictable planning and resourcing, so that career development does not depend on one-off solutions

3.3 A strategic approach to research excellence: recommendations and implementation guidance

3.3.1 Formulate an institutional research strategy, embedding patient representatives in its design.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.3 –Research leadership *C3.3.2 – EUCCCs has a research strategy* *C3.3.4 – EUCCCs involve patient representatives in research*

Implementation guidance

The candidate should establish a research strategy that defines the main research objectives to guide prioritisation of programmes, resourcing allocation and overall portfolio development. The strategy should be formulated through a structured process that integrates perspectives from clinical and laboratory research professionals, academic researchers, and patient representatives, so that the objectives are both scientifically contemplated and patient-centred rather than being driven solely by existing departmental boundaries (**S3.3.2.3**). The prioritisation of programmes should consolidate, scale and balance basic, translational, and clinical research, without duplicating operational detail already addressed through coordination structures or infrastructure arrangements (**S3.3.2.1**). The strategy should also contemplate which collaborations are essential to cover the full research breadth, and how major resourcing planning including staffing, infrastructure access, and protected time where applicable, are reflected in implementation. Adaptation to the centre's size and network model should be explicit, so that the strategy remains feasible and proportionate rather than duplicating structures already established under coordination arrangements.

Patients should help co-create the EUCCC's research strategy, with their involvement reflected at different levels of participation and decision-making. In the short term, the centre should establish a stable patient committee and launch an educational programme that prepares patient representatives for involvement in cancer research strategy, detailing the boundaries of their role and expectations and how input is captured and used (**S3.3.4.2**). In the medium term, patient participation should be embedded into the prioritisation of research programmes and into the ethical aspects of research (**S3.3.4.1** and **S3.3.4.3**). The centre should manage conflicts of interest and information governance risks; participation should therefore be supported by clear safeguards, such as conflict-of-interest declarations and defined access boundaries. Over time, the strategy should be updated (e.g. every three or five years) based on performance and outcome indicators, rather than being driven by ad hoc changes (**S3.3.2.1**).

In addition, the candidate should establish an action plan that translates the research strategy into deliverable initiatives (**S3.3.2.2**). This could be achieved by integrating the development plan into routine governance processes and aligning it with quality cycles with recurring and reporting outcomes (e.g. Annual Research Report and periodic evaluation inputs), so that strategic objectives are tracked as a live delivery agenda rather than as a static document (**S3.3.2.2**). The action plan should be actively maintained and updated so it continues to translate objectives into realistic and resourced actions, while the collaborative formulation requirement remains visible in practice through documented stakeholder inputs, including sustained patient representative perspectives as part of the strategy update process (**S3.3.2.2** and **S3.3.2.3**).

The availability of protected time and the practical capacity to manage research data should be addressed as enabling factors that support consistent delivery across the expanding portfolio. Even while pursuing short-term objectives, the centre should lay the foundations for developing and retaining research capacity over time through PhD programmes and career possibilities supported by adequate infrastructures (**S3.1.2.3**).

For more guidance in this document see section:

7.6.1 Establish collaboration networks to support education and training.

3.3.2 Establish a research evaluation mechanism.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.3 –Research leadership
C3.3.3 – EUCCCs evaluate their research

Implementation guidance

As a short-term priority, the centre should establish periodic evaluation mechanisms that generate actionable findings and can be monitored over time through indicators and documents. This could be developing an annual research report that covers the activities and research programmes and groups, using a consistent structure with a clear overview of the-portfolio coverage, including basic, translational and clinical research and outputs. In the medium term, the candidate could introduce reporting key financial figures related to research, which supports transparency, prioritisation, and planning of resources across the portfolio (**S3.3.1.3**).

Where publication output is not yet sufficient to evidence progress, a project list organised by topic can serve as a practical alternative. Where research is not fully in-house, the report should reference collaboration documentation that frames objectives and demonstrates leadership, such as agreements and related artefacts (**S3.3.3.1**). The assessment regarding research should be tracked through a small set of repeatable checkpoints, reviewed year on year without creating an unnecessary reporting burden. In mature areas, this may include publications mapped by topic. In earlier-stage departments, where output is still developing, the number of active projects by topic, held in a topic-based registry, may provide the main indicator that research activity exists and is building towards results.

In parallel, other internal procedures should be operational for the evaluation and guidance of research grant applications prior to submission, ensuring proposals benefit from methodological and strategic input and that feedback can be traced and improved over successive rounds (**S3.3.3.3**). These steps are strengthened when data capture is treated as part of the workflow, for example, maintaining a central repository of reports, review notes, and decision records.

In the medium term, the candidate EUCCC should strengthen this internal evaluation framework through independent and performance-oriented review mechanisms. The appointment of an external SAB, ideally including international expertise, enables independent review of research activities at least every three years and provides structured identification of strengths, gaps, and development needs (**S3.3.3.2**). To ensure that evaluation translates into delivery improvements rather than remaining advisory, SAB outputs should be produced as a written report and connected to a documented follow-up mechanism that assigns actions, timelines, and responsible owners for implementation. In parallel, the centre should establish a formal procedure for evaluating the performance of clinical trials, including the monitoring of accrual and related indicators (for example identification of zero-accrual trials), so that trial delivery issues can be detected early and addressed systematically (**S3.3.3.4**). In the long term, participation in regular external evaluation of research groups can sustain benchmarking and quality assurance beyond internal review and supports continuous improvement across the portfolio (**S3.3.3.5**).

Findings from annual research report and internal and external evaluations like the SAB, should be used as structured inputs for updating the research strategy and action plans, ensuring that revisions are informed by evidence rather than by ad hoc changes in leadership or funding (**S3.3.2.1** and **S3.3.3.2**). Over time, the evaluation system remains credible when annual reporting, grant guidance processes, trial performance review and external evaluations operate as a stable cycle, with documented outcomes and tracked improvement actions that can be demonstrated consistently (**S3.3.3.1** and **S3.3.3.5**).

For more guidance in this document, see section:

4.5.1 Create or strengthen a dedicated clinical trials management unit.

Contextualised options and experiences

At **Gustave Roussy**, the annual research report includes practical activity indicators: the number of patients involved in research, the main projects or programmes launched, and, where applicable, key financial figures, including the volume of activities and funding received for specific projects. Moreover, where MTBs support rare or paediatric research, the report should reference the MTB charter or terms of reference and track the volume and regularity of case discussions as evidence that access and participation are functioning in practice.

In **Fondazione IRCCS Istituto Nazionale dei Tumori di Milano**, a yearly section of the annual research report describes what was delivered, including publication counts where available, alongside a forward-looking plan for the following two to three years covering planned investment and main research lines, as this is commonly expected during assessment.

3.3 Do's and don'ts

DO	DON'T
Define a research strategy covering basic, translational and clinical research in a balanced way, with clear objectives, priorities and resource assumptions.	Assume one generic training model works for all projects; training often needs to be study-specific.
Use expressions of interest and patient committees or networks to identify suitable patient representatives.	Limit the SAB to national contacts if broader expertise is needed; international composition was described as typical.
Tailor training to the project when patient co-creation is required (especially for pathway or master protocol design).	Submit grant applications without prior methodological and strategic review.
Distinguish and track studies that include patient outcomes as secondary measures and those that place them as primary objectives.	
Select SAB members based on relevance to the centre's actual in-house activities and planned development areas.	
Treat SAB outputs as actionable guidance to identify gaps and prioritise new programmes.	

3.4 Systems and structures to support cancer research: recommendations and implementation guidance

3.4.1 Ensure access to the technological infrastructure necessary to perform research.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.2 – Research practice
C3.2.5 – EUCCCs provide core research infrastructures

Implementation guidance

The candidate EUCCC should ensure reliable access to the technological and operational infrastructure that supports basic, translational and clinical research, including platforms for translational research, NGS analysis biobanks (see recommendation 3.4.2 below), imaging and robust IT systems, backed by data-science and statistical expertise (**S3.2.5.1**). In the short term, the centre should focus on confirming what is already available and what is missing, establishing access routes to essential core facilities, including where access is provided externally (**see List of Essential Care and Research Infrastructures** (12)).

As a medium-term priority, the candidate EUCCC should ensure that adequate IT systems for data management are operationalised for day-to-day use. Data governance should enable access, information-sharing, and study coordination among researchers (**S3.2.1.5**). Where research delivery relies on shared IT platforms across institutions, agreements and procedures for sharing those platforms should be documented and maintained so that access and responsibilities remain consistent and auditable (**S3.3.1.4**).

In the medium to long term, the candidate EUCCC should maintain an up-to-date inventory of infrastructures and facilities, together with the relevant access arrangements, and should review these periodically to ensure that capability, availability and service quality remain adequate for the needs of the research portfolio.

For more guidance in this document, see sections:

3.4.2 Provide access to the centralised biobank.

4.4.1 Ensure bidirectional data flow between clinical care and research.

Contextualised options and experiences

At **Gustave Roussy**, a dedicated infrastructure, combined with targeted start-up or leverage funding, acts as a meaningful incentive to advance research and strengthen collaboration, lowering the practical barriers that often delay the transition from research intent to active delivery.

Monitoring and evaluation

As part of annual research report, the candidate EUCCC should monitor and report on the utilisation of core facilities.

3.4.2 Provide access to the centralised biobank.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements

T4.1 – Structural prerequisites for integration research and care
C4.1.2 EUCCCs have structural ICT facilities making clinical data and samples available for research

Implementation guidance

The candidate EUCCC should ensure access to a biobank[3] and to a centralised database linked to it (**S4.1.2.1**). The candidate EUCCC should also ensure clear rules and procedures are in place for access to the biobank, sample storage and handling, data collection, data linkage, access rights, data sharing and governance access. IT systems needed to build, maintain and use this centralised database are also necessary (**S4.1.2.2**).

The candidate EUCCC should establish and implement clear institutional procedures for the safe collection, storage and use of biological samples, as well as for the retention and deletion of informed consent documentation and related research data, so that these processes are applied consistently as part of routine practice (**S3.2.1.4**). Implementation should ensure that ethical and data protection requirements related to the use of samples and data are embedded in everyday research practice, recognising that their secondary use depends on compliant consent procedures and appropriate governance arrangements.

Where access to a biobank is not yet available, the candidate EUCCC should consider engaging with national or external providers to establish an appropriate interim or long-term solution. The biobank database should connect biobank information, where permitted, with relevant primary clinical data sources, including the EHR, so that de-identified sample-related data can be associated with key information from the patient pathway, such as pathology, biomarkers, treatment, imaging data, and outcomes.

For more guidance in this document, see section:

3.4.4 Establish the ethics and integrity approach.

3. A biobank may be understood as an organised facility or infrastructure for the collection, processing, storage and controlled use of human biological samples, such as tissue, blood and other bodily fluids, together with the associated information needed to support research. *Source*: https://www.bbmri-eric.eu/

Contextualised options and experiences

According to the **Alleanza Contro il Cancro**, the information on the number of the samples of different cancer types needs to be centralised: this means that one can see how many samples of melanoma, lymphoma, renal cell carcinoma and so on are available in biobank.

3.4.3 Establish an operational model for administrative and legal support for research development.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.2 – Research practice *C3.2.1 EUCCCs foster research integrity and ethics* *C3.2.5 – EUCCCs provide core research infrastructures*

Implementation guidance

The candidate EUCCC should establish a coordinated operational model in which administrative, legal, regulatory and core-facility support for research, is delivered through clearly defined procedures, access routes and responsibilities. It should function as a routine service rather than as ad hoc assistance (**S3.2.5.3**).

For example, a grant support office or similar unit can assist in protocol development, collaboration agreements, data transfer agreements, sample-use agreements, ethics and regulatory preparation, access to broad informed consent records where permitted, trial set-up, submissions, insurance and sponsor-related documentation where relevant. The centre should define how researchers access this support in practice. Over time, the grant support office should conduct regular evaluations of funded projects to improve future applications (**S3.2.2.4**).

The centre should formalise procedures to handle suspected research misconduct and to manage data-related incidents reliably, including data breach procedures that are known (**S3.2.1.2** and **S3.2.1.7**). In the long term, the centre should ensure access to continuous, specialised legal and methodological advice for research aspects, including data sharing and transfer (**S3.2.1.6**), ensuring compliance is supported institutionally rather than being left to the experience of individual researchers.

For more guidance in this document, see section:

5.5.1 Provide administrative support to foster invention and experimentation.

3.4.4 Establish the ethics and integrity approach.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.2 – Research practice *C3.2.1 – EUCCCs foster research integrity and ethics* *T4.1 – Structural prerequisites for integration research and care* *C4.1.1 EUCCCs promote patient consent for research*

Implementation guidance

The candidate EUCCC should ensure that the institutional conditions are in place to support ethical and compliant research conduct, including sufficiently qualified personnel, clear responsibilities and consistent regulatory frameworks. Implementation should focus on establishing robust and operational systems for ethics, research integrity and data governance, so that compliance does not rely on individual practice but is embedded in institutional procedures. To support this, the candidate EUCCC should define and implement protocols that ensure adherence to ethical principles and research integrity across the organisation. These should include structured processes for research design approval and ethics oversight, systematic training in good research practices, and clear mechanisms for the prevention, identification and management of potential research misconduct (**S3.2.1.1**, **S3.2.1.2** and **S3.2.1.3**).

The candidate EUCCC should ensure that the SOPs for obtaining patient informed consent are operational, traceable and compliant with applicable EU (e.g. Clinical Trials Regulation (EU) No 536/2014) and national requirements. This should include clear responsibilities for information delivery, documentation and access. In the European context, processing of data for research and secondary use depends on the combination on CTR EU No 536/2014(28) and GDPR norms (29) and national and institutional implementation. Where relevant, the centre could develop these SOPs through structured consultations with appropriate internal and external stakeholders.

The candidate EUCCC should promote the use of electronic informed consent to collect prospective data for clinical trials where such an approach is appropriate, proportionate and useful. Where implemented, electronic informed consent should rely on validated computerised systems and electronic signature procedures that comply with applicable EU and national legal requirements. In the medium-long term, this should include an operational patient informed consent registration IT system accessible to authorised researchers (**S2.2.1.10** and **C4.1.1**), routine administrative and legal support services, and formal agreements governing the use of external providers. Over time, the centre should maintain consent systems and agreements to keep them up-to-date, and subject trial support functions to periodic review so that capability, service quality and adherence to good clinical practice compliance remain current.

As a short-term priority, mandatory research integrity training should be put in place and delivered in a way that is consistent across all relevant staff, with a centralised self-training platform established as the practical solution to standardise access, content and completion tracking (**S3.2.1.1**). The candidate should ensure that ethical evaluation and approval routes should be clearly operational so that research projects are reviewed through the appropriate ethics committee and the approval process is traceable and repeatable (**S3.2.1.3**).

Over time, protocols in ethics and integrity content should be maintained and updated to remain aligned with evolving national and international standards, with the self-training platform continuing to function as the scalable mechanism to keep practice current and auditable (**S3.2.1.1**). Staff training and periodic refreshers should also be offered to professionals involved in the patient informed consent process on topics like reseach integrity. A self-training platform is a pragmatic solution.

Monitoring and evaluation

The candidate EUCCC should carry out monitoring and evaluation at regular intervals using predefined indicators, and should use the findings, where needed, to update SOPs, patient information materials, staff training and digital tools. Relevant indicators may include the proportion of eligible patients who are invited to provide consent, the proportion of patients who provide, refuse or withdraw broad consent, and the use of consent procedures across departments. The candidate EUCCC should perform regular internal audits to identify gaps, ensure version control of consent forms and monitor revocation requests, even on a sampling basis. Where appropriate, the candidate EUCCC should apply brief feedback surveys or teach-back methods to assess patients' understanding and to evaluate the clarity and effectiveness of the consent process.

The centre should also monitor requests for secondary use, including whether an additional legal basis, ethics approval or re-consent is required under national rules, and it should review patient questions, complaints, deviations and data protection incidents related to consent.

3.4.5 Do's and don'ts

DO	DON'T
Ensure access to the core technological infrastructure needed for basic, translational and clinical research, including translational platforms, NGS, imaging, biobanks, IT systems.	Leave legal matters, including patient informed consent, regulatory or administrative support to the experience or initiative of individual researchers.
Ensure access to a biobank and to a centralised database linked to it.	Assume that having grant support alone automatically delivers structured career progression.
Ensure access to specialised legal and methodological advice for research, including data sharing and transfer.	Rely on informal practice or assume 'everyone knows what to do'.
Make integrity training demonstrable for all employees (coverage and completion records).	
Ensure procedures are written for whistleblowing, misconduct, and data breach protocols.	

3.5 Ensuring the comprehensiveness and quality of research development: recommendations and implementation guidance

3.5.1 Enable translational research workflows, from bench-to-bedside and bedside-to-bench.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.1 – The comprehensiveness of research
C3.1.1 – EUCCCs conduct bench-to-bedside research and opposite

Implementation guidance

The centre should ensure that fundamental scientific questions arising from clinical practice can be translated into research and, potentially, into research findings that inform health care. In this regard, the centre should establish practical platforms to support translational workflows, from the collection of biological material and the availability of data to analysis and clinical interpretation.

Translational research must be supported by internal capacity or by formally organised collaborations. The distinction between internal and networked activities depends on the country and legal arrangements; internal arrangements may not require contracts from a legal standpoint, but networked activity usually does (**S3.1.1.3**). These workflows collectively cover the full scope of research required to link research findings to routine practice, including different types of studies, basic biological research, population-based research and healthcare-focused research activity (**S3.1.1.1** and **S3.1.1.4**). As a short-term priority, the candidate EUCCC may focus on establishing translational research activity by implementing these workflow platforms and accessing a biobank that allows systematic access to biological samples to support translational hypotheses and reproducible research activity (**S3.1.1.1** and **S3.1.1.2**).

As a medium- to long-term priority, maturity may be demonstrated by ensuring clinical research is feasible across all care-providing units through access to a clinical trials management unit (CTMU) (**S3.1.1.2**).

For more guidance in this document, see sections:

3.4.2 Provide access to the centralised biobank.

4.5.1 Create or strengthen a dedicated clinical trials management unit.

3.5.2 Ensure comprehensive cancer research for tumour types, from the patient pathway phases perspective, in alignment with the EUCCC strategy.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.1 – The comprehensiveness of research *C3.1.2 – EUCCCs engage in comprehensive cancer research* *C3.1.3 – EUCCCs conduct research on major tumour groups* *C3.1.4 – EUCCCs conduct research on additional cancers* *C3.1.5 – EUCCCs commit research on patient centred and personalised care*

Implementation guidance

The centre should build a balanced, deliverable portfolio that spans diagnostics and treatment and is then extended into specific areas reflecting the wider patient pathway. As a short-term priority, the candidate EUCCC may focus on establishing research capability in cancer diagnostics by ensuring appropriately qualified personnel, access to digital imaging equipment, and facilities that support imaging and pathology research workflows (**S3.1.2.1**), while in parallel securing research capability in cancer treatment by ensuring qualified personnel and baseline laboratory capacity to support clinical and translational studies across surgery, radiotherapy and systemic treatment (**S3.1.2.2**). In addition, the centre should ensure projects in specific areas reflecting the broader patient pathway (e.g. survivorship, palliative and end-of-life care, patient-centred needs), as well as health care services research (**S3.1.2.3**). As a medium-term priority, research activity should expand into prevention and early detection, which in practice involves ensuring a genetic counselling set-up and screening within the EUCCC context in accordance with national/regional regulations (**S3.1.2.4**).

Centres should conduct clinical research in at least three of the five major tumour groups (breast and gynaecological cancers, lung and thoracic cancers, gastrointestinal cancers, genitourinary cancers, and skin cancers), along with pan-cancer clinical research (**S3.1.3.1** and **S3.1.3.2**).

As a short-term priority, the research portfolio should focus on tumour types where clinical pathways, case volume and clinical teams already allow studies to be initiated and conducted reliably, whilst ensuring that core clinical research capabilities – such as facilities and workflows for initiating and managing studies – function appropriately for these cancers. Observational research can be included as part of the research portfolio, as it supports the continuity of research beyond interventional trials.

As a medium-term priority, this portfolio could be strengthened through structured collaboration with other centres (referrals and participation in networks) to increase the participation of eligible patients and expand the development of studies into other low-prevalence tumour groups (e.g. rare, paediatric or haematological cancers) (**S3.1.3.1**). Given that specialist knowledge of low-prevalence tumours is often concentrated in specific centres, the centre should establish collaborations with multi-institutional MTBs or MDTs at regional or national level, where patients are assessed as candidates for clinical trials (**S3.1.4.2**).

As a medium-term priority, the centre should participate in an ERN in at least two thematic areas, as this provides a structured mechanism for maintaining involvement in research on rare and/or paediatric cancers (**S3.1.4.3**). The centre should ensure that access to samples and data from less prevalent cancers is accessible and can be used in a research context in a repeatable manner, rather than relying on ad hoc access.

As a long-term priority, the portfolio should evolve from predominantly tumour-site-based research towards a more holistic approach focusing on biological parameters (e.g. molecular alterations), and integrating patient-centred care, including non-clinical parameters such as age, sex, and psychosocial characteristics (**S3.1.5.1**). The candidate should ensure that these approaches are established in a stable programme structures rather than isolated projects, guaranteeing that oncological research is undertaken throughout the entire patient pathway and establishing structures or mechanisms that promote multimethod research and connect the centre to a broader research ecosystem with diverse methodological expertise (**S3.1.5.2**).

For more guidance in this document, see sections:

2.3.1 Assure comprehensive diagnostics and treatment for a minimum number of priority tumours, either in-house or in collaboration with other centres.

3.4.1 Ensure access to the technological infrastructure necessary to perform research.

4.3.1 Include care and research integration in the institutional strategy.

4.3.2 Integrate research competencies into professional recruitment and hiring criteria.

Contextualised options and experiences

When **Gustave Roussy** builds additional structures, their first practical step is to map what already exists in the regional and national environment and assess the centre's own case volume and needs. Where an in-house MTB does not exist, access can be secured through regional or national boards covering rare or paediatric indications. ERNs offer a further option, as some ERNs have established European-level multidisciplinary boards for patient referral; however, this route takes time to activate and is generally not the starting point compared to using available regional capacity.

3.5.3 Co-design studies, ensuring patient participation.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.3 – Research leadership
C3.3.4 EUCCCs involve patient representatives in research

Implementation guidance

Patient involvement in research can take place at different levels and phases of the research process (**S3.3.4.1** and **S3.3.4.2**). In the short term, priorities include establishing a stable patient committee and implementing an educational programme to prepare patient representatives for participation in cancer research. This programme should clarify the boundaries of their role, expectations regarding their contribution, and how their input will be collected, considered and used (**S3.3.4.2**). In parallel, healthcare professionals involved in the studies with patient participation should also receive training to ensure that patient participation is applied consistently in practice and does not depend on the familiarity of individual teams with participatory approaches.

In the longer term, patient representatives should be integrated into the co-creation and planning of specific research projects, particularly those focused on patient-centred care, such as rehabilitation, pain management, and psychosocial care. Their participation should be structured in a way that enhances the relevance of research without creating uncertainty in governance or decision-making processes (**S3.3.4.4**). At this stage, selection criteria, continuity and stable participation mechanisms become increasingly important. Patient representatives with scientific literacy may be particularly valuable in contributing to more complex initiatives, such as master protocols or projects linked to clinical pathways.

Contextualised options and experiences

Patient representatives can be integrated into institutional committees, including the research council, as part of routine involvement structures. At **Gustave Roussy**, patient committees co-create elements such as pathways or master protocols that include research activity. Patients are recruited through expressions of interest and matched to activities with principal investigators, with support from patient committees and networks.

Training is typically tailored to specific research projects, particularly for co-creation tasks. Some centres, including the **Vall d'Hebron Barcelona Campus Hospitalari**, are developing more general introductory courses covering research basics and simple statistics for patients, though this remains uncommon in other countries.

Monitoring and evaluation

The annual research report can contain indicators to monitor patient representation such as the number of projects where patient-related objectives are primary (including PREMs and PROMs) and records of patient participation in committees or co-creation activities (for example attendance and documented contributions).

3.5.4 Do's and don'ts

DO	DON'T
Strengthen the portfolio through structured collaboration with other centres, especially for rare, paediatric or other low-prevalence cancers.	Treat translational research as an isolated laboratory activity disconnected from clinical questions and healthcare needs.
Expand the portfolio towards a more holistic research approach that integrates non-clinical parameters, patient-centred care and broader patient-pathway phases.	Leave key workflow steps person-dependent or poorly coordinated across research and care structures.
Establish a stable patient committee and use it as a routine structure for patient involvement in research.	Assume ERN participation automatically resolves local operational access to MTB or MDT, as local and regional solutions may be the first practical step.
Distinguish and track studies that include patient outcomes those that place them as primary objectives.	

3.6 Research collaboration: recommendations and implementation guidance

3.6.1 Participate in national and international multicentre studies and research projects.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T3.2 – Research practice
C3.2.6 – EUCCCs collaborate nationally and internationally in research

Implementation guidance

The candidate EUCCC should participate actively in national and international multicentre studies and research projects in translational and clinical studies, while also taking on leadership responsibilities such as acting as principal investigator or sponsor for projects (**S3.2.6.1**, **S3.2.6.2**, **S3.2.6.3** and **S3.2.6.4**). In the short term, the candidate should define what 'participation' and 'leadership' mean in practice for the centre (for example sponsor capability, principal investigator responsibilities, and the minimum operational support required to open and run multicentre studies), ensuring that collaboration is feasible within data, patient informed consent and contracting constraints. In the short to medium term, a registry collecting active research projects should be set up and maintained, clearly indicating multicentre activity, international collaboration, and any leadership roles within networks, so that participation and leadership can be available for consultation and follow-up rather than reconstructed retrospectively.

For the investigator-initiated trials, particularly when the centre is expected to sponsor studies, the candidate should establish internal processes for trial sponsorship that are workable and repeatable, with clear routes for study set-up, contracting and monitoring so that sponsorship does not depend on ad hoc efforts. Over time, the centre should establish priorities in stabilising the sponsorship function and increasing the proportion of projects where the centre holds leadership roles, while keeping the project registry current and sufficiently detailed to demonstrate sustained national and international collaboration and leadership across the portfolio (**S3.2.6.1** to **S3.2.6.4**).

For more guidance in this document, see section:

5.5.2 Support investigator-initiated and academic-driven research.

3.6.1 Establish permanent and strategic research collaboration with academia

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements

T3.2 – Research practice

C3.2.2 – EUCCCs encourage the development of research talent and careers
C3.2.4 – EUCCCs have permanent and strategic collaboration with academia on research

Implementation guidance

The centre should cooperate with academic institutions in order to develop joint research programmes and ensure the dissemination of new scientific knowledge. As a short-term priority, collaboration should be made sustainable, meaningful, and verifiable by signing collaboration agreements with academic partners that explicitly define research objectives, data-transfer procedures and sample-use protocols (**S3.2.4.1**).

In addition, the centre should offer split hospital, research and university affiliations for healthcare professionals involved with care and researchers and other relevant staff groups to motivate researchers to collaborate and publish together, shared research projects, adapted to local context (**S3.2.4.2**).

Academic collaborations not only serve as a mechanism for developing researchers, but also help to retain talent and foster succession. In general, institutions that invest in early-career researchers through academic channels are better able to maintain their research capacity when senior staff leave. To this end, the centre must actively participate in doctoral and postdoctoral initiatives, such as co-supervision agreements, joint programmes and structured pathways. This creates a pool of researchers who are integrated into the centre's scientific culture from an early stage. Furthermore, supporting research careers requires exchange programmes, specific grant preparation services and a robust infrastructure. While basic science laboratories can host and mentor researchers, mentoring must be tailored to the specific profiles of participants, whether they are scientists, doctors or clinical nurses, and must follow defined timetables and evaluation criteria (**S3.2.2.1**).

The centre should guarantee protected time for senior researchers to engage meaningfully in mentoring activities (**S3.2.2.1**).

For more guidance in this document, see sections:

7.4.1 Build supervisory and mentoring capacity for translational integration.

Contextualised options and experiences

Gustave Roussy suggests young investigators be given a visible role as presenters at an annual internal symposium or general assembly showcasing the centre's research activities, providing a practical and low-barrier opportunity for early-career recognition.

The **Fondazione IRCCS Istituto Nazionale dei Tumori di MIlano** cautions that structuring career development consistently across basic researchers, translational researchers, and clinicians remains difficult even in mature settings, and should not be underestimated when designing support frameworks.

Monitoring and evaluation

Candidate EUCCCs should include the following in their annual research report: participation rates in doctoral programmes and exchange activities; participation rates in internal research events (including early-career speaker participation); and participation and accepted grant proposals.

3.6.3 Do's and don'ts

DO	DON'T
Start by assessing need and existing regional or national options before relying on European-level mechanisms.	Rely solely on the existence of a collaboration agreement without showing that the centre's teams actually deliver and lead parts of the work.
Support early-career for researchers to through mentoring and exchange opportunities.	Assume that translational research has the same definition in all countries and centres
Ensure funding for the mentoring programme and protected time for researchers.	

4. Integration of research and care

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2. JANE2 – network of palliative care

4.1 Introduction to the EUnetCCC standards on integration of research and care

Integration of top-tier cancer care and cutting-edge research is fundamental for enabling EUCCCs to deliver better patient outcomes and survival rates. EUCCCs function as a unified system, where discovery and treatment occur simultaneously, and research is a cornerstone of patient care. Effective integration means that EUCCCs operate as continuously learning healthcare systems, where data, clinical activity, and research are constantly interconnected. Patients can thus reap immediate benefits from the latest research advances, from molecular diagnostics to Phase I clinical trials, while new scientific knowledge can be generated by real-world experiences and rich datasets.

Implementation of the EUCCC standards for Integration of Research and Care connects closely with Care, Research, and Innovation. This domain depends on the dynamic interplay between these three foundational domains: Care ensures clinical excellence, Research provides the scientific evidence, and Innovation acts as the engine that drives progress between them. For its part, the Integration of Research and Care domain serves as the operational bridge between these three domains, creating a 'virtuous cycle' of continuous improvement. Integration provides the structured framework needed to test, refine, and scale new ideas. It balances the novelty of innovation with the feasibility required for clinical settings, ensuring that new solutions provide tangible added value to the patient experience. Operationalising this in the EUCCC requires alignment from management systems, shared IT platforms, and multidisciplinary structures necessary to bridge the gap between the laboratory and the clinic, ultimately positioning integration as the primary driver of high-quality, modern cancer care.

4.2 Summary of recommendations in the Integration of Research and Care domain

Short-term implementation priorities

Include research–care integration in the centre strategy. Define explicit objectives and mechanisms to ensure a bidirectional link between clinical care and research. The strategy should include pathways to identify unmet clinical needs, support the uptake of innovation and translate research results into better care, improved outcomes and organisational learning. The scope should also cover supportive and palliative care research, as well as targeted therapies, theragnostics, molecular diagnostics, genomics, proteomics and artificial intelligence (AI).

Integrate research competence into recruitment and workforce policy. Ensure that research competence is considered in recruitment, particularly for senior clinical roles, and provide protected time for research together with ongoing training and education programmes so that clinicians and other relevant professionals remain up to date in current research developments, therapies and models of care.

Define the minimal operational requirements for Clinical Trial Management Units (CTMUs). Ensure at least one dedicated CTMU with adequate staffing, clear responsibilities and a defined mandate to support the administrative, ethical, regulatory, financial and feasibility aspects of different types of trials, with services accessible across professional groups and organisational units.

Medium/long-term implementation priorities

Involve and engage patients in research activities. Include explicit mechanisms for patient involvement in research-related activities and ensure that research knowledge is communicated to patients and the wider public in accessible language through structured dissemination plans and regular public events.

Embed clinical trial access within patient pathways. Establish a structured workflow to identify patients eligible for clinical trials, with systematic screening and clear decision points, including MTB and MDT review. Define referral mechanisms from routine care to trials across different stages of disease, including diagnosis, treatment, supportive care, follow-up or survivorship, and palliative care.

Ensure access to early-phase trials and systematic trial matching. Facilitate access to early-phase and proof-of-concept studies. Where such trials are conducted in collaboration with partner institutions, formal agreements should define roles, responsibilities and procedures for the identification, referral and recruitment of eligible patients.

Contribute to the development of CPGs. Support contributions to CPGs at national and international level by ensuring that relevant professionals participate in guideline development or revision beyond the institutional level, where the centre has relevant expertise, so that clinical practice reflects current evidence and research findings.

Strengthen clinical trial communication, networks and cross-disciplinary collaboration. Maintain clear and regularly updated information on open trials for professionals and patients, connect effectively with regional, national and international trial networks, and promote research groups and collaborations that bring together clinicians, researchers and other relevant partners.

4.3 A strategic approach to integration of research and care excellence: recommendations and implementation guidance

4.3.1 Include care and research integration in the institutional strategy.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.2 – Managing dynamics of integrating research and care
C4.2.2 EUCCCs integrate research in cancer patient pathways

Implementation guidance

Effective integration of research and care requires appropriate management and coordination across the different areas of the centre. Dynamic interaction between research and care departments should be fostered through the governing body. The candidate should define, within its care and research strategy, explicit objectives, structures, and processes to ensure a two-way link and interaction between clinical practice and research activities. The document should include pathways for identifying unmet clinical needs, developing and adopting innovations, and translating research findings into actions that improve clinical care and impact patient outcomes, enhance the quality of care, and foster organisational learning.

The strategy should define how access to clinical trials is embedded within patient pathways through systematic processes for assessment of trial eligibility, timely consideration of research participation at relevant clinical decision points, and clear referral mechanisms from routine care to clinical trials across different stages of disease (see section 4.5). It should also describe how these processes are incorporated into patient pathways for major tumour types and supported by interoperable IT systems across the network to enable rapid data transfer and timely identification of research opportunities.

For more guidance in this document, see sections:

2.3.2 Develop patient pathways.

2.6.1 Ensure access and lead the MTB.

2.7.1 Develop an SOP for MDT consultation.

3.5.1 Enable translational research workflows, from bench-to-bedside and bedside-to-bench.

3.5.2 Ensure comprehensive cancer research for tumour types, from the patient pathway phases perspective, in alignment with the EUCCC strategy.

Monitoring and evaluation

The candidate should review the decisions regarding the inclusion of patients in clinical trials, taking into account selection criteria and ensuring that reasons for exclusion are recorded.

4.3.2 Integrate research competencies into professional recruitment and hiring criteria.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.2 – Managing dynamics of integrating research and care *C4.2.1 EUCCCs emphasise research competence in recruitment and education* *C4.3.2 UCCCs include research knowledge in education programmes.*

Implementation guidance

The candidate EUCCC should establish a workforce policy that ensures research competence among clinical staff as a condition for delivering high-quality care. For that, senior health professionals, including clinicians, nurses, pharmacists and other relevant professionals, should demonstrate research competence and experience, which may be reflected in scientific publications, participation in research projects, and involvement in scientific meetings and conferences. Research competence should be considered during the recruitment of clinical staff (**S4.2.1.1** and **S4.2.1.2**).

The centre should include in its strategy an explicit policy for the continuous strengthening of staff competencies in research, with differentiated professional development pathways according to discipline and appropriate mechanisms to support staff motivation. To support this, the centre should promote the availability of dedicated training for healthcare professionals and, where relevant, administrative professionals. These ongoing training programmes should also be established to strengthen research-related competencies and ensure that staff remain informed about advances in cancer research, new cancer therapies and evolving models of cancer care (**S4.3.2.1** and **S4.3.2.2**).

The candidate EUCCC may also formally include dedicated research time in employment contracts or other institutional agreements, for example by defining a minimum number of hours per month or a percentage of working time to be allocated to research activities (**S4.2.1.1** and **S4.2.1.2**).

For more guidance in this document, see sections:

7.4.1 Build supervisory and mentoring capacity for translational integration.

7.4.4 Promote education that supports integration of research and clinical practice.

Contextualised options and experiences

At **Alleanza Contro il Cancro**, clinicians are hired through a public call for applications. During this process, candidates must demonstrate not only their clinical expertise but also their research skills. Not every single staff member needs to be a researcher, but it is essential for senior roles. Moreover, research activities are usually welcomed by clinicians, as it provides more variety and stimulation that routine clinical work alone, and doctors are eager to engage in the broader scientific community.

The **Instituto Português de Oncologia do Porto** considers that transitioning from a service-oriented unit to a leading clinical trials management unit requires embedding research competence and continuous education into the MDTs. This ensures that the centre has the capacity to design and lead their own studies rather than just facilitating pharma-driven trials.

Monitoring and evaluation

The candidate EUCCC should establish mechanisms to monitor whether clinical personnel involved in cancer care maintain an appropriate level of research competence and activity, taking into account, where relevant, their scientific track record, participation in research projects, and involvement in scientific meetings over time (**S4.2.1.1**).

4.3.3 Involve patients in research activities.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.3– Outcome of integrating research and care
C4.3.4 EUCCCs disseminate new research to professionals and patients

Implementation guidance

The candidate EUCCC should include in its strategy explicit mechanisms to promote patient involvement in research-related activities and to ensure the dissemination of research knowledge to patients and the public. Active involvement of patients in research-related activities may include, where appropriate, their participation in study conceptualisation, design and other research processes. Patients involved in these activities should also be included in conferences, training sessions and other exchange forums together with clinicians, nurses and other healthcare professionals.

The centre should ensure that new knowledge and ongoing research activities are communicated to patients and the wider public in an accessible and structured way. Public events for patients and caregivers should be organised on a regular basis, and relevant clinical research results should be disseminated through newsletters and public communication channels in plain language (**S4.3.4.1, S4.3.4.2** and **S4.3.4.3**). To support implementation, the candidate EUCCC should define a dissemination plan that includes the types of events to be organised, their frequency, the communication and distribution channels to be used, and the range of participants involved, including professionals, patients, caregivers and, where relevant, public authorities.

4.3.4 Do's and don'ts

DO	DON'T
Consider broadening the scope of studies to include supportive and palliative care research to guarantee a quality of life perspective. Targeted therapies, theragnostics, molecular diagnostics, genomics/proteomics and AI should also be included.	Underestimate the need or potential benefits in promoting research skills of clinical personnel.
Recruit clinical staff with research competences needed for their duties, particularly for senior clinical roles.	Assume that clinical staff do not need additional motivation and will find time themselves to build their research competence.
Ensure healthcare professionals have protected time to do the research.	Limit dissemination of research results to professionals only.
Promote regular dissemination of research achievements in clinical newsletters and channels and arrange public events for patients and caregivers.	Communicate research findings in technical language that is not understandable to patients or the wider public.

4.4 Translation of evidence into care and guideline development: recommendations and implementation guidance

4.4.1 Ensure bidirectional data flow between clinical care and research.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements

T4.1 – Structural prerequisites for integration research and care
C4.1.2 EUCCCs have structural ICT facilities making clinical data and samples available for research

Implementation guidance

Candidate EUCCCs need appropriate ICT infrastructure to make clinical data available for research and to enable secure and traceable data exchange as well as interoperability (coding rules, metadata standards and data dictionaries) between care and research settings (**S4.1.2.1** and **S4.1.2.2**). Clinical data generated in routine care must be systematically collected, structured, and, where appropriate, linked in ways that allow for their ethical and efficient reuse for research, quality improvement, and innovation. This requires an institutional data environment in which EHRs, cancer registries, pathology and molecular data systems, biobanks (**S4.1.2.1**), and databases of ongoing clinical trials (**S4.1.2.2**) are connected through common standards, interoperable processes, and clear governance mechanisms, rather than being developed as isolated systems. ICT should enable access to pseudonymised or anonymised patient data, where applicable, and provide appropriate platforms for patient information and notification (**S4.1.2.1** and **S4.1.2.2**).

The candidate should facilitate a bidirectional flow of data between care and research. This means that not only is research driven by clinical data, but clinical practice also benefits from the data and knowledge generated through research activities. To coordinate this data flow and define the system architecture, data structure, and linkages, it is advisable to establish an appropriate working group or responsible unit, along with SOPs to ensure that this integration complies with the centre's data governance rules, legal and ethical requirements (including informed consent, data use, and patient communication), and applicable institutional procedures. Moreover, the data flow must be compatible with the centre's structure and network, including consortium-type EUCCCs.

For more guidance in this document, see section:

3.4.4 Establish the ethics and integrity approach.

Contextualised options and experiences

In the **Candiolo Cancer Institute FPO-IRCCS** in Italy, this bidirectional data flow is legal only if carried out in compliance with the General Data Protection Regulation (GDPR) and the Italian Data Protection Code, as amended, which allow the processing of health data for scientific research under specific conditions, such as explicit consent or another valid legal basis, data minimisation, and robust pseudonymisation safeguards. Research infrastructures must also follow the guidance of the Garante per la protezione dei dati personali and obtain approval from the competent Ethics Committee. For interventional clinical trials, compliance with Regulation (EU) No 536/2014 is also required.

For the **Alleanza Contro il Cancro**, it is much easier to adopt the structure of the database from the centre in the respective network than to build a database for every centre in the network separately and after that start centralising them, trying to make the databases crosstalk.

At **Fondazione IRCCS Istituto Nazionale dei Tumori di Milano**, routine clinical data are transferred from the EHR to a data warehouse, where they can be used for observational and translational studies. The EUCCC has integrated or linked systems between EHRs, cancer registries, pathology and molecular platforms, biobank records and research databases, allowing secure, traceable and governed reuse of data. Structured data fields are used for key clinical, pathological and molecular variables. Results from research analyses are fed into MDT discussions, clinical pathway review, quality improvement activities, and service planning.

Monitoring and evaluation

The candidate EUCCC may establish and periodically review a clear data governance framework, including documented SOP for data protection, pseudonymisation or anonymisation where applicable, interoperability standards, data dictionaries, metadata standards and coding rules. The centre should monitor the number of research projects using routine clinical data and, where feasible, estimate the number of research projects using linked clinical and biobank data.

4.4.2 Implement research-based knowledge and EUCCC contributions to national and international clinical guidelines.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.3– Outcome of integrating research and care
C4.3.1 EUCCCs implement research-based knowledge in clinical guidelines

Implementation guidance

The candidate should participate through expert panels in the elaboration of national and international CPGs, including the research-based knowledge into new or updated CPGs in line with recent research-based evidence (**S2.4.2.1, S2.4.2.3** and **S4.3.1.2**).

The candidate EUCCC should ensure that CPGs are available, accessible to clinicians and updated in line with recent research-based evidence and practice (**S4.3.1.1, S2.4.2.2**).

For more guidance in this document, see section:

2.3.3 Agree on which clinical practice guidelines to follow for treatment, involving an interdisciplinary team with palliative care specialists in the development of any new guidelines

Contextualised options and experiences

For the **Alleanza Contro il Cancro**, the typical situation regarding guidelines is that most centres/hospitals have their own experience related to specific cases, collected data or other information. However, they do not find it reasonable to change the guidelines every time a new piece of evidence is generated.

4.4.3 Do's and don'ts

DO	DON'T
Map existing ICT tools and plan upgrades to ensure interoperability.	Expect that any internal database can be used without ensuring true interoperability.
Ensure that routine clinical data are collected and recorded in structured formats.	Maintain isolated information systems that are disconnected from routine clinical data collection processes.
Promote integration between EHR systems, registries, pathology and molecular systems, biobank records and research databases.	Treat data flow as a one-way process from care to research only.
Establish clear governance for data access, transfer, protection and reuse.	Rely on outdated CPGs that do not reflect recent research-based evidence.
Create mechanisms through which research findings can inform clinical care, pathway development and service improvement.	
Reinforce the use of guidelines where needed and support active clinician participation in guideline development and updated and adaptation.	

4.5 Catalysing clinical trials: recommendations and implementation guidance

4.5.1 Create or strengthen a dedicated clinical trials management unit.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.1 – Structural prerequisites for integration research and care
C4.1.3 EUCCCs encompass or provide access to clinical trial units for all relevant professions

Implementation guidance

The centre should have at least one clinical trials management unit (CTMU) with a clear framework to support and coordinate the administrative, regulatory, ethical, financial, and feasibility aspects of clinical trials across the centre (**C4.1.3**). Sufficient financial and organisational resources must be allocated to support the CTMU based on the number, phase, and complexity of active trials, patient pathways and referrals, and the required level of coordination. Since different trial phases may require different types of support, depending on the size of the centre and the number and complexity of trials conducted, the centre may consider maintaining more than one CTMU.

Furthermore, the CTMU should coordinate activities between the hospital and external partners, including pharmaceutical companies and other trial sponsors. In addition, the candidate EUCCC should define which types of clinical trials are supported within the centre, including, where relevant, early-phase and late-phase trials, types of treatment investigated (e.g. immunotherapy, target therapy, chemotherapy, radiotherapy and symptom control-related trials) or combination trials (e.g. proton therapy, and biomarker-driven trials). Where biomarker-driven trials are performed, appropriate SOPs for the relevant molecular test should be developed.

The CTMU should ensure that pertinent procedures and tools are standardised and accessible across organisational units. For instance, the use of electronic informed consent in clinical trials may be promoted when appropriate, proportionate, and useful, taking into account the nature of the trial, the study population, and applicable regulatory requirements. When implemented, electronic informed consent should be based on validated IT systems and electronic signature procedures that comply with applicable national and EU legal requirements. Relevant EMA recommendations and guidelines on decentralised elements in clinical trials (30), computerised systems, and electronic data should be considered (31).

CTMU services should be available to all relevant professional groups and organisational units, including clinicians, nurses, researchers, management, and administrative and financial staff, without organisational or professional barriers (**S4.1.3.1** and **S4.1.3.2**). Depending on the complexity of the trials conducted, appropriate multidisciplinary expertise should also be involved.

Contextualised options and experiences

At **Alleanza Contro il Cancro** , services offered by the CTMU are accessible to all relevant professional groups and organisational units. In practice, this means that any professional wishing to conduct a research study can get support from CTMU in order to obtain the necessary approval.

In **Gustave Roussy**, clinical research can be organised through a dedicated directorate overseeing all clinical research activities, with a specific department responsible for early-phase studies. Having this structure is a commitment to good clinical practice, requiring systematic training of medical and paramedical staff and dedicated clinical research assistants covering monitoring, patient inclusion, and sample management.

Monitoring and evaluation

The candidate EUCCC should periodically evaluate the CTMU performance using the established clinical trial evaluation procedure, incorporating the findings into routine reporting and improvement actions (such as the annual research report), covering trial management activities, adherence to timelines and compliance with regulatory standards. Monitoring should take into account the extent to which different trial phases receive the type of support they require.

Other relevant indicators may include the number and phase of active trials, time from feasibility assessment to trial activation, recruitment rate against target, protocol deviation rate, timelines for ethics approval, audit findings related to patient rights and regulatory compliance, service utilisation across departments and professional groups, and response times to internal requests.

Additionally, the centre may wish to estimate the number of departments or units receiving regular updates on ongoing clinical trials.

4.5.2 Ensure access to early-phase clinical trials.

Implementation guidance

The candidate EUCCC should play a leading role in facilitating proof-of-concept studies, including early-phase clinical trials. To support the initiation of early-phase trials, the centre should ensure that appropriate structures and procedures are in place to identify and recruit eligible patients in a timely and systematic way. Where the responsible CTMU is established within the centre, additional formal agreements may not be necessary. Where early-phase trials are conducted in collaboration with partner institutions, the candidate EUCCC should establish formal agreements defining roles, responsibilities and procedures for the identification, referral and recruitment of eligible patients. These procedures should be reviewed and updated regularly (**S4.1.4.1, S4.1.4.2** and **S4.1.4.3**).

Contextualised options and experiences

Vall d'Hebron Barcelona Campus Hospitalari has an early phase management unit established, but if the centre does not have their own unit, it must arrange formal agreement with another so that it can access the trials.

Gustave Roussy develops early-phase or first-in-human capability trials, referring to the capacity to conduct the earliest trials of experimental treatments in human participants. In such cases, national certification may be required. Experts from Gustave Roussy cite national cancer institute certification as one such example, noting that the associated requirements are detailed and should be anticipated well in advance.

4.5.3 Develop a specific strategy to connect eligible patients with clinical trials, including through MDTs and MTBs.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.2 – Managing dynamics integrating in research and care
C4.2.2 EUCCCs integrate research in cancer patient pathways

Implementation guidance

Identifying patients eligible for clinical trials should be integrated into patient pathways, with systematic screening for trial eligibility and clear decision points at which trial participation is considered.

The candidate EUCCC should implement systematic screening for relevant molecular alterations in patient groups for whom testing is clinically appropriate, taking into account the contextual situation, including test reimbursement at national, regional or local level, in order to identify patients who may be eligible for targeted treatments investigated in enrolling or active clinical trials (**S4.2.2.4**). The results should be evaluated through the MTB to support identification of patients who meet the relevant eligibility criteria for such trials. For complex cases, the candidate EUCCC may establish collaboration with other MTBs at local, national, or international level to support the interpretation of molecular alterations (**S2.3.1.10**).

MDTs should also have the opportunity to review trial options during the definition of the treatment plan and systematically assess each patient's potential eligibility (**S4.2.2.2**). The centre may also consider including clinical trial investigators or research coordinators in MDTs and providing them with access to real-time trial availability lists. MTB and MTD conclusions and recommendations should be documented in the EHR (**S4.2.2.4**, **S4.2.2.5**, **S2.3.1.12** and **S2.4.1.2)**

Clear referral pathways should be established to enable the transfer of patients from routine clinical care to clinical trials at different points of the disease pathway (**S2.4.1.4**). Patients identified in MDTs or MTBs as eligible for a clinical trial should be referred in a timely manner during active recruitment phases (**S2.3.1.7** and **S2.4.6.4**). These pathways may be incorporated into patient pathways for major tumour types (**S4.2.2.1** and **S2.4.1.4**).

In addition, interoperable IT systems connecting all hospitals within the network should support rapid data transfer, timely identification of research opportunities and referral to relevant trials across the patient pathway. Participation in both academic and industrial clinical trials across the patient pathway requires strong ICT support.

For more guidance in this document, see section:

2.3.2 Develop patient pathways.

3.5.2 Ensure comprehensive cancer research for tumour types, from the patient pathway phases perspective, in alignment with the EUCCC strategy.

Contextualised options and experiences

For **Alleanza Contro il Cancro**, It is not enough to simply hold meetings to discuss clinical trial eligibility; they must be mandatory for every patient. To evaluate a unit's true research integration, they track specific metrics: how many MDT meetings are held annually? How many patients are referred to an MTB? How many patients are directed to 'compassionate use' programmes or clinical trials after identifying non-canonical targets (e.g. a PI3K mutation).

Fondazione IRCCS Istituto Nazionale dei Tumori di Milano integrates a trial matching tool into MDT workflows, allowing automatic identification of eligible patients.

Monitoring and evaluation

The candidate EUCCC should evaluate whether IT systems and trial databases effectively support the prospective and retrospective identification of eligible patients across tumour pathways.

4.5.4 Ensure access to information and communication about clinical trials.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.1 – Structural prerequisites for integration research and care
C4.1.5 EUCCCs provide easy access to ongoing clinical research information

Implementation guidance

The candidate EUCCC should ensure equal access to information about clinical trials for eligible patients. Clear communication within the hospital and other centres should support the timely dissemination of information on relevant target groups and open trials to professionals involved in identifying and recruiting participants.

For that, the candidate EUCCC should establish and regularly update a policy and SOPs for the communication of clinical trial information trials across the centre and its network and promotion of patient participation. Responsibilities for updating, validating and disseminating information on open trials should be clearly defined, including responsibilities for website content, internal trial lists and other communication channels (**S4.1.5.1**, **S4.1.5.2** and **S4.1.5.3**). Information on open clinical trials should be easily ac-

cessible and regularly updated. Where appropriate, the centre should maintain a website or equivalent information platform accessible to referring professionals, providing clear information on open trials and on how to contact the CTMU, principal investigators or other relevant contact points. The CTMU should have access to other regional and/or national and/or sources of information on ongoing trials and should be able to monitor them effectively.

As part of the SOPs in place for patient communication (**S2.2.1.1**, **S2.2.1.7** and **S4.1.5.1**), the candidate EUCCC should include the information to provide in patient information materials, such as leaflets, webpages or other communication tools, clearly explaining what clinical trials are, who may be eligible, how patients may access them, whom to contact, and which key elements patients should understand when considering participation, including the voluntary nature of enrolment, informed consent, potential benefits and risks, and the protection of patient rights and personal data (**S2.4.3.10**, **S2.4.4.4**, **S2.4.5.12** and **S2.4.7.8**).

For more guidance in this document, see sections:

2.5.1 Create or adopt an SOP for information delivered or communicated to the patient.

3.5.3 Co-design studies, ensuring patient participation.

Contextualised options and experiences

At **Vall d'Hebron Barcelona Campus Hospitalari**, every medical oncologist routinely discusses the possibility of clinical trials participation with their patients, as part of the patient pathway. A 'welcome leaflets for patients' contains brief information about what clinical trials are, which clinical trials are available, how to access them and so on. Trial availability and results of successful trials are publicly communicated to the public using specific press releases.

Vall d'Hebron Barcelona Campus Hospitalari also uses network communication on their own or external platforms, for example the Trialing web/app, which maps trials available in many countries both in EU and USA. It is free of charge for centres and regularly updated through communications with participating centres.

Alleanza Contro il Cancro highlights that the spaces in clinical trials can be very limited due to the involvement of pharmaceutical industries that in most cases need a fixed number of patients to participate to get their pharmacological compound approved. This point is challenging to communicate, showing that it is not enough to disseminate information about the ongoing trials to the public. There also needs to be clear messaging about which trials are available for which and how many eligible patients.

At **Fondazione IRCCS Istituto Nazionale dei Tumori di Milano**, a dedicated public webpage lists active clinical trials. The trials can be searched and filtered by keyword, trial phase and pathology. The main page includes key operational information such as the study title, principal investigator, main clinical unit and, where applicable, the investigational treatment, while additional detailed information is available on the individual study pages.

Alleanza Contro il Cancro develop a procedure and policy to promote the participation of patients in clinical trials, promote 'dedicated hours' to the doctors, nurses and all personnel involved in clinical trial.

Monitoring and evaluation

The candidate EUCCC should monitor the frequency with which public and internal sources of trial information are updated (the number of active clinical trials that are publicly listed or internally communicated) and should periodically review the completeness and accuracy of the information provided, eliciting feedback from clinicians and research staff on the accessibility and usefulness of trial information and the effectiveness of internal procedures for identifying and informing potentially eligible patients about clinical trials.

4.5.5 Ensure a strong connection with clinical trials networks.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.2 – Managing dynamics integrating research and care *C4.2.4 EUCCCs integrate advanced knowledge into general practice* *C4.3.3 EUCCCs transform research into innovations and improvements.*

Implementation guidance

A robust and up-to-date knowledge network can be used to give eligible patients access to international clinical trials and direct them to the appropriate trial at regional, national or international level (**S4.2.5.1**). This is particularly important for rare cancers and specialised areas of clinical practice, where not every centre may have the appropriate research activity and expertise. By linking to Networks of Expertise, centres facilitate trials in regions or countries with few cases and make European networks of EUCCCs attractive for industry-initiated trials (**S4.2.5.2**). The European network of CCCs could be a good platform to provide access to clinical trials for a lot of smaller countries and unique healthcare environments in the Balkans, Easter Europe, and elsewhere. Collaboration with hospital networks in dissemination of the results would help to more efficiently implement research achievements into clinical practice (**S4.2.5.3**).

4.5.6 Do's and don'ts

DO	DON'T
Define the minimal operational requirements for CTMU and expand if necessary.	Assume an EUCCC application is viable without a functional CTMU.
Build a clear internal workflow for identifying patients eligible for clinical trials and ensure equal access and clear communication for all patients.	Assume that small countries have not enough eligible patients for clinical trials and underestimate networking on national and international level.
Update information on clinical trials, ensure CTMU have access to the information on what trials are currently open.	
Include a summary of the studies on the institutional webpage for the patients and citizens.	

4.6 Collaborations and networking needed for successful integration of research and care: recommendations and implementation guidance

4.6.1 Promote research groups including affiliated clinicians.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.2 – Managing dynamics of integration research and care
C4.2.3 EUCCCs integrate translational research into clinical practice

Implementation guidance

The institutional strategy should explicitly promote the activity of research groups made up of affiliated clinicians in their teams (**S4.2.3.1**). All cross-disciplinary professional tumour research groups should comprise members from each clinical or research department, with mixed affiliations (**S4.2.3.2**). Having members involved in both translational and clinical research alongside clinical practice enhances the centre's ability to foster synergies between research and care.

This approach should encourage collaboration between researchers and clinicians, defining how they should work together. Regular meetings between researchers and clinicians should be facilitated, with agenda items designed to promote discussion and the effective integration of clinical and research experiences (**S4.2.3.3** and **S4.3.3.1**). Such regular meetings prevent research and clinical teams from working in isolation (**S4.2.3.3**).

Monitoring and evaluation

The centre should implement a monitoring system that tracks attendance to meetings, and cross-disciplinary team composition to ensure regular researcher-clinician collaboration. Collecting qualitative feedback by both groups can also surface insights into how these groups work in practice and how they might improve.

4.6.2 Promote multidisciplinary collaborations and international networking.

Cross-reference to topic (T), criterion (C), and standard (S) in EUCCC certification requirements
T4.3 – Outcome of integrating research and care
C4.3 EUCCCs transform research into innovations and improvements

Implementation guidance

Multidisciplinary collaborations and networks among researchers, clinicians, and entrepreneurs will help institutions to actively participate in diverse collaborative ecosystems (**S4.3.3.1** and **S4.3.3.2**). These partnerships should span national clinical groups to specialised international societies. Participation in national cooperative groups is essential for standardising care and driving large-scale trials. This aspect includes aligning with national networks that unite specialised cancer centres (e.g. Unicancer in France or Associazione Italiana Oncologia Medica (AIOM) in Italy). Such activity can also facilitate multicentre clinical trials and the exchange of best practices across domestic institutions.

For an EUCCC to remain at the forefront of oncology, it must be integrated into the broader European research landscape. In that respect, it should establish formal ties and active investigator participation with the EORTC (European Organisation for Research and Treatment of Cancer). Participation in networks that bridge the gap between basic research and clinical implementation should be prioritised, ensuring that the EUCCC is not just a participant in existing trials but a contributor to the development of new therapeutic and diagnostic strategies.

Some concrete actions that can contribute to this activity includes regularly organising meetings for dissemination and implementation of new research, involving multidisciplinary attendants and setting up collaboration with entrepreneurs interested in promoting clinical improvements**.**

4.6.2 Do's and don'ts

DO	DON'T
Include clinicians in several research groups to achieve cross-disciplinarity, including in diagnostics.	Arrange the meetings between the clinicians and researchers only occasionally.
Encourage collaboration between researchers and clinicians, defining the agreements for joint work.	Be closed for collaborations with enterprises and entrepreneurs interested in promoting clinical improvements.
Foster multidisciplinary collaborations, building networks among researchers, clinicians, and entrepreneurs.	

5. Innovation

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5.1 Introduction to the EUnetCCC standards on innovation

Innovation translates knowledge – generated from research, practical experience, or a fusion of the two – into clinical, organisational and technological change. In the context of this guideline, innovation refers to the introduction of new techniques, processes and solutions into clinical practice to address unmet needs and generate the evidence required for their adoption (32). The new applications and methods that emerge support the continuous improvement of cancer care and research in daily practice.

The Innovation domain of the EUCCC standards focuses on ensuring centres' structured institutional efforts to develop, assess, and implement solutions that respond to concrete clinical needs, including diagnostic tools, access to new technologies, improvements in care organisation and service delivery, and other approaches that enhance patient care and professional practice. These require support from a whole innovation ecosystem, which encompasses a range of skills and partnerships inside and outside the centre. Indeed, the next best practice may emerge from any professional group, including clinical, research, nursing, technical, or operational teams. When these teams are jointly committed to innovation, centres can test and refine new ideas in a structured way, not only for their novelty, but also for their demonstrated clinical utility, added value for patients, and feasibility within the organisational and resource context of the centre. Thus, innovation is a shared responsibility that contributes to improving quality, sustainability, and long-term outcomes.

Implementing the standards related to innovation starts with candidate EUCCCs setting strategic objectives to encourage the development and adoption of innovations across the organisation. Governance structures must enable collaboration by considering the needs of patients and professionals, strengthening links between research and governance, and maintaining close interaction with clinical teams. Strong internal communication between different departments and structures is essential to prevent siloes, ensuring that innovation priorities remain aligned with operational feasibility and resource allocation through clear decision-making pathways and accountability. Fluid communication also enables dissemination at multiple levels, including among the centre's scientific and healthcare professional community; individuals like managers, patients and citizens; the wider healthcare system; and policymakers.

For more guidance in this document, see sections:

1.3.1 Establish a CC Board.

1.4.1 Define an EUCCC strategy covering the areas of care, research, innovation, prevention, and education and training.

5.2 Summary of recommendations in the Innovation domain

Short-term implementation priorities

Embed innovation in the strategic plan and strengthen coordination between the CC Board and departments. The diverse, multidisciplinary expertise from the CC Board and clinical, research and innovation units should be closely aligned to support coherent implementation of innovation priorities across both strategic planning and clinical practice.

Establish a structured feasibility and prioritisation process for innovation activities. Incoming innovation projects should be assessed and prioritised in line with institutional capacity and strategic priorities. These processes should include context-specific evaluation of clinical effectiveness, cost-effectiveness, patient-reported measures, organisational feasibility and resource implications, as well as structured implementation pathways for translation into routine clinical practice.

Ensure a balanced approach between academic- and industry-led innovation. Institutional frameworks should support both investigator-driven and industry-partnered innovation, ensuring that activities remain aligned with clinical needs, institutional priorities and academic independence. Clinically relevant questions like supportive care for older or frail patients, rare cancers, or other unmet care needs may not be commercially attractive, but the lack of a profit motive should not keep these patients from benefitting from innovative care solutions.

Provide structured administrative and technical support for innovation projects. A clearly defined unit should be available to assist with feasibility assessment, ethics and regulatory requirements, grant preparation, funding opportunities, contractual issues, and coordination with other relevant areas such as research, ICT and quality. Relevant European, national and other innovation-related funding mechanisms should also be identified and communicated internally.

Support investigator-initiated innovation through appropriate institutional structures and recognition that this is a key component of the innovation portfolio. Support may include access to data management, biostatistics, monitoring, medical writing and links to the CTMU, where relevant.

Ensure access to intellectual property (IP) support and a Technology Transfer Office (TTO). Clear rules on IP ownership, disclosure and revenue-sharing should be in place in order to create transparency, reduce uncertainty and provide appropriate incentives for innovators. Where relevant, the centre should ensure access to a TTO, whether internal, shared or external, to support IP and commercialisation processes.

Map participation in innovation networks and assign coordination responsibilities. The centre's current participation in relevant innovation networks, including potential new opportunities, should be well defined, along with internal responsibility for coordinating these activities. Structured coordination can strengthen the centre's ability to benefit from and contribute to collaborative innovation efforts.

Medium/long-term implementation priorities

Build an institutional culture that encourages experimentation. Foster a culture in which experimentation, calculated risk-taking, and learning from failure are recognised as part of responsible innovation.

Develop reward and recognition systems that reflect the full scope of innovation across professional groups. Concrete incentives can encourage efforts across different professional groups and different types of innovation, including clinical, organisational and process-related innovation.

Adapt administrative and contracting frameworks to new professional profiles. Integrate new professional roles into the organisational, contractual and administrative frameworks to strengthen the centre's innovation ecosystem and support effective implementation and monitoring.

Expand entrepreneurial and early-stage support mechanisms. Strengthen support mechanisms that help implement innovation, including mentoring, seed funding, incubation, feasibility assessment, regulatory guidance and, where relevant, spin-off development.

5.3 Innovation in cancer strategy and development plans: recommendations and implementation guidance

5.3.1 Integrate innovation explicitly into the institutional strategic plan.

Cross-reference to EUCCC certification requirements

T5.1 – Culture and commitment to innovation
C5.1.1 - Integration of innovation in cancer strategy and development plans
C5.1.2 - Monitoring and improving innovation performance

Implementation guidance

The candidate CCC should ensure that innovation is an explicit and well-developed component of the centre's institutional strategy and action plans (**S5.1.1.1**). The strategy should establish a shared understanding across professional groups, set clear priorities for development, and describe how innovation initiatives will be developed, implemented and monitored within the centre (**S5.1.1.2**). Innovation priorities should be clearly linked to patients' clinical needs and should encompass both patent-oriented activities and broader improvements in clinical care, diagnosis, service delivery and organisational performance (**S5.1.1.2**).

Other key components of a centre's innovation strategy include:

- Explicit commitment to fostering a supportive culture that values competitiveness and promotes openness to experimentation and change.
- Coordination structures between innovation and research units, for instance regular meetings, joint action plans, and shared projects, together with implementation pathways involving clinical teams to support coherence and operational feasibility;
- Adequate administrative support, seed funding and mechanisms to sustain staff engagement and enable ideas to progress beyond the conceptual stage (**S5.3.3.1, S5.3.2.1** and **S5.2.2.1**);
- Mentoring, incubation and early-stage support mechanisms (**S5.2.1.2**);
- Participation in innovation networks (**S5.1.3.1** and **S5.1.3.2**);
- Dissemination channels for both low-technology readiness level (TRL) and high-TRL innovation, and where relevant, the development of spin-offs (**S5.3.3.1**);

- Innovation KPIs to inform decision-making, prioritisation and continuous improvement;
- Arrangements to ensure the availability of IT systems capable of tracking innovation projects, performance indicators and related outputs in a consistent and traceable way (**S5.1.2.1, S5.1.2.2**).

Periodic internal evaluations or structured review meetings should be in place to reflect on outcomes, lessons learned and areas for adjustment. Feedback loops between innovation structures, research teams and management can support the progressive refinement of indicators and strengthen institutional learning.

Contextualised options and experiences

In the **Institut Curie**, innovation is conceptualised as a state of mind. It is not only about research, but also about organisation, technological development, diagnostics, IT, biostatistics, and nursing. It is – and should be – part of the strategic plan as well as everyday practice. Everyone in the CCC is responsible for innovation, with clear leadership from the director.

In **Institut Català d'Oncologia**, the high heterogeneity between centres makes defining a single innovation structure challenging; instead, the focus is on accountability, where each CCC defines which innovation areas are strategically relevant for them and identifies measurable indicators for those priorities. Demonstrating commitment to innovation through defined and context-specific indicators is more important than applying a uniform model.

Monitoring and evaluation

Innovation monitoring should be measurable, with indicators aligned with the centre's strategic priorities and embedded within a regular review cycle (**S5.1.2.1** and **S5.1.2.2**). Strategic indicators should focus on the achievement of the centre's main innovation priorities: technological outputs, such as patents, contracts and collaborations with companies; participation in clinical trials and innovation projects; an overview of the innovation portfolio and ongoing activities; organisational and efficiency improvements, for example reduced treatment burden while maintaining outcomes; and, where relevant, patient-related outcomes such as patient satisfaction or quality of life **(S5.1.2.1).**

5.3.2 Ensure leadership accountability and organisational alignment.

Cross-reference to EUCCC certification requirements
T5.1 – Culture and commitment to innovation *C5.1.1 - Integration of innovation in cancer strategy and development plans*

Implementation guidance

Responsibility for innovation should be assigned at senior management level, for example to the CC Board or an equivalent executive function, and monitored through a defined governance framework. Innovation structures should be aligned with research and governance functions and maintain close interaction with clinical teams. Clear internal coordination between innovation, research, and governance is essential to support implementation and avoid siloed approaches (**S5.1.1.3).**

5.3.3 Promote multidisciplinary participation in innovation activities.

Cross-reference to EUCCC certification requirements
T5.1 – Culture and commitment to innovation *C5.1.1 Integration of innovation in cancer strategy and development plans* *C 5.2.2 EUCCCs nurture both commercial and non-commercial innovations*

Implementation guidance

Relevant professional groups across the centre should be involved in innovation activities. The centre should ensure the availability of multidisciplinary expertise, including, where relevant, laboratory researchers, data analysts, biomedical engineers, innovation managers, clinical research managers, and experts on regulatory process, technological and business development (**S5.1.1.2**).

Centres have different options for fostering multidisciplinary participation. This can be partially addressed through contracting, for example ensuring protected and remunerated time for innovation activities so that professionals can participate without excessive workload. Reward and recognition systems should value both commercially oriented outputs, such as patents and spin-offs, and non-commercial innovation, such as investigator-initiated studies, process improvements, and initiatives with a strong presence of patient and public involvement. Finally, mentoring programmes can foster an innovation mindset across professional groups (**S5.2.2.1**).

For more guidance in this document, see section:

7.4.1 Build supervisory and mentoring capacity for translational integration.

5.3.4 Establish structured pathways for translating innovation into routine clinical practice.

Cross-reference to EUCCC certification requirements
T5.1 – Culture and commitment to innovation *C5.1.1 Integration of innovation in cancer strategy and development plans* *C5.2.1 EUCCCs foster diverse innovations in oncology*

Implementation guidance

Innovation priorities should be realistic, clearly linked to patients' clinical needs, and aligned with the centre's institutional capacity. Activities should encompass both patient-oriented activities and broader improvements in clinical care, diagnosis, service delivery, and organisational performance (**S5.1.1.2**).

The centre should establish structured processes for feasibility assessment and prioritisation to support manageable implementation and efficient use of resources. This includes review meetings, discussions, or other structured forums that support realistic planning, alignment with institutional capacity and efficient use of resources (**S5.2.1.2**). Centres should also define structured implementation pathways to support the translation of innovation into routine clinical practice. Before integration, new tools, technologies or procedures should undergo context-specific evaluation (clinical effectiveness, cost-effectiveness, patient-reported measures, organisational feasibility and resource implications) to inform decisions on whether they should be introduced into routine care and whether they are likely to provide measurable benefit for patients, including improvements in treatment decisions, survival or quality of life(**S5.2.1.1** and **S5.2.1.2**).

5.3.5 Do's and don'ts

DO	DON'T
Integrate innovation explicitly into strategy and action plans.	Limit innovation to patents or commercial outputs.
Define clear leadership responsibility for innovation.	Approve initiatives without feasibility assessment.
Align innovation with clinical needs and capacity of the centre using structured feasibility and prioritisation processes.	Separate innovation from research clinical practice and governance.
Define measurable KPIs on innovation and use them to improve the process.	Collect data without going through a learning cycle.
	Introduce innovations into routine practice without prior context-specific evaluation.

5.4 Diversifying innovation through non-commercial and commercial avenues: recommendations and implementation guidance

5.4.1 Provide innovation solutions across the full translational continuum.

Cross-reference to EUCCC certification requirements

T5.1 Culture and commitment to innovation
C5.1.2 Monitoring and improving innovation performance
T5.2 – Areas of innovation
C5.2.1 - EUCCCs foster diverse innovations in oncology

Implementation guidance

The centre should foster clinical, technological, organisational and service-related innovation through the introduction of new techniques, processes and solutions into practice to address unmet needs and generate evidence for their adoption (**S5.1.2.2**). It should ensure a balanced approach across different areas of the oncology pathway in order to address clinically relevant questions, including those that may be less commercially attractive, such as studies involving frail or elderly patients, rare cancers, or unmet care needs. The centre should support the development of both early-stage ideas and implementation-oriented innovation (**S5.2.1.2**). Recognising high-TRL and early-stage or practice-based innovation can help capture valuable improvements across the full innovation spectrum.

Contextualised options and experiences

In the **Institut Curie**, innovation in oncology includes AI applications in pathology, radiology, and radiotherapy, where centres often collaborate with start-ups and provide data to train models – sometimes facing the paradox of later paying to use those tools. The centre also integrates genomics into ethical and social science research shaping how care is delivered.

5.4.2 Balance institutional support for non-commercial and commercial innovation.

Cross-reference to EUCCC certification requirements

T5.2 – Areas of Innovation
C5.2.2 - EUCCCs nurture both commercial and non-commercial innovations

Implementation guidance

The candidate CCC should actively support both non-commercial and commercially oriented innovation initiatives. Non-commercial innovation may include investigator-initiated and academic-driven research, process improvements, clinical pathway optimisation and patient-centred innovation, including initiatives with significant clinical or organisational impact (**S5.2.2.2**). Commercially oriented innovation may include research outputs with commercialisation potential, including patents, licensing activities, spin-offs and collaboration with industry. These activities can support the translation of discoveries into scalable technologies and therapies.

The centre should ensure a balanced approach between industry-sponsored and independent research. Collaboration with pharmaceutical and biotech companies and start-ups can accelerate innovation to translate research into practical applications; however, such partnerships should remain aligned with institutional priorities, patient benefit and ethical standards or academic independence. The candidate should ensure transparency in collaboration agreements and maintain scientific independence when participating in industry-driven projects, structuring IP arrangements in ways that complement, rather than unduly restrict, scientific publication. Reward and recognition systems should reflect this balance by valuing both commercial outputs and non-commercial innovation that improves patient care or organisational performance (**S5.2.2.1** and **S5.2.2.2**).

Contextualised options and experiences

In the **Institut Curie**, innovation in oncology reflects the realities of an academic setting, where independent drug development is rarely feasible. Early collaboration with small startups can support participation in first-in-human or early-phase trials, but later stages of development require partnership with larger industry structures. Establishing early-phase clinical trial units also requires strict quality and safety criteria, which cannot be met by all centres. Therefore, collaboration and strategic selection of innovation activities are essential.

Also at **Institut Curie**, innovation performance is measured by improvements in care delivery, not only the number of patents generated. For example, in radiotherapy, reducing the number of treatment fractions while maintaining the same oncological outcomes can improve patient quality of life and increase organisational efficiency. Such changes represent measurable innovation indicators reflecting both clinical impact and economic benefit.

Monitoring and evaluation

A set of innovation indicators should support alignment between innovation priorities, institutional capacity, and patient needs (**S5.1.2.1**).

5.4.3 Do's and don'ts

DO	DON'T
Ensure transparency in industry collaborations and align these with the institutional strategy and ethical norms.	Define innovation only as commercialally oriented with patents or spin-offs and collaboration with industry.
Address clinically relevant questions, affecting frail or older patients, rare cancers, or other unmet care needs.	Focus only on high-TRL or commercially driven innovation.
Establish systems for rewarding and recognising both commercial and non-commercial innovation.	Neglect early-stage ideas due to lack of funding.
	Prioritise commercial incentives over clinical relevance and focus on process and patient-centred improvements.

5.5 Supportive structures for innovation: recommendations and implementation guidance

5.5.1 Provide administrative support to foster invention and experimentation.

Cross-reference to EUCCC certification requirements
T5.3 – Supportive infrastructure *C5.3.1 EUCCCs train researchers in innovation processes* *C5.3.2 - EUCCCs have intellectual property schemes and a Technology Transfer Office (TTO)* *C5.3.3 - EUCCCs support innovative spin-offs from R&D.*

Implementation guidance

Innovation projects often involve complex regulatory, ethical and contractual requirements. To minimise the administrative burden on innovators and help them navigate the regulatory landscape, the candidate CCC should provide structured administrative and technical support. Clear institutional arrangements can help ensure transparency and raise awareness that access to administrative support among professionals does not depend on informal networks or personal knowledge. This should help prevent missed protection opportunities and inappropriate disclosure of confidential information (**S5.3.2.1**).

A clearly defined unit, such as an innovation unit, innovation office or equivalent coordinating body can take on this supportive role, providing guidance or directly assuming responsibility for tasks like feasibility assessments, regulatory requirements, ethics submissions, identification of national and European funding opportunities, grant preparation, industry collaboration agreements, and administrative coordination with other relevant areas, including research, quality, and ICT (**S5.3.3.3**). This unit should likewise support project imitation, development, knowledge translation and implementation, while reducing operational risk (**S5.1.1.3**). Support mechanisms should enable the development of both early-stage ideas and implementation-oriented innovation (**S5.2.1.2**). Recognising high-TRL and early-stage or practice-based innovation can help capture valuable improvements across the full innovation spectrum.

Successful translation also requires a certain degree of organisational agility and preparedness. Some measures to reduce unnecessary burden and accelerate implementation include simplified internal processes for innovation-related activities, including efficient procedures for ethics review, contracts and IP management, and streamlined or partially automated administrative steps, for example through online forms and standardised workflows. These processes should be accompanied by adequate preparation to support the quality and safety of implementation. Training of clinical and technical staff, adaptation of workflows, IT integration where relevant, and communication with patients about the changes introduced are also organisational measures that support translation (**S5.3.1.1**).

For more guidance in this document, see sections:

3.4.1 Ensure access to the technological infrastructure necessary to perform research.

3.4.3 Establish an operational model for administrative and legal support for research development.

5.5.2 Support investigator-initiated and academic--driven research.

Cross-reference to EUCCC certification requirements
T5.2 – Areas of innovation *C5.2.2 - EUCCCs nurture both commercial and non-commercial innovations*

Implementation guidance

Investigator-initiated studies are particularly important for addressing clinically relevant questions that may fall outside the scope of commercial initiatives, including effectiveness and safety of drugs in routine practice, comparative strategies, cost-effectiveness, new indications, and questions arising beyond clinical trials phases' development. Support for clinician-led and translational projects should therefore be strengthened in order to reinforce institutional autonomy, scientific leadership and the generation of evidence that can inform policy and practice (**S5.2.2.2**).

Without institutional backing, academically driven projects may struggle to compete with industry-sponsored trials, which often have more operational resources. In addition to administrative and technical functions (covered above), institutions can support investigator-initiated research by granting funding opportunities, conducting training and mentoring, and facilitating connections to expertise in statistics, data management, trial operations, monitoring, and medical writing. Centres also have a role in establishing structures for collaboration with the CTMU and external centres.

5.5.3 Define clear intellectual property ownership rules.

Cross-reference to EUCCC certification requirements
T5.3 – Supportive infrastructure *C5.3.2 - EUCCCs have intellectual property schemes and a Technology Transfer Office*

Implementation guidance

In order to create a supportive environment for innovation while ensuring consistent IP management, the CCC should operate under clear and transparent rules for IP, whether these are delineated at institutional or national level. The legal framework defines ownership, rights of use, revenue sharing, patent management, and the conditions for transfer or licensing of results. Normative guidance clarifies responsibilities, supports collaboration, facilitates timely commercialisation, helps reduce uncertainty, and prevents disputes between researchers, clinicians, and institutions. Institutions should also specify the procedures for identifying, disclosing, assessing, protecting and managing potentially valuable results, including patentable solutions and other relevant IP. Researchers and clinicians should know when IP is applicable and when disclosure is required, who is responsible for the assessment of results, and how to engage with the relevant TTO or equivalent structure (**S5.3.2.2**).

5.5.4 Ensure access to a Technology Transfer Office.

Cross-reference to EUCCC certification requirements
T5.3 – Supportive infrastructure *C5.3.2 - EUCCCs have intellectual property schemes and a Technology Transfer Office*

Implementation guidance

TTOs may be in-house or external, but either way, they should be accessible to innovators and have the capacity to support IP management and commercialisation. Specifically, the TTO should support identification, evaluation, protection, management and transfer of research findings with potential for practical application, commercialisation or wider societal use. It should also help identify and assess commercially viable research outcomes, providing guidance on patent applications, licensing agreements, industry partnerships, and the creation of spin-offs **(S5.3.2.1).**

To support monitoring and evaluation, the TTO should keep appropriate records of interactions, transactions and project progress, and ensure that technology transfer activities are conducted in compliance with relevant legal, regulatory and institutional requirements (**S5.3.2.2**).

5.5.5 Support innovative spin-offs aligned with the institutional strategy.

Cross-reference to EUCCC certification requirements
T5.3 – Supportive infrastructure *C5.3.3 - EUCCCs support innovative spin-offs from R&D*

Implementation guidance

In the context of CCC, spin-offs can be defined as a newly created enterprises created to develop, apply or commercialise knowledge, technologies or innovations originating from research activities within the centre. Transfer contracts regulate the use and conditions of this knowledge exchange, which aims to disseminate the innovation nationally or internationally while generating professional employment opportunities at a local level.

Entrepreneurial support mechanisms include mentoring, early funding schemes, and appropriate institutional pathways and structures for its clinical implementation. Spin-off activity should also be aligned with the institution's strategy, governance arrangements and applicable legal and regulatory requirement (**S5.3.3.1**). Support for spin-offs should be embedded within the centre's broader innovation and supportive structures. The centre should ensure IP management and facilitate collaboration with TTO, and have support on legal and regulatory requirements, business development, funding mechanisms. Where relevant, the centre should ensure collaboration with other institutions' research organisations, investors, incubators, and other external partners able to support the maturation, development, and commercialisation of innovations (**S5.3.3.3**).

5.5.6 Do's and don'ts

DO	DON'T
Establish clear pathways for supporting the translation of the innovation into practice.	Rely solely on individual enthusiasm to drive implementation.
Evaluate clinical organisational feasibility before routine adoption and provide early-stage support mechanisms (e.g. seed funding).	Equate availability of technology with clinical benefit.
Ensure adequate training and workflow adaptation of the innovation.	Introduce new technologies without evaluation and organisational readiness.
Provide additional support services to investigator-initiated studies.	Allow unclear ownership structures to create internal conflicts.
Ensure awareness and access to TTO services among professionals.	Restrict IP awareness to senior investigators only.
Define clear and transparent IP ownership rules.	

5.6 Innovation networks: recommendations and implementation guidance

5.6.1. Ensure structured participation in relevant innovation networks.

Cross-reference to EUCCC certification requirements
T5.1 – Culture and commitment to innovation *C5.1.3 - Participation in innovation networks*

Implementation guidance

The candidate CCC should actively participate in institutional, regional, national, and international innovation networks aligned with its strategic priorities. This starts with assigning the responsibility for mapping and prioritising relevant networks, for example to a Director of Research and Innovation or an equivalent function, in close connection with executive governance and clinical leadership (**S5.1.3.1** and **S5.1.3.2**). The centre should have institutional mechanisms that share information about funding opportunities and external partnerships (**S5.1.3.1**), for example through the innovation unit or equivalent department described in section 5.5.1.

Relevant networks may include cooperative clinical research groups, thematic research societies, biomarker networks, or innovation consortia and networks connecting multiple CCCs (**S5.1.3.2**), for example:

- National or international cooperative research groups (e.g. GEICAM in Spain and UNICANCER in France)
- European collaborative trial groups (e.g. EORTC- European Organisation for Research and Treatment of Cancer or ECRIN – European Clinical Research Infrastructure Network)
- Network connecting multiple CCCs (EUnetCCC)
- Healthcare innovation and transfer networks (e.g. ITEMAS in Spain)

Participation should extend beyond formal membership and involve active engagement in collaborative projects, knowledge exchange, and joint development initiatives. Access to appropriate networks and collaborations strengthens institutional innovation capacity, supports the development of new research and innovation initiatives, and enables the centre both to benefit from external innovation and to share its own experience and good practices (**S.5.1.3.1** and **S5.1.3.2**). Ensuring participation in both industry-sponsored and cooperative research networks can support a comprehensive innovation portfolio, including non-commercial clinical questions. In this way, network participation can strengthen both the centre's innovation capacity and its wider contribution to the oncology ecosystem.

Indeed, participation in networks should also contribute to more equitable access to innovation across regions and across different types of institutions. The candidate CCC should therefore consider collaboration models that enable mid-sized or smaller hospitals to participate in innovative trials, support resource-adapted or frugal innovation approaches where relevant, and extend access to innovation beyond major metropolitan centres. Ensuring participation in both industry-sponsored and cooperative research networks can support a more comprehensive innovation portfolio, including non-commercial clinical questions and underrepresented populations, such as older or frail patients, patients with rare cancers, or other groups with unmet needs (**S5.2.2.1** and **S5.2.2.2**).

For more guidance in this document, see section:

5.5.1 Provide administrative support to foster invention and experimentation.

Contextualised options and experiences

In the **Institute Curie**, participation in collaborative clinical research groups is considered a central mechanism for innovation networking. Examples include national cooperative groups, European collaborative trial groups such as EORTC, and networks connecting multiple CCCs. Participation in transnational research societies, such as the European Liquid Biopsy Society, further link basic research with clinical application and support the development of new clinical research initiatives.

Institut Català d'Oncologia also sees cooperative clinical research groups as supporting a more equitable distribution of innovation. In countries like Spain, strong CCCs collaborate with mid-sized and regional hospitals to bring innovative trials beyond major metropolitan centres. This approach allows patients to access research closer to home and enables talented investigators in smaller centres to participate in clinical trials. Such networks can help balance the concentration of industry-sponsored trials in a limited number of large hospitals and promote broader, more democratic access to innovation.

5.6.2 Do's and don'ts

DO	DON'T
Map and prioritise networks aligned with institutional strengths.	Treat network membership as an end rather than a means.
Align network activities with innovation strategy.	Impose a uniform innovation network model across heterogeneous deparments.
Promote inclusive access to innovation across regions.	

6. **Prevention**

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6.1 Introduction to the EUnetCCC standards on prevention

Cancer prevention is an important pillar of the cancer continuum and sustained cancer control. EUCCCs are proactive agents in cancer prevention, not only providers of specialised treatment. To fulfil this role, the institution must implement broader primary prevention policies (addressing major risk factors such as tobacco, alcohol, diet, physical activity, and environmental exposures), conduct secondary prevention through screening and early detection – with an explicit clarification of the EUCCC's role vis-à-vis external actors and public policy frameworks, integrate tertiary prevention into survivorship care, and systematically contribute to research on prevention across the cancer continuum.

The EUCCC standards highlight that prevention activities should be targeted, prioritised, and embedded in realistic care pathways, with clear responsibilities and links to community and public health actors. This implies clarifying locally what falls under screening programmes versus early diagnosis pathways, as these can be organised differently across countries and even within regions.

The Prevention domain is closely linked with Care, Research, Governance, and Education & Training. Tertiary prevention should be operationalised through survivorship workflows, while prevention research should be aligned with the centre's overall research strategy rather than organised as a separate silo.

6.2 Summary of recommendations in the Prevention domain

Short-term implementation priorities

Define the centre's prevention scope, governance and operational ownership across primary, secondary and tertiary prevention. The centre's strategy should make it explicit what falls within the EUCCC's prevention remit versus what is the competence of the national/regional healthcare system, what is delivered directly by the centre versus through external actors and how this links to CCC cancer strategy and public policies. This should be translated into visible governance arrangements, with a designated lead or core team, clear responsibilities, and a realistic operational scope, positioning prevention as an organisational function rather than as a set of isolated activities.

Embed primary prevention into routine hospital practice through visible policy, counselling and referral. Primary prevention should be operationalised inside the centre through concrete actions directed at defined target groups such as patients, relatives and staff. This includes brief prevention counselling in routine care, practical referral options, and a smoke-free policy that is implemented as a real-world organisational policy rather than only as a formal statement.

Clarify the centre's role in screening, oncogenetics and early diagnosis, and formalise the corresponding external linkages. The centre should define whether it mainly contributes to organised screening programmes, acts as a referral centre, provides access to high-risk screening, develops specific high-risk pathways, or combines several of these roles. This positioning should be matched with appropriate links to primary care, screening coordinators, oncogenetics and other relevant external actors. Where direct contact with high-risk individuals is constrained, the model should rely on lawful GP-mediated and/or patient-mediated information pathways.

Operationalise tertiary prevention within survivorship care from diagnosis onwards. Tertiary prevention should be embedded in the centre's survivorship model, not treated as a separate activity. This means creating a shared and holistic understanding of survivorship throughout the centre, integrating tertiary prevention into routine follow-up planning, and making responsibilities visible within the care pathway. As an early implementation step, the centre should ensure that survivorship workflows already include prevention-related assessment, advice, referral and support.

Medium/long-term implementation priorities

Strengthen the prevention workforce and establish systematic update mechanisms for professionals. Prevention should progressively be embedded into broader staff training, especially for nurses and other patient-facing professionals, rather than being confined to a few specialists. The centre should also establish structured processes to keep relevant professionals informed about the availability of services and the latest evidence on screening and early diagnosis. This includes clarifying who is updated, how often, by whom, and through which channels.

Expand survivorship follow-up beyond recurrence surveillance to include late effects, comorbidities and second cancers. The centre should progressively organise survivorship care so that it also addresses prevention and early detection of treatment-related late effects, comorbidities, and second cancers in a systematic way.

Integrate prevention research into the centre's broader research strategy, define clear priorities, and establish compliant data-sharing arrangements with relevant stakeholders. Prevention research should be developed as part of the centre's overall research function and aligned with its research strategy, with a realistic and prioritised contribution to areas such as early detection and screening, identification of high-risk groups, immunisation strategies and links to tertiary prevention. In parallel, the centre should progressively establish compliant data-sharing arrangements with relevant stakeholders for primary prevention research.

Consolidate prevention as a cross-cutting function connected to care, governance, education and external partnerships. Prevention's longer-term implementation depends on formal collaboration with public health bodies, screening structures, primary care and community services, as well as alignment with the centre's broader care and training functions. This cross-cutting integration is essential to ensure that prevention becomes a stable part of the EUCCC model rather than a marginal or project-based activity.

6.3 Embedding primary prevention into the centre's operations: recommendations and implementation guidance

6.3.1 Define a primary prevention and health promotion policy at the centre level that is aligned with national/regional programmes and strategies.

Cross-reference to EUCCC certification requirements

T6.1 – Scope of prevention
C6.1.1 - EUCCCs collaborate with primary prevention policies and programmes

Implementation guidance

The centre should explicitly define to whom its primary prevention information and interventions are addressed, for example patients, relatives, staff and, where relevant, the broader community, and position these activities within national and regional prevention policies, clarifying the responsibilities of external actors. This should be reflected in actual initiatives and in a clear delineation of what is delivered by the EUCCC versus what is delivered by external actors or public policies (**S6.1.1.1**).

A concise written primary prevention policy should therefore specify target groups, types of actions, partnerships with public health bodies, and internal responsibilities for coordination and follow-up, including explicit delineation of EUCCC versus external actor responsibilities (**S6.1.1.1**).

Contextualised options and experiences

At **Centre Léon Bérard**, the priority target groups identified for primary prevention are: 1) cancer patients, 2) patients attending screening consultations, and 3) informal family caregivers and family members and 4) high-risk individuals requiring personalized prevention at the cancer center.

Monitoring and evaluation

The centre should periodically review whether it has explicitly identified to whom primary prevention information and interventions are addressed and whether activities correspond to these groups in practice (**S6.1.1.1**).

6.3.2 Coordinate the implementation of primary prevention programmes inside the centre.

Cross-reference to EUCCC certification requirements

T6.1 – Scope of prevention
C6.1.1 - EUCCCs collaborate with primary prevention policies and programmes
C6.1.2 EUCCCs enhance secondary prevention through screening

Implementation guidance

The candidate should designate a person or small core team, for example a public health scientist, to scan national and regional prevention initiatives and integrate updates into hospital governance and clinical services (**S6.1.1.1**). This coordination function should be recognisable and operational, formally linked to the centre's governance and quality structure, and used to connect hospital prevention activities with national and regional policies, governance bodies and external partners.

This coordination function should also help structure and maintain a visible prevention offer at CCC level, for example counselling and referral, oncogenetics access, and high-risk screening access, and map this offer to care pathways and external interfaces. Its role is not only to organise activities internally, but also to avoid duplication and ensure that the centre's prevention work remains aligned with national and regional policies (**S6.1.2.2**).

Contextualised options and experiences

At **Centre Léon Bérard**, referral operates bidirectionally, with both referral of high-risk individuals to the cancer centre for dedicated prevention and screening pathways, and referral of patients with a personalised prevention plan to external providers for management.

Monitoring and evaluation

The centre should periodically verify that responsibility for prevention coordination is formally assigned, visible, and linked to governance and quality structures. Monitoring should also assess whether relevant national and regional prevention updates are effectively translated into local practice and communicated to the appropriate services and professionals.

6.3.3 Embed prevention counselling into routine clinical practice.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.1 - EUCCCs collaborate with primary prevention policies and programmes* *C6.1.2 EUCCCs enhance secondary prevention through screening*

Implementation guidance

The candidate should organise education for nurses and other staff on how to engage in active counselling and provide advice on smoking cessation and other modifiable risk factors, and refer patients to appropriate prevention support, aligning with health-promoting institutions rather than duplicating their programmes (**S6.1.2.2**). Prevention counselling should be integrated into broader staff training rather than limited to screening-specific updates.

This reflects a broader organisational commitment to create a prevention culture that key clinical and nursing staff should be equipped with at least basic prevention skills to address issues such as smoking, obesity, and nutrition in routine care, especially given nurses' central role in contact with patients and relatives.

Contextualised options and experiences

The **5th Edition of the European Code Against Cancer** (ECAC) (33) is a robust evidence-based tool developed by the International Agency for Research on Cancer, World Health Organization (IARC) and has been officially endorsed by the EU commission and EU member states. The tool has been translated into the EU member languages and contains e-learning modules and resources that could facilitate training of healthcare professionals at CCC level. It can therefore serve as a shared reference for routine prevention counselling messages across staff.

Monitoring and evaluation

The centre should monitor whether prevention counselling training has been embedded into broader staff education and whether relevant professional groups, especially nurses and other patient-facing staff, are actually receiving the prevention interventions. Monitoring can also assess whether staff are aware of available referral options and whether prevention counselling is becoming visible in routine practice rather than remaining an isolated training topic.

6.3.4 Implement a smoke-free environment as a real-world policy.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.1 - EUCCCs collaborate with primary prevention policies and programmes*

Implementation guidance

The candidate should translate the smoke-free standard into daily practice by combining visible signage, practical rules (where smoking is allowed/not allowed) (**S6.1.1.2**), clarifying scope (indoors vs grounds), and ensuring accountability for enforcement.

As a medium- to long-term priority, the candidate should strengthen smoke-free implementation by ensuring organisational leadership, occupational health involvement and staff buy-in so that compliance is not limited to signage (**S6.1.1.2**).

Contextualised options and experiences

The **Centre Léon Bérard** stresses the importance of promoting a culture in which smoking is not seen as part of the working process only, and staff within the hospital understand their role-model function.

Monitoring and evaluation

Occupational health and staff input may also help assess feasibility and culture change beyond paper compliance. Simple internal review could be used to assess whether the smoke-free policy is respected in practice and whether stronger enforcement is needed.

6.3.5 Do's and don'ts

DO	DON'T
Clarify target groups and link them to concrete actions, with clear boundaries between EUCCC action and public policy / external actor responsibilities	Assume the hospital must run prevention programmes for the whole population instead of collaborating with existing public health actors.
Ensure smoke-free implementation specifies scope and enforcement ownership.	Consider 'no-smoking' signs sufficient compliance without leadership, enforcement and staff buy-in.

6.4 Secondary prevention through screening: recommendations and implementation guidance

6.4.1 Define the centre's role in population-based screening programmes and organise primary health care linkages accordingly

Cross-reference to EUCCC certification requirements

T6.1 – Scope of prevention
C6.1.2 - EUCCCs enhance secondary prevention through screening

Implementation guidance

The centre should explicitly define its role in screening and early diagnosis in relation to national and local programmes and policies. In practice, this means clarifying whether the EUCCC has established services or only access to them, and specifying which role or combination of roles it fulfils: contribution to organised screening programmes, referral centre for positive findings, high-risk screening, or promotion of participation including among patients and relatives. These choices determine infrastructure needs, workforce configuration, GP linkages, and training needs (**S6.1.2.3**).

The candidate should decide, considering national legislation, for which programmes the EUCCC has established services and where it only has access, especially with regard to oncogenetics/genetic counselling, and align infrastructure and staffing plans accordingly (**S6.1.2.1** and **S6.1.2.3**). It should also ensure referral criteria are clear, visible and operational, including when services are outsourced, to avoid overload and ensure eligible families are not missed (**S6.1.2.1** and **S6.1.2.2**).

Contextualised options and experiences

At the **Medical University of Vienna**, participation in prevention and screening is supported through dedicated cancer prevention days, addressing topics such as HPV vaccination and screening programmes. The centre also relies on specialised expertise in hereditary cancers, including multidisciplinary discussion for specific high-risk groups such as patients with neurofibromatosis.

Monitoring and evaluation

Periodic checks should verify that teams have a shared understanding of when the EUCCC has established services and when it only has access, consistent with national legislation.

6.4.2 Develop high-risk screening programmes with clearly defined groups and SOPs.

Cross-reference to EUCCC certification requirements

T6.1 – Scope of prevention
C6.1.2 - EUCCCs enhance secondary prevention through screening

Implementation guidance

High-risk screening should be operationalised by focusing on a limited number of high-impact groups rather than a broad and diffuse list of cancers. Experts from the network of European CCCs explicitly recommend focusing on clearly defined high-risk subgroups, with adequate personnel, resources and network collaborations to support that scope (**S6.1.2.4**).

Brief pathway descriptions should be developed for selected high-risk screening programmes, including lawful outreach or information mechanisms when direct contact is restricted (**S6.1.2.4**). Where privacy or data protection rules prevent direct outreach, the centre should rely on GP-mediated and/or patient-mediated information pathways with clear responsibilities. In oncogenetics, staffing, counselling, psychosocial support and guideline adherence should also be clearly defined in the operational model (**S6.1.2.2, S6.1.2.4**).

Contextualised options and experiences

At the **Medical University of Vienna**, hereditary cancer syndromes are prioritised as a high-risk subgroup. Operationalisation relied on centralised rare disease expertise, multidisciplinary discussion, and interdisciplinary collaboration.

At the **Centre Léon Bérard**, target factors to identify high-risk subgroups are the following: tobacco, alcohol, body mass index, physical activity and family history.

Monitoring and evaluation

The centre should regularly review whether the chosen high-risk groups remain matched by sufficient equipment, personnel, training, and collaborations (**S6.1.2.4**).

6.4.3 Establish processes for systematically informing healthcare professionals about the availability and latest evidence on screening and early diagnosis.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.2 - EUCCCs enhance secondary prevention through screening*

Implementation guidance

The centre should establish a formal update mechanism for screening and early diagnosis guidance, linked to pathway updates and training beyond screening teams. Monitoring and accountability for such updates should explicitly cover frequency, content, responsible parties, and training for both internal staff and external GPs (**S6.1.2.5**).

The update mechanism should therefore specify who is updated, how often, by whom, and through which channels, going beyond specialist screening teams to include nurses and other relevant professionals. Resource constraints and personnel shortages may affect capacity, but the ownership and frequency of updates should still be made explicit (**S6.1.2.5**).

Monitoring and evaluation

Monitoring efforts should verify that a formal update mechanism exists, that responsibility for it is assigned, and that the relevant professional groups are effectively covered (**S6.1.2.5**).

6.4.4 Do's and don'ts

DO	DON'T
Clarify screening role(s) and align GP linkage/ training accordingly.	Treat 'established' and 'accessible' as synonymous and assume everything must be in-house.
Use formal agreements and clear referral criteria when oncogenetics is outsourced.	Implement high-risk screening as a broad list of cancers instead of clearly defined high-risk subgroups.
Use GP/patient-mediated pathways when direct outreach is restricted.	

6.5 Tertiary prevention and survivorship: recommendations and implementation guidance

6.5.1 Align survivorship scope across the centre and clarify linkages across the health system.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.3 - EUCCCs integrate tertiary prevention into the survivorship care of their patients* *T2.5 Cancer survivorship care* *C2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment*

Implementation guidance

Shared understanding of survivorship across the centre is essential. Survivorship should be consistently framed within the centre, in alignment with national definitions, as starting at diagnosis and continuing to end-of-life. This framing should be used when planning tertiary prevention. This implies tertiary prevention starts at diagnosis and should be implemented systematically enough to be visible in daily routines (**S6.1.3.1** and **S6.1.3.2**).

As a short-term priority, the centre should apply the 'from diagnosis to end-of-life' framing consistently across services and pathways so that tertiary prevention is planned and delivered within the survivorship framework (**S6.1.3.1, S6.1.3.2, S2.5.1.1** and **S2.5.1.2**).

Monitoring and evaluation

The centre should check whether tertiary prevention is visible in pathways or only mentioned in general terms (**S6.1.3.1** and **S6.1.3.2**).

6.5.2 Embed tertiary prevention into routine survivorship workflows.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.3 - EUCCCs integrate tertiary prevention into the survivorship care of their patients* *T2.5 Cancer survivorship care* *C2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment*

Implementation guidance

Operationalising tertiary prevention requires embedding it in individual follow-up plans and routine assessments. Systematic needs and risk assessment along the pathway can be implemented using validated questionnaires (or equivalent validated tools) (**S6.1.3.2, S2.5.1.3** and **S2.5.1.4**).

The centre should operationalise tertiary prevention by embedding it in individual follow-up plans, bringing together medical consequences, psychosocial aspects and rehabilitation needs (**S6.1.3.2** and **S2.5.1.2**), supported by systematic needs/risk assessment using validated questionnaires (or equivalent validated tools).

Monitoring and evaluation

The centre should monitor implementation of systematic assessments, for example coverage or completion of the validated questionnaire or equivalent tool along the pathway (**S6.1.3.2, S2.5.1.3** and **2.5.1.4**)

6.5.3 Expand survivorship follow-up beyond recurrence.

Cross-reference to EUCCC certification requirements
T6.1 – Scope of prevention *C6.1.3 - EUCCCs integrate tertiary prevention into the survivorship care of their patients*

Implementation guidance

Survivorship follow-up should encompass early detection of late effects/comorbidities and secondary cancers (**S6.1.3.1** and **S6.1.3.2**), not only on recurrence. The candidate CCC should develop strategies or protocols to prevent cancer-related complications and the adverse effects of anti-cancer and symptomatic treatments, in order to improve quality of life throughout the disease trajectory and reduce long-term sequelae in survivors.

Contextualised options and experiences

At the **Medical University of Vienna**, paediatric long-term follow-up consultations span all side effects across multiple areas, including neurology, cardiovascular health and screening for secondary malignancies. For adult patients, there is, for example, a cardio-oncology service.

At **Centre Léon Bérard**, a formalised survivorship pathway addresses a broad set of late effects and comorbidities beyond recurrence follow-up, including cardiovascular and renal comorbidities, nutritional issues such as malnutrition, overweight and obesity, physical activity, fasting blood glucose, 25-hydroxyvitamin D deficiency, cognitive disorders, musculoskeletal disorders, mood disorders, sexual health issues and return to work.

Monitoring and evaluation

Check whether tertiary prevention is visible in pathways and not only mentioned in general terms (**S6.1.3.1** and **S6.1.3.2**), and monitor implementation of systematic assessment (e.g. coverage/completion of the validated questionnaire/tool along the pathway) (**S6.1.3.2**).

6.5.4 Do's and don'ts

DO	DON'T
Start survivorship/tertiary prevention at diagnosis and implement it 'systematically enough' to be visible in routine practice.	Implement survivorship as if it starts only after active treatment.
Include late effects/comorbidities and second cancers in follow-up.	Focus follow-up only on recurrence and omit broader prevention needs.
Anchor tertiary prevention operationally in an individual follow-up plan and use it to structure referrals/advice/support.	Use wording that implies the CCC guarantees access to rehabilitation/return-to-work services that are outside hospital remit.

6.6 Research on prevention: recommendations and implementation guidance

6.6.1 Contribute to research in cancer prevention in alignment with the Centre's research strategy.

Cross-reference to EUCCC certification requirements

T6.2 – Research on prevention
C6.2.1 - EUCCCs contribute to research on prevention

Implementation guidance

Prevention research should be embedded in the overall research governance and processes of the EUCCC, not organised as a silo. It should therefore be integrated with the CCC research strategy and implemented through the same strategic, organisational and infrastructural foundations as other Research activities (**S6.2.1.1**).

This contribution may cover early detection and screening, identification of high-risk groups, immunisation strategies, and links to tertiary prevention, with the EUCCC acting either as a lead or as a participant in multicentre studies (**S6.2.1.1**). The candidate should adopt a realistic and prioritised approach, focusing on areas where it has the expertise, partnerships, access to populations or strategic relevance to contribute meaningfully.

Prevention research should be connected to the Research domain and supported through its infrastructures and partnerships rather than developed as a separate prevention silo. Collaboration with external partners may substitute for fully in-house capacity where relevant (**S6.2.1.2**). The centre should define participatory/co-design approaches (patient-public involvement, PPI) are used, the level should be clarified (consultation vs co-design vs patients as co-researchers) and implemented consistently (**S6.2.1.1** and **S6.2.1.2**).

For more guidance in this document, see section:

3.5.2 Ensure comprehensive cancer research for tumour types, from the patient pathway phases perspective, in alignment with the EUCCC strategy

Monitoring and evaluation

Monitoring should also verify that the centre's contribution is visible either as lead or participant in collaborative or multicentre research and that the portfolio remains aligned with the strategy rather than dispersed across numerous unrelated topics.

6.6.2 Facilitate compliant data sharing with stakeholders for primary prevention research.

Cross-reference to EUCCC certification requirements
T6.2 – Research on prevention *C6.2.1 - EUCCCs contribute to research on prevention*

Implementation guidance

The candidate should establish and maintain functional collaborative structures with stakeholders relevant to primary prevention research, including cancer registries where available, and define the corresponding data-sharing procedures, roles, and responsibilities (**S6.2.1.2**). The objective is to make data sharing operational, lawful and sustainable over time, with clear accountability and interfaces between the EUCCC and external data holders or partners.

Data sharing with relevant stakeholders for primary prevention research, including cancer registries or equivalent population-based data sources, should be facilitated in compliance with applicable regulations, with lawful pathways and clear responsibilities where privacy/data constraints apply (**S6.2.1.2**).

Where regulatory or ethical constraints limit data sharing, the centre should document the applicable pathway and clarify ownership, responsibilities and mitigation arrangements rather than leaving these issues implicit.

Monitoring and evaluation

Verify data-sharing is compliant and that responsibilities are clear (**S6.2.1.2**), including in contexts with privacy constraints.

6.6.3 Do's and don'ts

DO	DON'T
Define and operationalise the level of PPI and co-design.	Treat data-sharing as purely technical without clear ownership and regulatory compliance.
Integrate prevention research into the EUCCC research strategy and avoid a prevention-only silo.	
Use researcher-driven collaboration mechanisms and, where relevant, involve non-clinicians.	

7. Education and training

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7.1 Introduction to the EUnetCCC standards on education and training

Education and training are foundational to the functioning and long-term excellence of an EUCCC. Rapid advances in cancer biology, diagnostics, treatments and research methodologies require centres to ensure that all professionals involved in prevention, care, research and innovation remain up-to-date in their knowledge and competencies. In this context, the EUCCC should ensure that structured, equitable and sustainable mechanisms are in place to develop, maintain, and assess competencies across all relevant professional groups, including medical specialists, nurses, other specialists and allied healthcare professionals, research and administrative staff. By strengthening knowledge, skills and shared concepts, the EUCCC supports the delivery of high-quality, safe and patient-centred care, promoting an interdisciplinary culture in which professionals are prepared to work effectively across specialties, within MDTs and integrated practice units, in line with the complexity of contemporary cancer management and the translational nature of cancer care. Beyond professional development, education in EUCCCs also has a broader mission: to support knowledge dissemination to patients, their families, and the general public.

Implementation of the EUCCC standards should be supported by organisational commitment and participation in governance mechanisms. Education and training should cover the different areas of the patient pathway, emerging scientific knowledge, research methodologies, clinical trials design and new technologies, patient-centred approaches – including patient communication and shared decision-making, and patient empowerment at different stages of the patient journey and at different levels of the centre. This focus on holistic education and training strengthens not only individual competencies, but also the integration of care, research, innovation and quality improvement across the centre.

7.2 Summary of recommendations in the Education and Training domain

Short-term implementation priorities

Define an educational strategy aligned with the EUCCC's institutional goals. The strategy should combine top-down priorities aligned with EUCCC strategic objectives with bottom-up input from professional groups, and should include protected time, equitable access to training and, recognition mechanisms such as certificates, credits or structured professional development levels.

Establish a task force responsible for education planning, integrating the patient perspective. This central coordination structure should guide the educational strategy, support quality assurance, assess training needs, monitor the education portfolio, and ensure coordination across departments. It should support multidisciplinary collaboration among healthcare professionals, researchers and staff in different roles, and should include or maintain formal links with relevant patient groups.

Co-create with patients a comprehensive overview of formal education programmes. This should include SOPs for the development, documentation and delivery of formal education programmes, with clear objectives, target groups, content, documentation requirements and evaluation methods. The overview should be supported by a central e-tool or repository for registration, reporting and follow-up, making it possible to identify what activity training is available, for whom, with what objectives, and where overlaps or gaps exist.

Provide structured patient education across the patient pathway. Education activities should cover treatment at different stages of the cancer journey. Patient and caregiver education should be integrated into routine care processes and should support informed and shared decision-making, self-care and the identification of warning signs.

Ensure that education is practice-based and relevant to translational integration. Training activities should bring together healthcare professionals, researchers, staff in relevant organisational, IT and data-related roles, remaining closely connected to daily clinical practice and research and operational workflows.

Establish collaboration with external partner organisations. Such networks can broaden access to cancer-related education and strengthen the comprehensiveness of training opportunities across professional groups. The candidate EUCCC should define SOPs or equivalent arrangements clarifying roles, responsibilities and timelines for implementation and follow-up.

Medium/long-term implementation priorities

Review and update educations actions plans regularly in response to evolving clinical, research, organisational and patient-related needs, and ensure that they remain aligned with the EUCCC's institutional goals.

Identify relevant patient groups and establish structured mechanisms for patient involvement in education planning and co-creation. This mechanism should include defining how patient needs and preferences are collected, how they are integrated into participation in strategic planning, programme design and educational materials development, and how feedback is used to improve content over time. The level of patient involvement should be adapted to the institution's level of maturity.

Ensure balanced attention across all phases of the patient pathway. Educational activities should include prevention, treatment, supportive and palliative care, and survivorship.

Offer educational activities using a range of delivery formats and develop structured cross-disciplinary platforms. Learning modalities should be adapted to different learning objectives, target groups, professional roles and organisational needs. These may include early-career programmes, joint seminars, mentoring schemes or shared learning initiatives. This variety can enable clinicians, researchers and other professionals to understand each other's methodologies and build a shared language. Education materials need to be reviewed for clarity, accessibility and health literacy, for example through patient reading groups, review committees or other structured feedback processes.

Expand structured collaboration networks with relevant external partners at local, national and international levels, recognising that different educational needs, such as patient education, specialised professional training or translational learning, may require different formats and scales of collaboration.

7.3 Setting up an integrated education planning and strategy: recommendations and implementation guidance

7.3.1 Build an educational strategy in line with institutional objectives.

Cross-reference to EUCCC certification requirements

T7.1 – Integration of education and training into care
C7.1.1 - EUCCCs provide comprehensive cancer-related education and training

T7.2 – Organisation of training and education
C7.2.1 EUCCCs offer diverse educational formats

Implementation guidance

The candidate EUCCC should define an educational strategy with clear goals, priorities and implementation mechanisms aligned with institutional objectives (**S7.1.1.3**). The strategy should reflect the multidisciplinary and translational nature of cancer care and support collaboration across specialties, professional groups, and organisational functions. It should combine both top-down approaches that align with strategic goals of the centre and bottom-up approaches integrating department, professional groups, and the perspectives of specific functions to ensure that education programmes reflect operational realities, foster professional ownership, and support the long-term sustainability of learning activities, while still maintaining overall strategic coherence (**S7.1.1.2** and **S7.2.1.2**).

Implementation of the strategy should be supported by a training plan defining priorities, target groups, formats, responsibilities, timelines and resources. The candidate EUCCC should also seek to ensure protected time and equitable access to training across professional groups, so that participation is feasible in practice and aligned with institutional expectations. Systematising these efforts helps ensure that continuous training is sustained and effective, rather than depending solely on informal staff interest.

Contextualised options and experiences

In **Vall d'Hebron Barcelona Campus Hospitalari**, if one of the strategic goals is, for instance, the implementation of AI in clinical practice, an activity addressing this topic should be included in the education programmes covering the use of AI tools, their limitations, and related ethical and legal considerations. This ensures that training directly supports the centre's strategic priorities while keeping staff prepared for emerging practices. Moreover, supervisors in each unit can conduct annual surveys to identify staff learning needs. Some requirements may be addressed through a structured course or modules, while others can be met with a specific activity for the subject such mentoring, shadowing, or short workshops, depending on the context.

7.3.2 Coordinate education planning through a central structure that includes partnerships with patient groups.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care *C7.1.1 - EUCCCs provide comprehensive cancer-related education and training* *T7.2 – Organisation of training and education* *7.2.2 EUCCCs involve patients in education programme development*

Implementation guidance

The candidate EUCCC should establish a dedicated group or task force responsible for coordinating education planning, overseeing the educational strategy, supporting quality assurance process and review of training needs, maintaining oversight of the education portfolio and facilitating the coordination across departments. This central coordination supports the development of a coherent and integrated sequence of learning activities across the centre and ensures that learning initiatives achieve specific goals, are aligned, and reinforce each other, thereby reducing the risk of fragmented or siloed efforts (**7.1.1.3**).

This structure should include or establish formal links with patient associations or advocacy groups to co-create education programmes with them (**S7.2.2.1**). Relevant patient groups should be identified, along with clear coordination mechanisms, such as designated roles or units responsible for facilitating and supporting patient involvement (**7.2.2.2**). While voluntary or informal participation can contribute valuable engagement, establishing more structured arrangements can help strengthen continuity and maximise the impact of education activities.

Contextualised options and experiences

At the **Vall d'Hebron Barcelona Campus Hospitalari**, a dedicated unit was created to manage contact with patient associations and advocacy groups. This unit consists of around eight professionals, mainly nurses and psychologists, who work specifically on the connection with patients and patient organisations. They serve as the contact point for patient involvement in educational activities and handle patient feedback and complaints, ensuring structured collaboration without relying solely on clinicians.

Monitoring and evaluation

Monitoring and evaluation may include the establishment of a multidisciplinary education committee with representatives from different areas (clinical, research, IT, and education teams) to review and update training activities.

7.3.3 Establish and maintain a comprehensive overview of formal education programme

Cross-reference to EUCCC certification requirements

T7.1 – Integration of education and training into care
C7.1.1 - EUCCCs provide comprehensive cancer-related education and training

Implementation guidance

The candidate EUCCC should establish and maintain a comprehensive, structured overview of the formal education programme offered across the organisation. This objective can be achieved by developing and compiling SOPs for planning, documenting and delivering formal education programmes. These should define clear objectives, target groups, and content. Moreover, the SOPs should specify earning activities are documented, information is maintained, education programmes are evaluated, and competencies are recognised (e.g. through certificates, diplomas, or credits). Templates for programme descriptions, educational materials and evaluation forms can also help structure and standardise this content.

This repository of SOPs, templates and resources should function as a central reference for the available learning activities available across the centre and make it possible to identify what training is available, for whom, with what objectives and how it contributes to institutional priorities (**S7.1.1.1** and **S7.1.1.3**). The candidate should review this overview regularly, for example on an annual or semesterly basis, to assess whether education activities remain relevant and adequately aligned with institutional priorities (**S7.1.1.3**). A particular focus is needed on regularly reviewing long-standing education activities to ensure continued relevance and alignment with evolving strategic objectives.

The candidate EUCCC should use a central digital platform to register training activities and assign responsibility for maintaining and updating the overview. The system should support regular updatesand enable the identification of overlaps, gaps and opportunities for improvement. Establishing a central IT system can reduce the need for manual administrative work when collecting information on training activities.

Contextualised options and experiences

The **Vall d'Hebron Barcelona Campus Hospitalari** library maps internal and external training initiatives and disseminates information to key professionals or the whole institution via e-mail and through the library website. This includes training opportunities offered within the hospital, externally, or by industry partners.

Monitoring and evaluation

The candidate EUCCC should develop an IT system for monitoring and measuring training activities, with particular attention to their alignment with institutional strategic goals (**S7.1.1.2** and **S7.2.1.2**). Monitoring may include participation metrics, such as the number and profile of staff attending each training activity. Evaluation may also include assessment of knowledge and skills through methods such as pre- and post-training tests, practical assessments, competency checklists or combined self- and supervisor assessments, where relevant (**S7.2.1.3**).

7.3.4 Co-create educational programmes with patient perspectives.

Cross-reference to EUCCC certification requirements
T7.2 – Organisation of training and education *7.2.2 EUCCCs involve patients in education programme development*

Implementation guidance

The candidate EUCCC should involve patients and caregivers in identifying education needs for both professionals and patients, as well as preferred formats for its training (**S7.2.2.2**). The involvement could be done through the dedicated group or task force, which could be responsible for developing specific guidance on how patients can be involved in the design of education programmes. The centres could develop SOPs on how patients can be involved in the development of educational materials.

Collaboration with patient associations or advocacy groups should be considered to integrate patient involvement in different steps of the educational planning. Patient involvement could range from participation in the definition of educational strategies to broader engagement across co-creation of educational activities development, helping to ensure that important patient needs and perspectives are not overlooked. (**S7.2.2.1** and **S7.2.2.2**).

Patient perspectives could be gathered through different approaches, in group (e.g. workshops, focus groups) or individually (e.g. interviews or surveys), in either face-to-face or online formats. The candidate EUCCC should ensure that this input is meaningfully integrated in a transparent manner into educational programme development and, where relevant, into the design of educational materials, as this can strengthen trust and enhance the practical impact of patient contributions (**S7.2.2.2**). Education materials should be reviewed and updated regularly to maintain relevance and alignment with identified needs.

Contextualised options and experiences

In the **Vall d'Hebron Barcelona Campus Hospitalari,** three working commissions have been established: one for adult oncology, one for adult haematology, and one for paediatric oncology. The composition of each commission is split 50/50 between multidisciplinary professionals and patient representatives. The commissions discuss strategic topics, training programmes, staff education needs, and patient requirements, ensuring that education and services are co-designed with all stakeholders. In addition, patient suggestion boxes are placed throughout the hospital where patients can share their thoughts and express their needs. In addition, patients receive a text message after hospital visits to elicit feedback. These mechanisms are used to systematically identify patient needs and inform education and service development.

Monitoring and evaluation

Patient feedback should be used, where relevant, to adjust and improve training content over time. Monitoring mechanisms may include patient-reported measures (PREMs/PROMs) or post-session surveys (**S7.2.2.2**).

7.3.5 Do's and don'ts

DO	DON'T
Establish a central coordination structure to oversee education planning, quality assurance and follow-up across departments.	Allow education activities to develop independently across departments without coordination or shared oversight.
Align the educational strategy with the EUCCC's strategic goals. Combine top-down strategic priorities with structured bottom-up needs assessments from departments and professional groups.	Rely only on top-down planning without incorporating input from frontline professionals.
Retain and improve successful education activities rather than redesigning them.	Maintain long-standing education activities automatically without reviewing their relevance to current institutional priorities.
Maintain a central overview or repository of formal education activities with clear documentation and assigned responsibility for updates.	Assume that education activities automatically improve practice without monitoring participation, outcomes or relevance.
Involve patients and patient organisations in identifying education needs and education programme development.	Gather patient feedback without explaining how it has influenced programme development or updates.

7.4 Multidisciplinary education and continuous training: recommendations and implementation guidance

7.4.1 Build supervisory and mentoring capacity for translational integration.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care *C7.1.2 - EUCCCs support multidisciplinary integration of research and clinical practice*

Implementation guidance

The candidate EUCCC should build supervisory and mentoring capacity among staff with experience in both research and clinical practice. Supervisors and mentors should be prepared to guide professionals working across research and care settings, and support learning that integrates clinical pathways with research methodologies (**S7.1.2.1** and **S7.1.2.3**).

The candidate EUCCC should also ensure that trainers, supervisors and mentors involved in multidisciplinary education have both relevant subject-specific expertise and, where appropriate, teaching, supervision or facilitation skills suited to the educational methods used. The development of teaching skills should be supported by train-the-trainer initiatives and may be considered a short-term priority. Individual training plans and leadership development plans may also support the strengthening of managerial and clinical leadership skills across staff levels (**S7.1.2.3**).

Monitoring and evaluation

Monitoring may evaluate the number and profile of staff acting as supervisors or mentors and their participation in train-the-trainer initiatives.

7.4.2 Strengthen staff communication skills.

Cross-reference to EUCCC certification requirements
T7.2 – Organisation of training and education *C7.2.2 EUCCCs involve patients in education programme development*

Implementation guidance

The candidate EUCCC should provide structured communication training for health-care professionals in order to improve dialogue with patients, support shared decision-making, and adapt communication to diverse patient needs and context (**S7.2.2.2** and **S2.2.1.7**). Communication can also support more effective patient education training and promote shared decision-making. In this context, training may include workshops, role-play, simulation or other practice-based formats using real or representative cases.

Contextualised options and experiences

In **Vall d'Hebron Barcelona Campus Hospitalari** nursing professionals use a structured checklist to ensure that all relevant patient education sessions are systematically offered. During patient encounters, nurses must confirm in the system that available training opportunities have been presented to the patient.

Monitoring and evaluation

Indicators to monitor the effectiveness of communication training could include the number of patients reporting informed and shared decisions in their treatment plans.

7.4.3 Provide structured patient education across the patient pathway.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care
C7.1.4 – EUCCCs educate patients and caregivers for active participation in care

Implementation guidance

The candidate EUCCC should ensure that training activities for patients cover the full patient pathway, including treatment, palliative and supportive care, and symptom control, from diagnosis to end-of life and tertiary prevention including survivorship (**S7.1.4.1** and **S7.1.4.3**). Ensuring balanced attention across all phases of the cancer pathway – including prevention and survivorship, can further strengthen the comprehensiveness and relevance of education programmes.

Patient and caregiver education should be integrated into daily care processes (e.g. during their inpatient and outpatient stay) and should support informed and shared decision-making, self-care, identification of warning signs (**S7.1.4.1** and **S2.2.1.5**).

Maintaining an overview of training activities, as described in the education programme, can support identification of coverage across relevant concepts, professional groups and stages of the patient pathway (**S7.1.4.3**). Educational materials should be reviewed and updated regularly to maintain relevance and alignment with patient groups, needs and context (**S7.1.4.2**).

Contextualised options and experiences

The **Medical University of Vienna** runs a formal programme called the 'Cancer School', where structured presentations and excursions are offered to patients and interested citizens over a six-month period. Sessions include explanations from biologists on how cancer develops, overviews of different cancer types, and disease-specific treatment information. Patients may visit clinical departments, such as radiotherapy, where equipment and treatment principles are demonstrated. The programme has been running for more than 10 years and is refined annually based on patient feedback and identified needs, such as sessions dedicated to young cancer patients.

In **IRCCS**, patient education and support are delivered through structured programmes. These include educational meetings on radiotherapy (e.g. ULISSE project), informational conferences on cancer treatments, symptom and pain management, and research studies in oncology, nutrition counselling, small-group psychological support courses for patients and caregivers (e.g. Itaca), dedicated psychological support for families communicating cancer to children (e.g. Giocoparola), and cultural or spiritual support for patients with different linguistic or religious contexts. Together, these initiatives support informed decision-making, self-care, and quality of life throughout the patient pathway.

Monitoring and evaluation

Evaluation mechanisms may include patient-reported measures, post-session surveys or other tools assessing whether educational activities are perceived as understandable, relevant and useful.

7.4.4 Promote education that supports integration of research and clinical practice.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care *C7.1.1 EUCCCs provide comprehensive cancer-related education and training* *C7.1.2 - EUCCCs support multidisciplinary integration of research and clinical practice*

Implementation guidance

The candidate EUCCC should promote learning activities that actively support the integration of research and clinical practice, fostering collaboration across professional tracks rather than addressing them in isolation (**S7.1.2.2**). Education should help professionals understand how research and care inform one another within the EUCCC model and should contribute to a shared culture of translational integration.

Training activities should combine theoretical knowledge with practical application and multidisciplinary perspectives to strengthen their relevance and support better integration between research and care (**S7.1.2.3**). These activities should coordinated with the education unit, supporting alignment with the institutional strategy and ensuring that education initiatives are coherent and mutually reinforcing across departments (**S7.1.1.2, S7.2.1.2** and **7.1.1.3**).

To ensure practical relevance, including evidence interpretation, training should be closely connected to daily clinical and research workflows (**S7.1.2.3**). This may include training clinicians in research methods used across different types of studies, including basic, translational, clinical and real-world data research, while also supporting researchers in understanding the clinical trial pathway, patient pathways, and decision-making processes relevant to cancer care.

Framing education around concrete situations, shared cases and operational challenges can strengthen the connection between education, research and service delivery, particularly in multidisciplinary settings (**S7.1.2.3**).

7.4.5 Strengthen coordination across domains.

Cross-reference to EUCCC certification requirements

T7.1 – Integration of education and training into care
C7.1.2 - EUCCCs support multidisciplinary integration of research and clinical practice

Implementation guidance

The candidate EUCCC should ensure coordination between education, research, clinical, and IT departments when planning and delivering education activities that support multidisciplinary and translational integration (**S7.1.2.2**). Strong coordination across departments and institutions can enhance the effectiveness of multidisciplinary education initiatives and support coherent and coordinated education activities (**S7.1.2.1**).

Contextualised options and experiences

The **Medical University of Vienna** established a 'Young EUCCC' initiative aimed at Master's students, PhD students, early postdocs from laboratory research, and clinical residents. Through seminars, workshops, and joint activities, participants from research and clinical backgrounds meet and interact. The programme includes training on research methodologies, such as clinical trial methodology for researchers and laboratory methods for clinicians, as well as sessions on topics like big data analysis. The initiative creates a platform for interaction and helps develop a shared understanding of methodologies across domains.

At **Vall d'Hebron Barcelona Campus Hospitalari**, an oncological commission may include nurses, doctors, management representatives, and quality staff who meet to review education programmes and training indicators from the previous year. The commission discusses the results and brings consolidated recommendations to the hospital's strategic board to ensure that education and training are included in the multi-year strategic planning cycle. The process may follow a participatory methodology involving professionals from different disciplines as well as patient and governance representatives.

7.4.6 Do's and don'ts

DO	DON'T
Support trainers, supervisors and mentors through train-the-trainer initiatives and teaching or facilitation skills development.	Expect staff to engage in education and training without protected time or organisational support.
Provide structured communication training for healthcare professionals to support patient communication and shared decision-making.	Assume that subject expertise alone is sufficient to supervise or mentor multidisciplinary learning.
Deliver structured patient education across the full cancer pathway, including treatment, palliative and supportive care, and survivorship.	Treat communication as an informal skill that does not require structured training.
Identify patient needs in collaboration with patient representatives, and design the training programmes accordingly.	Rely solely on theoretical or discipline-specific teaching without linking it to practice.
Adapt patient education to different patient groups, including literacy, language, cultural context and specific clinical or psychosocial needs.	Plan multidisciplinary education without department or institution coordination or shared responsibility.
Promote education activities that bring together research and clinical professionals and help them understand how research and care inform one another.	

7.5 Diverse educational formats: recommendations and implementation guidance

Cross-reference to EUCCC certification requirements

T7.1 – Integration of education and training into care
C7.1.4 – EUCCCs educate patients and caregivers for active participation in care
T7.2 – Organisation of training and education
C7.2.1 – EUCCCs offer diverse educational formats

7.5.1 Offer educational courses, modules or sessions using a variety of delivery methods.

Implementation guidance

The candidate EUCCC should offer educational activities using a range of delivery methods adapted to different learning objectives, target groups, professional roles and organisational needs. Diverse formats can help increase accessibility, relevance and engagement, and may support more effective learning than reliance on a single educational approach.

Formats may include lectures, e-learning, interactive workshops including professionals from different departments, real case-based discussions, role-play, simulation of day-to-day workflows or interventions and other practice-based or digital learning methods. For patients and caregivers, relevant formats may also include group sessions, one-to-one education sessions, and preparatory or simulation-based experiences. Interactive and scenario-based formats may be particularly useful when the aim is to strengthen the connection between education and daily clinical, research or patient-facing practice (**S7.2.1.1**).

Where relevant and feasible, educational formats and materials should also be adapted to different audiences and accessibility needs, including language and cultural background, health literacy, digital literacy, cognitive limitations, and emotional burden (**S7.1.4.3**).

Contextualised options and experiences

Vall d'Hebron Barcelona Campus Hospitalari uses virtual reality glasses for both professional training and patient education. For young surgeons, virtual reality is used to practise surgical procedures. For patients, including children, virtual reality is used to simulate procedures in advance, for example before imaging examinations or surgery, to show what will happen and reduce uncertainty.

Vall d'Hebron Barcelona Campus Hospitalari has also developed simulation units where professionals train in realistic, immersive scenarios. These units are used not only for surgical teams but also for research staff, and patients may be integrated into selected sessions.

7.5.2 Do's and don'ts

DO	DON'T
Use diverse educational formats tailored to the target group, topic and intended learning outcome.	Use formats that are difficult to access or understand for the intended audience.
Adapt educational formats to accessibility needs, including language, cultural background, health literacy, digital literacy, and emotional burden.	Introduce technology-driven formats without a clear educational purpose.

7.6 Networks for comprehensive cancer-related training: recommendations and implementation guidance

7.6.1 Establish collaboration networks to support education and training.

Cross-reference to EUCCC certification requirements

T7.1 – Integration of education and training into care
C7.1.3 - EUCCCs establish a network for comprehensive cancer-related training

Implementation guidance

The candidate EUCCC should establish and maintain structured collaboration networks with relevant external partners that can support comprehensive cancer-related education and training. These partners may include universities and training centres, research institutions, scientific societies, healthcare providers, and community or patient organisations (**S7.1.3.1**).

Such networks strengthen access to cancer-related education and contribute to the comprehensiveness of training opportunities across professional groups (**S7.1.3.1**). External partners should be selected and prioritised according to their relevance to the EUCCC's educational objectives, the added value they provide, and their ability to contribute to high-quality and sustainable training opportunities.

Collaboration models may vary across countries. In settings where access to formal university-based education is limited or costly, EUCCC-based initiatives may play a complementary or compensatory role in ensuring access to relevant training.

Contextualised options and experiences

Every two years, **Medical University of Vienna** organises a Cancer Research Meeting where PhD students present their research to clinicians, and clinicians present clinical research to researchers. International experts are invited to deliver lectures, creating interactions between research and clinical communities at national and international level.

Candiolo Cancer Institute FPO-IRCCS has established formal agreements with selected universities to enable students to undertake curricular internships within the institution. These placements provide opportunities for hands-on training in cancer care, research, and related support services, and may also contribute to the development of final dissertations or thesis projects. This collaboration helps strengthen links between academic education and practical experience within a comprehensive cancer setting.

7.6.2 Clarify roles and responsibilities within education networks.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care *C7.1.3 - EUCCCs establish a network for comprehensive cancer-related training*

Implementation guidance

SOPs for network management and communication should be developed, assigning a clear responsibility for managing education and training collaborations and ensuring that the roles, responsibilities, and expectations of partners involved in education and training networks are clarified at an early stage. A designated coordinator should be appointed to organise, schedule, and track all collaborative training activities.

Clearly defined responsibilities support sustained engagement by enabling regular communication, effective follow-up, and shared ownership among partners (**S7.1.3.1**). Effective communication skills are important to ensure a mutual understanding across diverse institutional and professional partners (**S7.1.1.3**). Where appropriate, collaborations may be supported by formal agreements, workplans, or clearly defined contact points.

7.6.3 Maintain an overview and follow up on collaboration activities.

Cross-reference to EUCCC certification requirements
T7.1 – Integration of education and training into care *C7.1.3 - EUCCCs establish a network for comprehensive cancer-related training*

Implementation guidance

The candidate EUCCC should maintain an overview of external contributors and joint education activities and follow up on collaboration agreements. This overview should support the coordination of joint activities and help identify whether collaborations continue to respond to educational needs and institutional priorities (**S7.1.1.2** and **S7.2.1.2)**. Collaborations should be reviewed periodically in order to assess whether they remain relevant, effective and aligned with the objectives of the network. Regular follow-up can support sustained engagement and allow adjustment of collaborations when needs, objectives or context change (**S7.1.3.2**).

Where relevant, centres may also maintain a repository of educational materials and resources shared across network partners. This may include an online library accessible through internal systems such as an intranet and, where appropriate, through restricted external access for collaborating partners.

Monitoring and evaluation

Monitoring may include the number and type of collaborative education activities, participation across professional groups, and the satisfaction of participants and partners (**S7.2.1.3**). It may also include outputs resulting from the network, such as shared educational materials, joint publications, shared protocols, or new clinical or research initiatives.

7.6.4 Do's and don'ts

DO	DON'T
Identify and prioritise partners according to their relevance, added value, and shared goals.	Continue collaborations without reassessing their value or fit with current needs.
Clarify roles, responsibilities and expectations at the outset of collaborations.	Duplicate resources across partners without coordination or shared access mechanisms.
Assign a coordinator or responsible unit to manage education and training collaborations.	
Review collaborations periodically to assess whether they remain relevant, effective and aligned with institutional priorities.	

Conclusions

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The EUnetCCC JA's raison d'être is, ultimately, to reduce inequalities in cancer outcomes across countries and territories and to strengthen equitable access to high-quality, integrated and evidence-based cancer care. The set of standards for EUCCCs, developed and validated by dozens of European experts over the course of several years under the auspices of two successive Joint Actions – CraNE and EUnetCCC, establish a demanding bar for certification. Centres are expected to demonstrate excellence, not only in cancer care, research, and education, but in their seamless integration along patient pathways, throughout the health system, and across borders. This vision represents a fundamental shift, not only from the perspective of centres, but also in terms of collective European action in health care, which is pushing the horizon beyond consensus-building and standards-setting into the field of implementation.

If the set of standards for EUCCCs is an exacting answer to the question of what an EUCCC is, the 7DG is a first approximation to the question of how this transformation will occur. It is conceived as a practical guide for organisational development towards the EUCCC model, translating the set of criteria and standards for EUCCCs into a structured implementation process. Developed through the contributions of CCCs, centres of excellence, and other institutions across Europe, the document reflects learning from diverse institutional and healthcare contexts and is strengthened by its links to other EUnetCCC JA activities and European initiatives like JANE2. Its practical orientation fills an important gap, identifying what needs to be established across different areas, including foundational elements and necessary resources, concrete recommendations and a prioritisation of actions in the short, medium and long term. Combining pragmatic implementation guidance with contextualised examples and experiences from different types of centres and healthcare settings, it supports the translation of general principles into operational decisions.

At the same time, the 7DG should be regarded as an evolving tool. Further development is still needed to break down the implementation guidance into itemised steps, to distinguish between essential versus desirable recommendations, and to incorporate highly relevant cross-domain topics, such as IT systems and patient involvement. These areas, and others, will be further explored over the course of the EUnetCCC Joint Action, integrating feedback from candidate centres and patients, and further strengthening its adaptability to diverse candidate profiles. Overall, the 7DG should be seen as a collaborative, adaptable and practice-oriented guideline, designed to support different centres in a shared process of capacity-building, alignment and progressive transformation towards a more comprehensive, connected and sustainable European comprehensive cancer centre model.

Glossary

Work in progress, link will follow

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ANNEX 1.
Set of criteria and standards for EU Comprehensive Cancer Centres EUnetCCC. Updated version (March 2026)

The entire document, including the domains, topics, criteria and standards, as well as the suggested evidence for each standard, is accessible via the following links:

Publicly accessible: https://assessment.eunetccc.helict.eu/EUnetCCC-Set_of_Criteria_and_Standards-March2026.pdf

EUnetCCC portal (a central collaboration platform): https://eunetccc.eu/files/resources/2026/May/06/eunetccc-set-of-criteria-standards-for-euccc/document-1778065448704-EUnetCCC_Set_of_Criteria_-_Standards_for_EUCCC_March_2026--1-.pdf.

DOMAIN	Topic	Criteria	Standard
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.1 - The EUCCC has a governing body responsible for its overarching strategy, including care, research, and education. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.2 - The institutions forming the EUCCC are distinctly outlined, and their roles within the governing body are specified.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.3 - If the EUCCC is a consortium of multiple legal entities, there are formal agreements in place that define the collaboration terms among these entities.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.4 - The EUCCC's governing body includes senior representatives directly responsible for the area of cancer diagnosis, care, research, and education.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.5 - The EUCCC governance model emphasises clinical coordination, ensuring quality care across tumour groups, organisational boundaries, and the entire patient pathway.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.6 - The EUCCC governance structure ensures that all patients, regardless of their tumour group or whether they have a common or rare cancer diagnosis, have access to the necessary diagnostic and treatment options as specified by their patient pathways. These services are provided either directly by the EUCCC or through collaboration with other specialized units, coordinated by appropriate governance structures. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.7 - The EUCCC obtains key financial figures about the centre's operating costs and investments for care and research purposes.

GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.1 EUCCCs have a governance body to coordinate processes internally and externally	> STANDARD 1.1.1.8 - The board of the EUCCC has influence on the budget related to cancer activities:
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.2 EUCCCs have a governance model ensuring high-quality patient care	> STANDARD 1.1.2.1- The EUCCC has multidisciplinary teams (MDT/tumour boards) for every tumour type treated by the EUCCC or by collaborating institutions. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.2 EUCCCs have a governance model ensuring high-quality patient care	> STANDARD 1.1.2.2- There is a written and mutually accepted patient pathway for each tumour entity treated in the EUCCC.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.2 EUCCCs have a governance model ensuring high-quality patient care	> STANDARD 1.1.2.3- The EUCCC has a clinical quality system that focuses on measuring quality indicators specific to cancer and is underpinned by a PDCA practice to ensure quality assurance and improvement.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.2 EUCCCs have a governance model ensuring high-quality patient care	> STANDARD 1.1.2.4- The EUCCC has a dashboard providing standardised metrics for governance and leadership to follow up on quality of care and patient outcomes.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.3 EUCCCs involve patient participation at all relevant levels	> STANDARD 1.1.3.1- The EUCCC integrates patient perspectives, through the involvement of patient representatives and the patient advisory council in assessing outcomes and quality of care and relevant change and improvement initiatives. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.3 EUCCCs involve patient participation at all relevant levels	> STANDARD 1.1.3.2- The EUCCC facilitates access to existing educational programmes for patient representatives (and candidates) to enhance their capacity to be involved in decision-making processes.

GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.4 EUCCCs governing bodies have adequate administrative and management support	> STANDARD 1.1.4.1- The EUCCC governing body has administrative support related to managing their meetings and ongoing operations, in case it is a part of a general hospital or a multi-entity centre.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.4 EUCCCs governing bodies have adequate administrative and management support	> STANDARD 1.1.4.2- The governing body of the EUCCC has sufficient resources to deliver the regular provision of both cancer data-based reporting and analysis and ad hoc need of cancer-related analysis. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.4 EUCCCs governing bodies have adequate administrative and management support	> STANDARD 1.1.4.3- The governing body of the EUCCC has access to project management support.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.1- The EUCCC is active in developing care networks (both tumour-specific and pan-cancer based) in its local area.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.2- The EUCCC has formal agreements and a coordinating committee with other hospitals, external clinical units,care networks and other organisations collaborating with the EUCCC on cancer patient pathways. (CORE)
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.3- The governing body of the EUCCC (CCB/ coordinating committee) sets goals for cooperation, division of responsibilities and tasks and coordination mechanisms with its local care networks.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.4- The governing body of the EUCCC has structured reporting on the coordinated activities with its associated/collaborating local care networks.

GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.5- The governance of the EUCCC ensures continuity of care with primary and community care providers, including data sharing and communication for better patient care.
GOVERNANCE	1.1 Organisation of EUCCC Governance	1.1.5 EUCCC's governance includes formal agreements with external collaborators	> STANDARD 1.1.5.6- The EUCCC has formal agreements with research institutions or universities for cancer research or education, where those entities are not contractually part of the EUCCC.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.1 EUCCCs have a unified cancer strategy covering care, education and research	> STANDARD 1.2.1.1- The EUCCC has developed and approved a comprehensive cancer strategy covering all aspects of oncology. (CORE)
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.1 EUCCCs have a unified cancer strategy covering care, education and research	> STANDARD 1.2.1.2- The EUCCC develops its cancer strategy with involvement from relevant stakeholders, including patients, and gains approval from all involved institutions.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.1 EUCCCs have a unified cancer strategy covering care, education and research	> STANDARD 1.2.1.3- The cancer strategy is implemented through an action plan revised every year.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.1 EUCCCs have a unified cancer strategy covering care, education and research	> STANDARD 1.2.1.4- The EUCCC´s cancer strategy has evaluation indicators designed to assess its implementation and expected outcomes.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.2 EUCCCs governance facilitates coordination operationally and strategically	> STANDARD 1.2.2.1- The EUCCC has internal rules of procedure to guide the management of cross-organisational matters. (CORE).
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.2 EUCCCs governance facilitates coordination operationally and strategically	> STANDARD 1.2.2.2- The governing body of the EUCCC has a quality management system for organising and executing action plans to implement the cancer strategy and improvement recommended/guided by EUCCC certification.

GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.2 EUCCCs governance facilitates coordination operationally and strategically	> STANDARD 1.2.2.3- The EUCCC has governance processes for patient pathways of all tumours treated.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.2 EUCCCs governance facilitates coordination operationally and strategically	> STANDARD 1.2.2.4- The line managers of all units in the EUCCC have a defined responsibility for the integration of care, research, and education/training.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.3 EUCCCs leadership stays informed about care and research activities	> STANDARD 1.2.3.1- The EUCCC actively uses a data monitoring system (dashboard) to follow up essential metrics in care and research, available at both the centre and pathway/tumour group levels and accessible to all relevant employees. (CORE)
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.3 EUCCCs leadership stays informed about care and research activities	> STANDARD 1.2.3.2- The EUCCC actively uses metrics collected by the data monitoring system to improve its management.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.4 EUCCCs collaborate regionally with other hospitals for equal access to care and research	> STANDARD 1.2.4.1- The EUCCC has processes on collaboration and coordination in a geographical area of shared patient pathways and shared resources (in the fields of research, care, innovation, education, and training).
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.4 EUCCCs collaborate regionally with other hospitals for equal access to care and research	> STANDARD 1.2.4.2- The EUCCC has processes on collaboration on MDT/tumour boards in a geographical area with shared patient pathways regarding participation. (CORE)

GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.4 EUCCCs collaborate regionally with other hospitals for equal access to care and research	> STANDARD 1.2.4.3- The EUCCC has processes on collaboration in a geographical area with shared patient pathways regarding: the inclusion of cancer trial activities of the EUCCC, interoperable IT structures, molecular tumour board, cooperation with regional providers of survivorship care (incl. rehabilitation, psycho-oncology, sexuality), and cooperation with regional providers of palliative home care.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.4 EUCCCs collaborate regionally with other hospitals for equal access to care and research	> STANDARD 1.2.4.4- The EUCCC promotes that integrated care pathways include the role of each institution from the sub- / region in dealing with diagnosis and treatment of cancer patients.
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.5 EUCCCs participate in european and/ or international networks	> STANDARD 1.2.5.1- The EUCCC participates in at least one cross-border network, organising collaborative institutional activities between CCCs.(CORE)
GOVERNANCE	1.2 The Processes of EUCCC governance	1.2.5 EUCCCs participate in european and/ or international networks	> STANDARD 1.2.5.2- The EUCCC participates in at least one European and/or international collaborative research consortium.

CARE	2.1 Comprehensiveness of Care	2.1.1 EUCCCs deliver complete set general and advanced Diagnostics and Treatment for a minimum number of specified cancer diagnoses	> STANDARD 2.1.1.1- The EUCCC provides complete and advanced diagnostic services and cutting-edge treatments for at least three of the five major cancers: 1. Breast cancer and gynaecological cancers such as ovarian and uterine cancer 2. Lung and thoracic cancers 3. Gastrointestinal cancers (including colorectal and gastric cancers, pancreas and liver) 4. Genitourinary cancers (including prostate and bladder cancers) 5. Skin cancers (melanoma and other advanced or aggressive skin cancers)
CARE	2.1 Comprehensiveness of Care	2.1.1 EUCCCs deliver complete set general and advanced Diagnostics and Treatment for a minimum number of specified cancer diagnoses	> STANDARD 2.1.1.2- The EUCCC provides complete and advanced diagnostic and treatment options for at least two less prevalent cancers diagnoses, which may include rare cancers, paediatric cancers, or haematological cancers.
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.1- The EUCCC has a physical and/ or virtual information centre that is available for staff, patients, family members, and caregivers. (CORE)
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.2- The EUCCC documents relevant information communicated to the patient in the patient's record. (CORE)
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.3- The EUCCC ensures that all individuals, including those with disabilities and special needs, have universal and equal access to the care they need.

CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.4- The EUCCC has implemented a policy that ensures that patients are treated with sensitivity and respect, and that their preferences are considered in all aspects of their care.
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.5- The EUCCC has procedures that specify how (and by whom) patients are included in shared decision-making covering:
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.6- The EUCCC provides patients (and their caregivers) information material that is readable, up-to-date, appropriate, and available in languages commonly spoken by the population served and covers rights and access to:
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.7- The EUCCC provides its patients with:
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.8- The EUCCC ensures that patients are thoroughly informed and understand the continuity of care and their patient journey and when they are referred to another healthcare provider.
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.9- The EUCCC has policies on informed consent for diagnostics, treatment, and research that meet national laws and regulations.
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.10- The EUCCC guarantees that personal data protection is respected for patients according to the General Data Protection EU Regulation (GDPR) 2016/679.
CARE	2.2 Quality of Care and Patient Safety	2.2.1 EUCCCs facilitate and ensure patient empowerment	> STANDARD 2.2.1.11- The EUCCC guarantees 24/7 access to all emergency medical care. It has a 24-hour on-call service (including weekends and public holidays), if necessary, through cooperation agreements.

CARE	2.2 Quality of Care and Patient Safety	2.2.2 EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients	> STANDARD 2.2.2.1- The EUCCC has routines to collect patients' experiences during outpatient and inpatient care and has routines to integrate the knowledge from this in its quality improvement programme.
CARE	2.2 Quality of Care and Patient Safety	2.2.2 EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients	> STANDARD 2.2.2.2- The EUCCC has a procedure for patient involvement as a part of its quality improvement programme.
CARE	2.2 Quality of Care and Patient Safety	2.2.2 EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients	> STANDARD 2.2.2.3- The EUCCC systematically collects, presents and pays attention to main indicators of quality of care and outcomes of care.
CARE	2.2 Quality of Care and Patient Safety	2.2.2 EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients	> STANDARD 2.2.2.4- The EUCCC ensures that improvement actions are prioritised, developed, and implemented regularly in agreement with all concerned departments and disciplines, at a minimum on an annual basis.

CARE	2.2 Quality of Care and Patient Safety	2.2.2 EUCCCs are continuously exploring possibilities for improving its quality of care and outcome of treatment based on experience and knowledge gained from professionals and patients	> STANDARD 2.2.2.5- The EUCCC arranges or facilitates learning events for its personnel in quality improvement at least twice per year.
CARE	2.2 Quality of Care and Patient Safety	2.2.3 EUCCCs facilitate active involvement by caregivers	> STANDARD 2.2.3.1- The EUCCC has dedicated meeting areas for visits from caregivers.
CARE	2.2 Quality of Care and Patient Safety	2.2.3 EUCCCs facilitate active involvement by caregivers	> STANDARD 2.2.3.2- The EUCCC provides flexible visiting hours and, when required, supports overnight stay arrangements for patients and caregivers.
CARE	2.2 Quality of Care and Patient Safety	2.2.3 EUCCCs facilitate active involvement by caregivers	> STANDARD 2.2.3.3- The EUCCC ensures that caregivers are invited to participate in certain personal activities (e.g. meals, washing) when feasible and in line with patients' expressed wishes.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.1- The EUCCC ensures safety, accuracy, and high-quality care by adequately staffing essential disciplines.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.2- The EUCCC has defined routines and procedures for: - Prescription, preparation, and administration of drugs - Mandatory training of staff administrating drugs - Documentation in a quality assured digital system

CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.3- The EUCCC has established quality and risk management routines that include procedures to handle and report all diagnostic and treatment-related unexpected side-effects or adverse events.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.4- The EUCCC has a comprehensive system for reporting, registering, and assessing complications and adverse events, including 30-day mortality and unexpected re-admissions to surgery within 90 days.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.5- The EUCCC provides facilities and procedures for the evaluation of acute toxicity, especially in relation to oncology treatment.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.6- The EUCCC has systematic procedures and action plan for measures after an adverse event and for monitoring the efficiency of the implemented measure(s).
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.7- The EUCCC has systematic procedures and action plan for measures after an undesirable event and for monitoring the efficiency of the implemented measure(s).
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.8- The EUCCC conducts experience feedback committees and conferences following unexpected outcomes such as mortality and morbidity.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.9- The EUCCC has procedures and routines for systematically assessing risk when implementing new technologies or interventions.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.10- The EUCCC ensures a maintenance programme for medical equipment, including calibrations, safety checks, and clinical audits aligned with authorised authorities' recommendations and carried out as scheduled.

CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.11- The EUCCC has procedures to ensure that new and specialised technical equipment is handled only by personnel trained and competent on this equipment.
CARE	2.2 Quality of Care and Patient Safety	2.2.4 EUCCCs ensure patient safety and risk management in Care	> STANDARD 2.2.4.12- The EUCCC ensures that only authorized personnel (specific training modules accomplished) administer anti-cancer drugs.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.1- The EUCCC performs regular reviews and updates on the documented patient pathway based on new evidence-based knowledge and assessment of practice experiences. (CORE)
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.2- The EUCCC has implemented patient pathways at least for the most common tumour entities treated at the centre. These pathways describe the functions of involved disciplines, the role of MDTs, and include palliative care and survivorship care.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.3- The EUCCC makes sure that the patient pathway management approach also includes other diagnostic and treatment units that the EUCCC shares pathways with in its local networks.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.4- The EUCCC evaluates the performance of its patient pathways as part of continuous quality improvement.

CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.5- The EUCCC ensures that patients with rare cancers are referred to a centre with experience in treating this type of cancer (such a designated reference centre or a European Reference Network (ERN) or equivalent.)
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.6- The EUCCC identifies and provides each patient with a pathway coordinator or case manager facilitating the patient´s pathway from admission until end of treatment, including the implementation of MDT recommendations, referral and feedback amongst nursing, palliative care, and supportive disciplines.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.7- The EUCCC has defined standards for maximum waiting times and record actual waiting times for each step in the patient pathway.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.8- The EUCCC uses data on waiting times as part of its quality management system and continuous improvement framework.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.9- The EUCCC has a discharge procedure (after hospitalisation, day -care or interventional procedures) that provides patient and its General Practitioner with information on further treatment, follow-up, re-admission, and home care.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.10- The EUCCC has a contact procedure for general practitioners to follow when there is a need of consultation with the centre.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.11- The EUCCC provides medical consultation prior to cancer treatment.

CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.12- The EUCCC has a contact procedure for patients to follow when there is a need of consultation with the centre.
CARE	2.2 Quality of Care and Patient Safety	2.2.5 EUCCCs deliver patient-centric and continuity in care based on managed patient pathways	> STANDARD 2.2.5.13- The EUCCC has established easily accessible procedures for patient's complaints.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.1- The EUCCC ensures state-of-the-art diagnosis aligned with national and international guidelines, reviewed periodically.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.2- The EUCCC has established policies and written procedures for scheduling diagnostic examinations, which include prioritising urgent cases.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.3- The EUCCC ensures that results from diagnostic procedures are available within recommended maximum turnaround time in line with national guidelines/ regulations.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.4- The EUCCC upholds high standards of diagnostic procedures and lab work under Good Clinical Practice and Good Laboratory Practice, performing regular quality assurance tests among different laboratories.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.5- The EUCCC ensures that its diagnostic laboratories have proper procedures to cover specimen collection, pre-analytic and analytical phases, and specimen storage.

CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.6- The EUCCC diagnostic laboratories maintain an accreditation from a recognised quality management system that documents all relevant steps in sample processing.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.7- The EUCCC ensures that its patients and physicians have access to the necessary infrastructures, including sufficient board-certified pathologists and human geneticist (for germline analysis), to provide full scope of molecular diagnostics in alignment with recommended guidelines, including molecular tumour boards (MTB).
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.8- The EUCCC has established procedures for the preservation of fresh and frozen surgical specimens in diagnostic biobanks.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.9- The EUCCC has standardised pathologist reports that are aligned with best practice and guidelines to cover information on: - Histological type and grade (according to validated international classification) - Resection margins - Lymph nodes status - Any diagnose-specific predictive information
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.10- The EUCCC has a molecular diagnostics programme for tumour-(sub) typing --- recommended (and/or appraised) by national guidelines and regulations.
CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.11- The pathology laboratory/institute at the EUCCC has specialists and equipment for molecular pathology for those tumour sub-types for which molecular pathology is needed and in line with national guidelines.

CARE	2.3 Diagnostics	2.3.1 EUCCCs deliver advanced diagnostics through pathology and molecular diagnostics	> STANDARD 2.3.1.12- The EUCCC has an internal or a formal link and access to a MTB to support therapeutic decisions.
CARE	2.3 Diagnostics	2.3.2 The deliver support in radiology and nuclear medicine	> STANDARD 2.3.2.1- The EUCCC has up-to-date Standard Operating Procedures which describe the imaging methods and are reviewed at least once a year, in accordance with national procedures.
CARE	2.3 Diagnostics	2.3.2 The deliver support in radiology and nuclear medicine	> STANDARD 2.3.2.2- In the EUCCC, the radiologist's written report is available to the attending doctors at the latest 72 hours after the examination.
CARE	2.3 Diagnostics	2.3.2 The deliver support in radiology and nuclear medicine	> STANDARD 2.3.2.3- The EUCCC records waiting times for radiology and nuclear medicine, measured from the time of notification by the physician to the radiological examination.
CARE	2.3 Diagnostics	2.3.2 The deliver support in radiology and nuclear medicine	> STANDARD 2.3.2.4- In the EUCCC, all images (mammograms, ultrasound documentation, MRI) are stored in a digital format.
CARE	2.3 Diagnostics	2.3.2 The deliver support in radiology and nuclear medicine	> STANDARD 2.3.2.5- In the EUCCC, quality control of all equipment used for imaging is routinely performed, according to relevant national protocols and/or European guidelines.
CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.1- The EUCCC has established procedures for identifying eligible patients for MDT consultation as part of their patient pathway and before any treatment decisions. (CORE)
CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.2- The EUCCC ensures that recommendations made by MDT (when available) are followed, and, if relevant, reasons for not following recommendations are documented in the medical record and communicated to the patient and the MDT. (CORE)

CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.3- The EUCCC has a written procedure that defines the criteria for which patient cases should be discussed at each type of MDT meetings.
CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.4- The EUCCC has defined procedures to: - State the type of MDT meetings that are present at each cancer diagnosis. - State the composition of MDT-meetings (core and extended attendance) from all relevant diagnostic and therapeutic disciplines (including MTB, oncology nursing, palliative care, supportive care) - State the meeting frequency of MDTs, per patient pathway. - Identify relevant extended expertise (case by case, e.g. a neurosurgeon, fertility specialist or palliative care specialist) - Inform the MDT about patients that will be discussed. - Execute the MDT meeting; including roles, required documentation (medical records, images) and facilities. - Assess patient's eligibility for clinical trials. - Document recommendations and conclusions (in medical records, within 24 hours) - Define the indications for referral and the types of intervention from supportive disciplines (e.g. psycho-oncologist, nutrician, social worker, physiotherapist)
CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.5- The EUCCC has procedures for communicating MDT-meetings' recommendations and conclusions to patients for shared decision-making. Patients can consent or refuse treatment.

CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.6- The EUCCC organises an annual learning event for MDTs to review patient outcomes, other quality indicators, patient pathway performance, compliance with guidelines, and makes use of this information in quality improvement initiatives.
CARE	2.4 Treatment	2.4.1 EUCCCs ensure a multidisciplinary treatment approach	> STANDARD 2.4.1.7- The EUCCC has a multi-disciplinary service providing patients with pre-habilitation, psychosocial care and nutritional counselling based on screening of needs before and during treatment.
CARE	2.4 Treatment	2.4.2 EUCCCs carry out treatment based on evidence	> STANDARD 2.4.2.1- The EUCCC follows formally agreed clinical guidelines for treatment and follow-up, and provides easy access to the guidelines in written or digital form. (CORE)
CARE	2.4 Treatment	2.4.2 EUCCCs carry out treatment based on evidence	> STANDARD 2.4.2.2- The EUCCC ensures that all new staff engaged in clinical work are familiar with the relevant guidelines implemented in the EUCCC. (CORE)
CARE	2.4 Treatment	2.4.2 EUCCCs carry out treatment based on evidence	> STANDARD 2.4.2.3- The EUCCC conducts an annual review and updates its clinical guidelines based on new evidence, with defined responsible personnel for authorisation.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.1- In the EUCCC, staffing levels of key disciplines contributing to cancer surgery are planned to ensure safety, accuracy, and high-quality care. (CORE)
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.2- In the EUCCC minimum surgical requirements of quality of personnel and equipment are documented and followed up in each tumour type. (CORE)

CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.3- The EUCCC has established a minimum surgical volume requirement for each cancer surgeon and tumour type in line with regional or national guidelines to ensure quality standards are met.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.4- In the EUCCC, all surgical procedures are based upon treatment plans and recommendations stemming from the MDT
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.5- In the EUCCC, any deviations from the surgical treatment plan are recorded in the patient record and communicated appropriately to the patient and MDT.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.6- In the EUCCC, technical and organisational processes for fresh tissue, frozen sections and bio-banking are in place for surgical procedures in line with national guidelines
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.7- In the EUCCC, 30-day mortality after surgery is recorded and evaluated.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.8- In the EUCCC, if unplanned re-admissions to surgery within 90 days occur, they are recorded and evaluated for risk management and continuous improvement.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.9- The EUCCC facilitates access to a full range of reconstructive surgery, immediate or delayed, including aesthetic and functional restoration surgery for all body sites.
CARE	2.4 Treatment	2.4.3 EUCCCs ensures high operational standards in surgery for its patients	> STANDARD 2.4.3.10- In the EUCCC, patient information about reconstructive surgery is proactively provided in written form and includes a risk-benefits analysis.

CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.1- In the EUCCC, the staffing levels of key disciplines contributing to cancer radiotherapy are planned to ensure safety, accuracy and high-quality care. (CORE)
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.2- The radiotherapy department of EUCCCs has a written contingency plan.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.3- In EUCCC each patient has a medical consultation prior to the onset of radiotherapy.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.4- In the EUCCC, adequate information is provided to each patient about diagnosis and therapy planning, which includes an explanation of treatment options, side effects and self-management during therapy.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.5- In the EUCC, relevant radiation data (e.g. RT treatment technique, single dose, total dose, total treatment time) are recorded in line with guidelines and assessed for adherence to guidelines.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.6- In the EUCCC, any deviation from the dose prescribed by the physician is justified and documented.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.7- In EUCCC, the unit has processes for recording treatment complications in the patient record and at department level for quality purposes.

CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.8- The EUCCC has access to sufficient linear accelerators to meet all the radiotherapy provision demands of its patients. (CORE)
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.9- In the EUCC, there is a maintenance programme for medical equipment, including calibrations and safety checks.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.10- In the EUCCC, safety checks and calibrations are carried out as scheduled.
CARE	2.4 Treatment	2.4.4 EUCCCs ensure high operational standards in radiotherapy for its patients	> STANDARD 2.4.4.11- In the EUCCC, medical devices used for treatment are periodically certified by an authorised authority.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.1- In the EUCCC, the staffing levels of key disciplines contributing to cancer systemic therapies are planned to ensure safety, accuracy and high-quality care. (CORE)
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.2- In the EUCCC, there is a quality assured digital system for the prescription, preparation, and administration of anti-cancer drugs. (CORE)
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.3- In the EUCCC, anti-cancer drugs are prepared in a centralised pharmacy unit
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.4- In the EUCCC, there are SOPs for the preparation of anti-cancer drugs in the pharmacy.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.5- In the EUCCC, a validation procedure for the whole process, including prescription, preparation and distribution, is implemented.

CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.6- In the EUCCC, there are sufficient chairs and beds to manage patient numbers for systemic therapies.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.7- In the EUCCC, there are SOPs for the administration of anti-cancer drugs. (CORE)
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.8- In the EUCC, anti-cancer drugs are administered only in dedicated wards, e.g. oncology or haemato-oncology (for inpatients).
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.9- In the EUCCC, there are dedicated day-care units for the administration of anti-cancer drugs.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.10- In the EUCCC, anti-cancer drugs are administered by nurses who have completed a specific training programme for chemotherapy administration. (CORE)
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.11- In the EUCCC, each patient has a medical consultation prior to the onset of systemic therapy. (CORE)
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.12- In the EUCCC, adequate information is provided to each patient about diagnosis and therapy planning, which includes explanation of treatment options, side effects and self-management during therapy.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.13- In the EUCCC, the time between the patient consultation at which the treatment plan is agreed upon (post MDT) and the onset of treatment does not exceed 21 days (if there are no medical contra-indications or patient preferences opposing this).

CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.14- The EUCCC records relevant data (dosage and total treatment time) in line with the guidelines.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.15- The EUCCC provides all relevant new and/ or concomitant medication or prescription to patients upon discharge to prevent possible delay in treatment.
CARE	2.4 Treatment	2.4.5 EUCCCs ensure high operational standards in systemic therapies for its patients	> STANDARD 2.4.5.16- The EUCCC implements a specific procedure for reporting adverse reactions of anti-cancer drugs.
CARE	2.4 Treatment	2.4.6 EUCCCs provide access to advanced and innovative therapies	> STANDARD 2.4.6.1- The EUCCC provides state-of-the-art cancer treatment based on national and international guidelines.
CARE	2.4 Treatment	2.4.6 EUCCCs provide access to advanced and innovative therapies	> STANDARD 2.4.6.2- The EUCCC provides access to sequential/simultaneous radio-chemotherapy.
CARE	2.4 Treatment	2.4.6 EUCCCs provide access to advanced and innovative therapies	> STANDARD 2.4.6.3- The EUCCC has a written procedure to ensure the safe delivery of radio-chemotherapy, which includes specialist training, monitoring, and recording blood count and side-effects.
CARE	2.4 Treatment	2.4.6 EUCCCs provide access to advanced and innovative therapies	> STANDARD 2.4.6.4- The EUCCC provides patients with an overview of all relevant clinical trials and undertakes an early screening of the trials they could be eligible for.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.1- The EUCCC offers individual palliative care plans for each patient (inlcluding late-stage and early-stage), which is discussed with the patient and caregivers.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.2- The EUCCC provides a defined composition of the palliative care team, led by a specialised physician in palliative medicine.

CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.3- The EUCCC has written procedures for the palliative team to identify and meet patients' needs.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.4- The EUCCC has established protocols covering most common oncological emergencies. A treatment plan is drawn up within 24 hours of the suspected diagnosis.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.5- The EUCCC provides palliative radiotherapy, and the therapeutic goal (local control or solely symptom alleviation) is documented.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.6- In the EUCCC, the palliative care team provides education and palliative care guidance (e.g. symptom control) for patients, caregivers, and health professionals.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.7- The EUCCC palliative care team has established generic pathways describing interactions with primary care, where basic palliative care is provided.
CARE	2.4 Treatment	2.4.7 EUCCCs ensure palliative care	> STANDARD 2.4.7.8- The EUCCC provides information on available hospice facilities/NGO support for patients and their relatives.
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.1- The EUCCC has SOPs to identify patients with specific follow-up needs related to medical or psycho-social consequences of cancer disease or cancer treatment. (CORE)
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.2- The EUCCC has established procedures for referring patients to adequate professional follow up (like internal medicine, psychology, nutrition or social counselling) in specialist health care or primary care.

CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.3- The EUCCC provides patients in need of survivorship follow-up measures with a corresponding individual plan.
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.4- The EUCCC gives advice and support to patients and caregivers on how to detect early signs and symptoms of recurrence. (CORE)
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.5- The EUCCC gives advice and support to patients and caregivers on activities that may reduce risk of recurrence (among others diet, exercise) in line with the latest recommendations.
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.6- The EUCCC gives information and support to patients about the potential late effects of their cancer.
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.7- The EUCCC gives information and support to patients about self-management.
CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.8- The EUCCC has established clear procedures for referring patients to cancer rehabilitation services both within and outside the centre.

CARE	2.5 Cancer survivorship care	2.5.1 EUCCCs work systematically with cancer patients who need follow-up related to consequences of cancer or cancer treatment	> STANDARD 2.5.1.9- The EUCCC ensures that cancer patients and survivors have access to rehabilitation services with multidisciplinary interventions based on screening of needs and coordinating individual plans for vocational rehabilitation and return to work, if feasible.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.1 EUCCCs conduct bench-to-bedside research and opposite	> STANDARD 3.1.1.1- At least one organisational entity that makes up an EUCCC has in-house activity in translational research or is integrated in a network conducting translational research. (CORE)
RESEARCH	3.1 The Comprehensiveness of Research	3.1.1 EUCCCs conduct bench-to-bedside research and opposite	> STANDARD 3.1.1.2- All units providing cancer care in the EUCCC are integrated in a network allowing clinical research activities. (CORE)
RESEARCH	3.1 The Comprehensiveness of Research	3.1.1 EUCCCs conduct bench-to-bedside research and opposite	> STANDARD 3.1.1.3- The centre promotes mutual interactions between translational research and clinical practice or is part of a network that facilitates this process.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.1 EUCCCs conduct bench-to-bedside research and opposite	> STANDARD 3.1.1.4- The EUCCC either undertakes activity, or has a formally organised collaboration with an institution conducting: • Basic research • Epidemiological research • Health care research
RESEARCH	3.1 The Comprehensiveness of Research	3.1.2 EUCCCs engage in comprehensive cancer research	> STANDARD 3.1.2.1- The EUCCC conducts research related to cancer diagnostics (pathology and radiology). (CORE)
RESEARCH	3.1 The Comprehensiveness of Research	3.1.2 EUCCCs engage in comprehensive cancer research	> STANDARD 3.1.2.2- The EUCCC conducts research related to cancer treatments (both regarding medical treatments, radiotherapy, and surgery). (CORE)

RESEARCH	3.1 The Comprehensiveness of Research	3.1.2 EUCCCs engage in comprehensive cancer research	> STANDARD 3.1.2.3- The EUCCC demonstrates ongoing research activity in at least two of the following areas relevant to patient-centred outcomes: survivorship, palliative and end-of-life care, outcomes, health-care service, or patient-centred needs.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.2 EUCCCs engage in comprehensive cancer research	> STANDARD 3.1.2.4- The EUCCC is actively involved in research that focuses on the risks and underlying causes of cancer development, prevention and early detection.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.3 EUCCCs conduct research on major tumour groups	> STANDARD 3.1.3.1- The EUCCC carries out clinical research on three of the following five common cancers: 1. Breast cancer and gynecological cancers such as ovarian and uterine cancer 2. Lung and thoracic cancers 3. Gastrointestinal cancers (including colorectal and gastric cancers, pancreas and liver) 4. Genitourinary cancers (including prostate and bladder cancers) 5. Skin cancers (melanoma and other advanced or aggressive skin cancers)
RESEARCH	3.1 The Comprehensiveness of Research	3.1.3 EUCCCs conduct research on major tumour groups	> STANDARD 3.1.3.2- The EUCCC carries out clinical research on pan-cancer topics.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.3 EUCCCs conduct research on major tumour groups	> STANDARD 3.1.3.3- The EUCCC carries out translational research on at least two of the tumour groups mentioned in 3.1.3.1., possibly as a part of a network including other research or cancer centres.

RESEARCH	3.1 The Comprehensiveness of Research	3.1.4 EUCCCs conducts research on additional cancers	> STANDARD 3.1.4.1- The EUCCC is involved in research on at least two additional cancers, which may include rare cancers, pediatric cancers and hematologic cancers. (CORE)
RESEARCH	3.1 The Comprehensiveness of Research	3.1.4 EUCCCs conducts research on additional cancers	> STANDARD 3.1.4.2- The EUCCC either has its own institutional MDT/tumour boards for rare entities, or participates in multi-institutional MDT/tumour boards on a regular basis where all patients are discussed as candidates for clinical trials.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.4 EUCCCs conducts research on additional cancers	> STANDARD 3.1.4.3- The EUCCC is involved in a European Reference Network (ERN) in at least two themes.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.5 EUCCCs commit research on patient-centred and personalized care	> STANDARD 3.1.5.1- The EUCCC conducts cancer-related research that combines medical science with a focus on patients' experiences and needs at every stage of their care.
RESEARCH	3.1 The Comprehensiveness of Research	3.1.5 EUCCCs commit research on patient-centred and personalized care	> STANDARD 3.1.5.2- The EUCCC promotes the use of diverse research methods and ensures access to a broad spectrum of both internal and external expertise in relevant research methodologies.
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.1- The EUCCC provides training in research integrity. (CORE)
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.2- The EUCCC ensures standardised procedures to handle suspected research misconduct (falsification, fabrication, and plagiarism).
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.3- The EUCCC ensures ethical evaluation (approval) of research projects is conducted by an ethical committee system.

RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.4- The EUCCC provides guidelines for safe collection, storage, retention and deletion of informed consent and the connected research data. (CORE)
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.5- The EUCCC ensures that adequate infrastructures for data management are accessible in the centre.
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.6- The EUCCC ensures that legal and methodological advice in data sharing and transfer is offered by the centre.
RESEARCH	3.2 Research Practice	3.2.1 EUCCCs foster research integrity and ethics	> STANDARD 3.2.1.7- The EUCCC has established procedures for preventing and managing data breaches.
RESEARCH	3.2 Research Practice	3.2.2 EUCCCS encourage the development of research talent and careers	> STANDARD 3.2.2.1- The EUCCC ensures that researchers have access to mentoring programmes, and has mechanisms in place to evaluate their effectiveness. (CORE)
RESEARCH	3.2 Research Practice	3.2.2 EUCCCS encourage the development of research talent and careers	> STANDARD 3.2.2.2- The EUCCC partakes in PhD and postdoc programmes.
RESEARCH	3.2 Research Practice	3.2.2 EUCCCS encourage the development of research talent and careers	> STANDARD 3.2.2.3- The EUCCC provides structures for exchange programmes in research.
RESEARCH	3.2 Research Practice	3.2.2 EUCCCS encourage the development of research talent and careers	> STANDARD 3.2.2.4- The EUCCC offers support services for grant proposals.
RESEARCH	3.2 Research Practice	3.2.2 EUCCCS encourage the development of research talent and careers	> STANDARD 3.2.2.5- The EUCCC performs regular evaluations on submitted and successful grant proposals.

RESEARCH	3.2 Research Practice	3.2.3 EUCCCs integrate research and care	> STANDARD 3.2.3.1- The EUCCC secures and provides measures to support investigator-initiated studies and research.
RESEARCH	3.2 Research Practice	3.2.4 EUCCCs have permanent and strategic collaboration with academia on research	> STANDARD 3.2.4.1- The EUCCC has agreements for research collaboration which cover several academic disciplines with one or more academic institutions.
RESEARCH	3.2 Research Practice	3.2.4 EUCCCs have permanent and strategic collaboration with academia on research	> STANDARD 3.2.4.2- The EUCCC provides the opportunity for split hospital and university affiliations for MDs and also for other relevant groups of employees.
RESEARCH	3.2 Research Practice	3.2.5 EUCCCs provide core research infrastructures	> STANDARD 3.2.5.1- The EUCCC has access to technological research core facilities. (CORE)
RESEARCH	3.2 Research Practice	3.2.5 EUCCCs provide core research infrastructures	> STANDARD 3.2.5.2- The EUCCC provides administrative/legal support to perform (design, coordinate, run and monitor) research and specifically clinical trials. (CORE)
RESEARCH	3.2 Research Practice	3.2.5 EUCCCs provide core research infrastructures	> STANDARD 3.2.5.3- The EUCCC has access to the required capabilities and resources to run early-phase/ first-in-man clinical trials.
RESEARCH	3.2 Research Practice	3.2.5 EUCCCs provide core research infrastructures	> STANDARD 3.2.5.4- The EUCCC ensures the clinical trial unit undergoes periodical external site visits/reviews.
RESEARCH	3.2 Research Practice	3.2.6 EUCCCs collaborate nationally and internationally in research Clarification of the criterion: Cancer research is an activity dependent on ah	> STANDARD 3.2.6.1- The EUCCC participates in national/multi-centre studies.

RESEARCH	3.2 Research Practice	3.2.6 EUCCCs collaborate nationally and internationally in research Clarification of the criterion: Cancer research is an activity dependent on ah	> STANDARD 3.2.6.2- The EUCCC acts as principal investigator / sponsor for national trials.
RESEARCH	3.2 Research Practice	3.2.6 EUCCCs collaborate nationally and internationally in research Clarification of the criterion: Cancer research is an activity dependent on ah	> STANDARD 3.2.6.3- The EUCCC participates in international research projects in translational and clinical medicine. (CORE)
RESEARCH	3.2 Research Practice	3.2.6 EUCCCs collaborate nationally and internationally in research Clarification of the criterion: Cancer research is an activity dependent on ah	> STANDARD 3.2.6.4- The EUCCC endorses leadership roles in national (multi-institutional)/ European/international research projects.
RESEARCH	3.3 Research leadership	3.3.1 EUCCCs structure supports cancer research development	> STANDARD 3.3.1.1- The EUCCC has a research council with the mission to implement the research strategy and to coordinate and facilitate cooperation across organisational borders.
RESEARCH	3.3 Research leadership	3.3.1 EUCCCs structure supports cancer research development	> STANDARD 3.3.1.2- The EUCCC provides an organigram that defines research departments and leaders of research groups.
RESEARCH	3.3 Research leadership	3.3.1 EUCCCs structure supports cancer research development	> STANDARD 3.3.1.3- The EUCCC reports data on key financial figures regarding its research on an annual basis.
RESEARCH	3.3 Research leadership	3.3.1 EUCCCs structure supports cancer research development	> STANDARD 3.3.1.4- The EUCCC provides access to shared ICT platforms for research activities. (CORE)

RESEARCH	3.3 Research leadership	3.3.2 EUCCC has a research strategy	> STANDARD 3.3.2.1- The EUCCC has a regularly updated research strategy, (at least every three years), defining the main objectives and the means (resources) to reach these objectives.
RESEARCH	3.3 Research leadership	3.3.2 EUCCC has a research strategy	> STANDARD 3.3.2.2- The EUCCC has a regularly updated development plan which includes research, and which is actively integrated into the governance processes of the EUCCC.
RESEARCH	3.3 Research leadership	3.3.2 EUCCC has a research strategy	> STANDARD 3.3.2.3- The EUCCC ensures that input from all relevant stakeholders including clinical and laboratory professionals, academic researchers, and patient representatives, is integrated into the research strategy.
RESEARCH	3.3 Research leadership	3.3.3 EUCCCs evaluate their research	> STANDARD 3.3.3.1- The EUCCC publishes an annual report on the activities and the outcomes of research programmes/ groups.
RESEARCH	3.3 Research leadership	3.3.3 EUCCCs evaluate their research	> STANDARD 3.3.3.2- The EUCCC convenes an external Scientific Advisory Board (SAB) meeting periodically (at least every three years) to evaluate research activities of the centre.
RESEARCH	3.3 Research leadership	3.3.3 EUCCCs evaluate their research	> STANDARD 3.3.3.3- The EUCCC offers internal evaluation and guidance for research grant applications before submission.
RESEARCH	3.3 Research leadership	3.3.3 EUCCCs evaluate their research	> STANDARD 3.3.3.4- The EUCCC provides procedures for the evaluation of clinical trials (e.g. number of patients, zero accrual trials, etc.).
RESEARCH	3.3 Research leadership	3.3.3 EUCCCs evaluate their research	> STANDARD 3.3.3.5- The EUCCC undergoes regular, external evaluation of research groups. (CORE)

RESEARCH	3.3 Research leadership	3.3.4 EUCCCs involve patient representatives in research	> STANDARD 3.3.4.1- The EUCCC involves patients and/or their organisations in decisions on prioritisation of research programmes.
RESEARCH	3.3 Research leadership	3.3.4 EUCCCs involve patient representatives in research	> STANDARD 3.3.4.2- The EUCCC has a mandatory educational programme for patient representatives, providing them with necessary information and insights on cancer research and relevant topics, in order to prepare them for involvement in decisions relating to research.
RESEARCH	3.3 Research leadership	3.3.4 EUCCCs involve patient representatives in research	> STANDARD 3.3.4.3- The EUCCC involves patients concerning the ethical aspects of research both at a general level and for specific research projects.
RESEARCH	3.3 Research leadership	3.3.4 EUCCCs involve patient representatives in research	> STANDARD 3.3.4.4- The EUCCC organises patient participation in planning and undertaking research programmes, especially on patient centred care (connected to supportive disciplines i.e. rehabilitation, pain management, psychosocial care, etc.).
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.1 EUCCCs promote patient consent for research	> STANDARD 4.1.1.1 - The EUCCC has defined procedures to invite all new cancer patients to give consent to collect prospective data for research purposes (according to national regulations). (CORE)
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.1 EUCCCs promote patient consent for research	> STANDARD 4.1.1.2 - The EUCCC ensures that the patient's consent is obtained and stored according to the national or local requirements on ethics, privacy, and data protection.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.2 EUCCCs have structural ICT facilities making clinical data and samples available for research	> STANDARD 4.1.2.1 - The EUCCC provides access to a centralised database connected to its biobank, which is also linked to primary sources of clinical data. (CORE)

INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.2 EUCCCs have structural ICT facilities making clinical data and samples available for research	> STANDARD 4.1.2.2 - The EUCCC provides access to ICT tools to build the necessary databases connected to the accomplishment of clinical trials. (CORE)
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.3 EUCCCs encompass or provide access to clinical trial units for all relevant professions	> STANDARD 4.1.3.1 - The EUCCC provides an institutional clinical research management unit dedicated to trials, and this unit is accessible to all relevant units. (CORE)
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.3 EUCCCs encompass or provide access to clinical trial units for all relevant professions	> STANDARD 4.1.3.2 - The EUCCC supports and coordinates the aspects of administration, funding, feasibility assessment, and ethical approvals.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.4 EUCCCs have access to early-phase clinical trial units	> STANDARD 4.1.4.1 - The EUCCC has formal agreements to promote and facilitate access to early-phase clinical trials.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.4 EUCCCs have access to early-phase clinical trial units	> STANDARD 4.1.4.2 - The EUCCC has procedures to identify eligible patients for early phase trials.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.4 EUCCCs have access to early-phase clinical trial units	> STANDARD 4.1.4.3 - The EUCCC´s procedures for recruiting patients to early-phase trials allow for the active identification of eligible patients.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.4 EUCCCs have access to early-phase clinical trial units	> STANDARD 4.1.4.4 - The EUCCC´s procedures for recruiting patients to early-phase trials are regularly updated.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.5 EUCCCs provide easy access to ongoing clinical research information	> STANDARD 4.1.5.1 - The EUCCC has a policy for promoting clinical trials, including internal information and communication to the public and laymen on trial availability and results.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.5 EUCCCs provide easy access to ongoing clinical research information	> STANDARD 4.1.5.2 - The EUCCC has measures for promoting clinical trials, including internal information and communication to the public and laymen on trial availability and results.

INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.5 EUCCCs provide easy access to ongoing clinical research information	> STANDARD 4.1.5.3 - The EUCCC has procedures and policies to promote the participation of patients in clinical trials.
INTEGRATION RESEARCH AND CARE	4.1 Structural prerequisites for integrating research and care	4.1.5 EUCCCs provide easy access to ongoing clinical research information	> STANDARD 4.1.5.4 - The EUCCC promotes the participation in clinical trials of collaboration entities.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.1 EUCCCs emphasize research competence in recruitment and education	> STANDARD 4.2.1.1 - Research competencies are valued in the recruitment of clinical personnel.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.1 EUCCCs emphasize research competence in recruitment and education	> STANDARD 4.2.1.2 - The centre has explicit standards defining research competencies for all its staff.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.1 - The EUCCC provides patient pathways that specify the key stages at which clinical trial inclusion might be envisaged. (CORE)
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.2 - The EUCCC has protocols documenting patients' eligibility to clinical trials, in meeting minutes or EHR adhering to local protocols. (CORE)
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.3 - The EUCCC screens all relevant patients for molecular alterations to identify those suitable for targeted treatment trials.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.4 - The EUCCC has access to a Molecular Tumour Board (MTB) with competent staff in place for interpreting results, which are then documented in medical records. (CORE)

INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.5 - The EUCCC ensures regular revision of clinical tumour-specific patient pathways in order to incorporate results from research and development.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.2 EUCCCs integrate research in cancer patient pathways	> STANDARD 4.2.2.6 - The EUCCC has procedures documentingclinical trial inclusion and patient consent for the collection of data/ biological material in the EHR.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.3 EUCCCs integrate translational research into clinical practice	> STANDARD 4.2.3.1 - The EUCCC ensures that all research groups have affiliated clinicians. (CORE)
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.3 EUCCCs integrate translational research into clinical practice	> STANDARD 4.2.3.2 - The EUCCC ensures all cross-disciplinary professional tumour groups include members from both clinical and research departments.
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.3 EUCCCs integrate translational research into clinical practice	> STANDARD 4.2.3.3 - The EUCCC facilitates regular meeting points that promote discussion and integration of clinical and research experiences, where presentations and contributions from both research and clinical departments are shared to identify needs, activities, and opportunities for collaboration. (CORE)
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.4 EUCCCs integrate advanced knowledge into general practice	> STANDARD 4.2.4.1 - The EUCCC has written strategies to study and implement personalised cancer medicine based on: molecular diagnostics (including targeted therapy) and imaging techniques (including theragnostic).
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.5 EUCCCs connect with excellence networks in research and care	> STANDARD 4.2.5.1 - The EUCCC offers eligible patients access to international clinical trials conducted at its own centre or through possible referral appointments at other EUCCCs. (CORE)

INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.5 EUCCCs connect with excellence networks in research and care	> STANDARD 4.2.5.2 - The EUCCC participates in both academic and industrial clinical trials along the whole patient pathway. (CORE)
INTEGRATION RESEARCH AND CARE	4.2 Managing dynamics of integrating research and care	4.2.5 EUCCCs connect with excellence networks in research and care	> STANDARD 4.2.5.3 - The EUCCC collaborates with neighbouring hospitals in disseminating results from research and implementing them into clinical practice.
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.1 EUCCCs implement research-based knowledge in clinical guidelines	> STANDARD 4.3.1.1 - The EUCCC has routines in place to ensure that its clinical practice is governed by clinical guidelines that are updated in line with the latest research-based evidence. (CORE)
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.1 EUCCCs implement research-based knowledge in clinical guidelines	> STANDARD 4.3.1.2 - The EUCCC contributes to national and/ or international expert panels and authorities to develop new guidelines for clinical practice.
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.2 EUCCCs include research knowledge in education programmes	> STANDARD 4.3.2.1 - The EUCCC has syllabuses of educational programmes with focus in new research advances (developments). (CORE)
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.2 EUCCCs include research knowledge in education programmes	> STANDARD 4.3.2.2 - The EUCCC holds regular educational events to update data on relevant topics, in line with updates brought up at major scientific meetings.
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.3 EUCCCs transform research into innovations and improvements	> STANDARD 4.3.3.1 - The EUCCC organises regular meetings for dissemination and implementation of new research involving multidisciplinary attendants. (CORE)
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.3 EUCCCs transform research into innovations and improvements	> STANDARD 4.3.3.2 - The EUCCC sets up formal collaborations with key enterprises and entrepreneurs interested in promoting clinical improvements.

INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.4 EUCCCs disseminate new research to professionals and patients	> STANDARD 4.3.4.1 - The EUCCC regularly arranges public events for patients and caregivers to disseminate new knowledge and ongoing research activities. (CORE)
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.4 EUCCCs disseminate new research to professionals and patients	> STANDARD 4.3.4.2 - The EUCCC routinely involves patients with experience in clinical research and patient representatives in lectures and training sessions for healthcare professionals, such as physicians and specialist nurses, and in educational events for the general public.
INTEGRATION RESEARCH AND CARE	4.3 Outcome of integrating research and care	4.3.4 EUCCCs disseminate new research to professionals and patients	> STANDARD 4.3.4.3 - The EUCCC publishes clinical research results in open-source journals and has regular dissemination of research and clinical newsletters and channels targeting laymen.
INNOVATION	5.1 Culture and commitment to innovation	5.1.1 Integration of Innovation in Cancer Strategy and Development Plans	> STANDARD 5.1.1.1 - The EUCCC has innovation as a topic integrated and visible in its cancer strategy.
INNOVATION	5.1 Culture and commitment to innovation	5.1.1 Integration of Innovation in Cancer Strategy and Development Plans	> STANDARD 5.1.1.2 - The EUCCC has follow-up action plan specifically addressing innovation related to cancer and connected to care and research, including innovation in technology, medicine and services. (CORE)
INNOVATION	5.1 Culture and commitment to innovation	5.1.1 Integration of Innovation in Cancer Strategy and Development Plans	> STANDARD 5.1.1.3 - The EUCCC has access to an organisational unit whose purpose is to coordinate and facilitate innovation by providing regulatory requirements and by bridging internal potential and initiatives with external resources.
INNOVATION	5.1 Culture and commitment to innovation	5.1.2 Monitoring and improving innovation performance	> STANDARD 5.1.2.1 - The EUCCC has established a set of performance indicators on innovation

INNOVATION	5.1 Culture and commitment to innovation	5.1.2 Monitoring and improving innovation performance	> STANDARD 5.1.2.2 - The EUCCC provides evidence of active development and implementation of innovative practices in care and research.
INNOVATION	5.1 Culture and commitment to innovation	5.1.2 Monitoring and improving innovation performance	> STANDARD 5.1.2.3 - The EUCCC organises at least an annual event or produces a report evaluating innovation practice and the outcomes of innovation.
INNOVATION	5.1 Culture and commitment to innovation	5.1.3 Participation in Innovation Networks	> STANDARD 5.1.3.1 - The EUCCC actively participates in networks or clusters with institutions external to the EUCCC itself that foster innovation.
INNOVATION	5.1 Culture and commitment to innovation	5.1.3 Participation in Innovation Networks	> STANDARD 5.1.3.2 - The EUCCC is involved in collaborative projects or partnerships aimed at promoting innovation.
INNOVATION	5.2 Areas of Innovation	5.2.1 EUCCCs foster diverse innovations in oncology	> STANDARD 5.2.1.1 - The EUCCCs foster innovation on issues relevant across various cancer diagnoses and levels of care, utilising advanced technologies (such as AI, big data, genomics, new imaging or interventional techniques, human science, and epidemiology).
INNOVATION	5.2 Areas of Innovation	5.2.1 EUCCCs foster diverse innovations in oncology	> STANDARD 5.2.1.2 - The EUCCC is active in supporting development and implementation of innovations addressing services and organisational areas.
INNOVATION	5.2 Areas of Innovation	5.2.2 EUCCCs nurture both commercial and non-commercial innovations	> STANDARD 5.2.2.1 - The EUCCC is engaged in early-phase trials with Principal Investigators (PIs) from -- their own network.
INNOVATION	5.2 Areas of Innovation	5.2.2 EUCCCs nurture both commercial and non-commercial innovations	> STANDARD 5.2.2.2 - The EUCCC initiates and is engaged into investigator-initiated trials (IITs).

INNOVATION	5.3 Supportive Infrastructure	5.3.1 EUCCCs train researchers in innovation processes	> STANDARD 5.3.1.1 - The EUCCC partakes in educational programmes that offer training on the innovation process (e.g. intellectual property rights, proof-of-concept development, and commercialisation strategies).
INNOVATION	5.3 Supportive Infrastructure	5.3.2 EUCCCs have intellectual property schemes and a Technology Transfer Office (TTO)	> STANDARD 5.3.2.1 - The EUCCC provides access to a Technology Transfer Office (TTO) unit, either internal or external, including records of interactions or transactions. (CORE)
INNOVATION	5.3 Supportive Infrastructure	5.3.2 EUCCCs have intellectual property schemes and a Technology Transfer Office (TTO)	> STANDARD 5.3.2.2 - The EUCCC has rules for ownership of intellectual property and patents, either through the EUCCC or the TTO.
INNOVATION	5.3 Supportive Infrastructure	5.3.3 EUCCCs support innovative spin-offs from R&D.	> STANDARD 5.3.3.1 - The EUCCC facilitates entrepreneurship by offering commercialisation support and access to venture capital.
INNOVATION	5.3 Supportive Infrastructure	5.3.3 EUCCCs support innovative spin-offs from R&D.	> STANDARD 5.3.3.2 - The EUCCC maintains a record of facilitated spin-offs and start-up companies, showcasing their proactive stance in nurturing entrepreneurship and innovation.
INNOVATION	5.3 Supportive Infrastructure	5.3.3 EUCCCs support innovative spin-offs from R&D.	> STANDARD 5.3.3.3 - The EUCCC supports implementation of improved services, practice and governance of cancer care stemming from research-based knowledge.
PREVENTION	6.1 Scope of prevention	6.1.1 EUCCCs collaborate with primary prevention policies and programmes	> STANDARD 6.1.1.1 - The EUCCC provides comprehensive, evidence-based information on cancer risk control and health promotion, aligned with national and regional prevention campaigns, targeting cancer patients, their relatives and informal caregivers, individuals at risk, and the wider community, and focusing on lifestyle and environmental factors.

PREVENTION	6.1 Scope of prevention	6.1.1 EUCCCs collaborate with primary prevention policies and programmes	> STANDARD 6.1.1.2 - The EUCCC is recognised as a smoke-free facility and facilitates cessation services for both patients and staff.
PREVENTION	6.1 Scope of prevention	6.1.2 EUCCCs enhance secondary prevention through screening	> STANDARD 6.1.2.1 - The EUCCC has established oncogenetic clinics or genetic counselling structures that are integrated with biomolecular laboratories; in the absence of onsite biomolecular laboratories, formal procedures are in place to ensure effective linkage with external biomolecular laboratories.
PREVENTION	6.1 Scope of prevention	6.1.2 EUCCCs enhance secondary prevention through screening	> STANDARD 6.1.2.2 - The EUCCC provides access to specialised oncogenetic or genetic counselling services for patients and families at risk, delivered by qualified professionals according to specific guidelines, and offering counselling and psychosocial support as part of personalised prevention pathways.
PREVENTION	6.1 Scope of prevention	6.1.2 EUCCCs enhance secondary prevention through screening	> STANDARD 6.1.2.3 - The EUCCC contributes to national or local population-based screening programmes, serving as a screening unit, a referral centre, or both. (CORE)
PREVENTION	6.1 Scope of prevention	6.1.2 EUCCCs enhance secondary prevention through screening	> STANDARD 6.1.2.4 - The EUCCC has access to screening and early detection services (including through network collaborations) for high-risk sub-groups across various tumour types such as pancreas, ovaries, lungs, colorectal tract, prostate, and breast, adhering to established national guidelines, including referral of cancer patients to screening services for other cancer types when appropriate.

PREVENTION	6.1 Scope of prevention	6.1.2 EUCCCs enhance secondary prevention through screening	> STANDARD 6.1.2.5 - Clinical staff within the EUCCC are regularly updated and informed about best practices in cancer prevention, screening, and early diagnostic programmes and services, including information on services provided at the EUCCC and referral procedures.
PREVENTION	6.1 Scope of prevention	6.1.3 EUCCCs integrate tertiary prevention into the survivorship care of their patients	> STANDARD 6.1.3.1 - The EUCCC integrates tertiary prevention into patient care pathways.
PREVENTION	6.1 Scope of prevention	6.1.3 EUCCCs integrate tertiary prevention into the survivorship care of their patients	> STANDARD 6.1.3.2 - The EUCCC provides early and late post-cancer follow-up for risk factor evaluation, management, and prevention.
PREVENTION	6.2 Research on Prevention	6.2.1 EUCCCs contribute to research on prevention	> STANDARD 6.2.1.1 - The EUCCC contributes to research in cancer prevention, including early detection and screening, identification of high-risk groups, immunisation strategies, and links to tertiary prevention, as a lead or participant in multicentre studies, in alignment with its research strategy.
PREVENTION	6.2 Research on Prevention	6.2.1 EUCCCs contribute to research on prevention	> STANDARD 6.2.1.2 - The EUCCC facilitates data sharing with stakeholders for primary prevention research, including Cancer Registries or equivalent population-based data sources where available, in line with local, regional, and national regulations and ethical requirements.
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.1 EUCCCs provide comprehensive cancer-related education and training (CORE)	> STANDARD 7.1.1.1- The EUCCCs offers its employees access to a comprehensive list of formal education programmes. (CORE)
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.1 EUCCCs provide comprehensive cancer-related education and training (CORE)	> STANDARD 7.1.1.2- The EUCCC provides education and training programmes aligned with the strategic goals of the centre.

EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.1 EUCCCs provide comprehensive cancer-related education and training (CORE)	> STANDARD 7.1.1.3- The EUCCCs provides or collaborates in providing a range of educational programmes meeting professional needs and covers:
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.2 EUCCCs support multi-disciplinary integration of research and clinical practice	> STANDARD 7.1.2.1- The EUCCC provides educational programs aimed at a multi-professional and multidisciplinary audience, promoting interdisciplinary and multidisciplinary collaboration.
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.2 EUCCCs support multi-disciplinary integration of research and clinical practice	> STANDARD 7.1.2.2- The EUCCC offers cancer research training programmes that emphasise research methodologies, data analysis, and critical appraisal of scientific literature to facilitate integration research and care.
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.2 EUCCCs support multi-disciplinary integration of research and clinical practice	> STANDARD 7.1.2.3- The EUCCC offers training programmes bolstering healthcare professionals' capacity to seamlessly integrate research findings into clinical practice.
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.3 EUCCCs establishe a network for comprehensive cancer-related training	> STANDARD 7.1.3.1- The EUCCC collaborates with training centres, universities, research institutions, and community partners, including patient representatives, to create and offer cancer-related training and education programmes. (CORE)
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.3 EUCCCs establishe a network for comprehensive cancer-related training	> STANDARD 7.1.3.2- The EUCCC ensures stakeholder involvement in the revision of the educational programme.
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.4 EUCCCs educate patients and caregivers for active participation in care	> STANDARD 7.1.4.1- The EUCCC develops and offers a range of educational programmes and resources for patients and their families, including topics on:
EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.4 EUCCCs educate patients and caregivers for active participation in care	> STANDARD 7.1.4.2- The EUCCC offers personalised counselling and support services to assist patients and their families in understanding and managing the complexities of cancer care.

EDUCATION AND TRAINING	7.1 Integration of Education and Training into care	7.1.4 EUCCCs educate patients and caregivers for active participation in care	> STANDARD 7.1.4.3- The EUCCC provides access to support groups, survivorship programmes, and community resources that can offer additional support and information. (CORE)
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.1 EUCCCs offer diverse educational formats	> STANDARD 7.2.1.1- The EUCCCs offers all its employees access to comprehensive list of formal education programmes covering all stages of the cancer patient pathway
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.1 EUCCCs offer diverse educational formats	> STANDARD 7.2.1.2- The EUCCC provides education and training programmes alingned with strategic goals of the centre.
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.1 EUCCCs offer diverse educational formats	> STANDARD 7.2.1.3- The EUCCC regularly based on peer experts and/or feedback from participants evaluates their training and education programmes to inform improvements.
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.2 EUCCCs involve patients in education programme development	> STANDARD 7.2.2.1- The EUCCC collaborates with patient associations or advocacy groups to co-create education and training programmes for healthcare professionals, ensuring that the programmes are aligned with patients' needs and perspectives. (CORE)
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.2 EUCCCs involve patients in education programme development	> STANDARD 7.2.2.2- The EUCCC integrates patient-centred principles in its education and training programs, highlighting the significance of shared decision-making and empowering patients in their healthcare journey.
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.2 EUCCCs involve patients in education programme development	> STANDARD 7.2.2.3- The EUCCC provides training opportunities for healthcare professionals to enhance communication skills, promote patient involvement in treatment planning, and address individual patient needs and preference

EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.3 EUCCCs foster international learning experiences for relevant staff	> STANDARD 7.2.3.1- The EUCCC participates in student exchange programmes, fellowships, and staff mobility to support international education and training.
EDUCATION AND TRAINING	7.2 Organisation of Training and Education	7.2.3 EUCCCs foster international learning experiences for relevant staff	> STANDARD 7.2.3.2- The EUCCC engages in a variety of international activities, such as conferences, workshops, research, and meetings, to facilitate knowledge sharing, idea exchange, and collaborative efforts.

ANNEX 2.
Participating centres

Alleanza Contro il Cancro, Italy: it was founded in 2002 by the Ministry of Health, is joined by 27 Institutes for comprehensive cancer patient care and research (IRCCS), AIMaC, Italian Sarcoma Group, CNAO Foundation, INFN, INFN, Politecnico di Milano Foundation and Italian National Institute of Health, which hosts its offices. Alliance Against Cancer has the mission to bring technological and organisational innovation from basic research to clinical practice, raising and unifying the level of care, treatment, and rehabilitation of cancer patients throughout the country.

Azienda Unità Sanitaria Locale di Reggio Emilia - IRCCS Istituto in Tecnologie Avanzate e Modelli Assistenziali in Oncologia, Italy: comprehensive cancer centre and the main public healthcare organisation responsible for medical services, hospitals and specialised care in the Reggio Emilia area. It includes an IRCCS focused on prevention, diagnosis, treatment and rehabilitation of oncology patients. Its multidisciplinary approach is a key driver of care quality, and its research activities in oncology and onco-haematology span the full patient pathway, from screening and diagnosis to innovative, supportive and end-of-life therapies.

Candiolo Cancer Institute FPO-IRCCS, Italy: is a Comprehensive Cancer Centre recognised by the Italian Ministry of Health. It integrates cancer care and research on the same site, with strong links between clinical and research units supporting translational oncology. The Institute is supported by a broad range of core facilities and maintains a framework agreement with the University of Torino. It operates within the Piedmont–Aosta Valley Oncology Network, delivering services in agreement with the Italian National Health Service and supporting coordinated care across the region, covering approximately 4.25 million inhabitants in Piedmont and 0.12 million in the Aosta Valley.

CCC Niedersachsen, Germany: It covers a wide and heterogeneous catchment area, combining local access to care with academic expertise. The centre is characterised by strong coordination of multidisciplinary care, shared standards and close integration of research and clinical practice at regional level. It also supports innovation through clinical trials, regional collaboration and structured education and training activities. Its model is designed to ensure consistent quality across a large area while strengthening referral pathways, shared decision-making structures and the dissemination of specialised expertise beyond the university-hospital setting.

Centre Léon Bérard, France. Comprehensive Cancer Centre based in Lyon, serving as a reference hub for the Auvergne-Rhône-Alpes region and beyond, and treating more than 42,000 patients. It delivers specialised oncology care across the full cancer pathway, with strong multidisciplinary expertise and an integrated model combining clinical care, research and innovation. CLB is recognised for its strengths in translational research and clinical trials, and plays a key role in regional cancer networks, including complex case management and coordination with partner hospitals. It is also a reference and innovation centre for frequent and rare cancers and coordinates the national reference network for sarcomas and rare ovarian cancers.

Estonian Cancer Network – ESTCAN, Estonia: the Estonian Cancer Network was established to bring together healthcare, research and education institutions, patient organisations and policymakers within a collaborative network. Its aim is to prevent cancer, improve early detection and ensure equal access to quality treatment for all. Evidence-based cancer control is understood as a strategic investment that reduces the burden of disease, strengthens the health system and improves patients' quality of life.

Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy is a Comprehensive Cancer Centre entirely dedicated to cancer care, research, and education. Founded in 1928, it is one of Italy's leading reference centres for the treatment and study of both common and rare cancers, including rare adult solid tumours, haematological malignancies, and paediatric cancers. Its mission is driven by a holistic vision that combines high-quality, highly specialised care with cutting-edge biomedical research, spanning basic, translational, and clinical science, including Phase I trials. Current research focuses on the molecular and cellular determinants of tumour onset, growth, and progression, as well as inherited factors underlying genetic susceptibility to cancer. Its educational portfolio includes PhD studentships, postdoctoral fellowships, graduate and doctoral training, as well as medical, nursing, psychology, and social care education, continuing medical education, and specialised Master's courses.

German Cancer Society (DKG), Germany a non-profit organisation that runs a large certification system for comprehensive cancer centres, using audits to assure quality and publishing results in annual reports. It describes certified centres as tumour-specific networks linking inpatient and outpatient services and is also linked to the European Cancer Centre Certification Programme. The DKG includes around 8,000 scientific members organised in 25 working groups, 16 regional cancer societies and 35 supporting organisations, including research-based pharmaceutical companies, scientific publishers and health insurers. Its members are active in cancer research and treatment, and the society brings together clinical experts, basic researchers, medical technicians, nurses, psychologists and other professional groups working in oncology.

Gustave Roussy, France: a major Comprehensive Cancer Centre in Greater Paris, with a national and international referral role for complex and rare cancers, and consistently ranked among Europe's leading oncology hospitals. It provides highly specialised care across the full cancer pathway and hosts a large clinical and translational research ecosystem, with a high volume of clinical trials and strong capabilities in precision oncology and early-phase studies. Gustave Roussy acts as a reference centre for advanced treatments and innovation, while also contributing to national cancer strategies and international collaborations. . Innovation is central to its scientific, clinical and educational mission, including through L'École des Sciences du Cancer, founded in partnership with Paris-Saclay University.

Haute Autorité de Santé, France: the independent public authority responsible for promoting quality, safety and relevance in health and social care in France. It works to ensure that care and support are safe, effective and adapted to individual needs at every stage of life. HAS develops recommendations, assesses health technologies and professional practices, and works with patients, service users and professionals to support continuous quality improvement across the health and care system.

Institut Català d'Oncologia, Spain: is a Comprehensive Cancer Centre combining a monographic oncology centre with Bellvitge University Hospital and IDIBELL. Together with the other 3 monographic oncology centres and the other tertiary general hospital, Germans Trias Hospital, Trueta Hospital and Joan XXIII Tarragona hospital, provide cancer care across several locations in Catalonia, covering a reference population of 3.5 million inhabitants, around 50% of the region. Additionally, the centres works collaboratively with community hospitals in the reference area. Institut Català d'Oncologia includes prevention, including early detection programmes for breast, colon and cervical cancer, as well as diagnosis and treatment of adult cancers. It works within functional units approach and provides a wide range of oncological therapies, including systemic treatments, bone marrow transplantation in all its typologies, CAR-T, and several radiotherapy modalities, including brachytherapy and intraoperative radiotherapy. It has integrated an early palliative care intervention program for specific tumours such as lung cancer, pancreatic cancer, and head and neck cancer. The centre participates in undergraduate training in Medicine and Nursing with the Universities of reference: the University of Barcelona, Rovira i Virgili University of Tarragona, Autonomous University of Barcelona and the University of Girona.

Institut de Cancérologie de l'Ouest, France: a consortium-based Comprehensive Cancer Centre operating across two locations in western France, Angers and Saint-Herblain/Nantes, and covering almost 45,000 patients per year. It serves a large regional catchment area and provides specialised oncology care across the full cancer pathway. ICO has strong expertise in multidisciplinary care, clinical research and translational oncology, and acts as a reference centre for complex cancers in the region. It is also recognised for its personalised patient support and active role in education and university-based training. Most members of the cancerology section of the National University Advisory Board (Conseil National des Universités, CNU) for the Pays de la Loire region are affiliated with ICO.

Institute Curie, France: a Comprehensive Cancer Centre operating across sites in Paris, Saint-Cloud and Orsay, combining one of the largest oncology research centres in Europe with two state-of-the-art hospitals, all contributing to its three core missions of treatment, teaching and research. It serves a large national and international patient population and delivers highly specialised oncology care across the full cancer pathway. Institut Curie is strongly research-driven, with internationally recognised excellence in translational and clinical research, and ensures close integration of care, research and education within a multidisciplinary framework.

Institutul Oncologic "Prof. Dr. Ion Chiricuță" Cluj-Napoca, Romania: a specialised oncology institute and major cancer centre in Romania, combining multidisciplinary cancer care, research and education within a dedicated institutional structure. It provides specialised diagnosis and treatment across the cancer pathway and plays an important role in the development of oncology services, academic training and research activity at national level. Its model supports close interaction between clinical practice, laboratory activity and professional education, contributing to the advancement of comprehensive oncology care.

Instituto Português de Oncologia do Porto, Portugal: is a Comprehensive Cancer Centre and the largest cancer care institution in Portugal and the reference centre for 3.7 million inhabitants. It combines highly dedicated clinical staff, state-of-the-art facilities, strong clinical and basic research, and a firm commitment to delivering high-quality care. IPO Porto has a highly developed clinical research profile, with several teams supporting translational research, including five translational research groups, two clinical research groups, and one group focused on cancer epidemiology, outcomes and patient quality of life. The centre also includes an Oncology Nursing Research Unit and a Clinical Research Unit, including an Early Phase Clinical Trials Unit. Its Educational Department, the Portuguese School of Oncology of Porto (EPOP), provides advanced education and professional development in oncology, medicine and health sciences.

Karolinska Comprehensive Cancer Centre, Sweden a University Hospital and Karolinska Institutet, explicitly integrating specialised care and cancer research. Its research spans the full spectrum of oncology, from molecular mechanisms and DNA repair to multidisciplinary cancer research and clinical studies. Cancer Research Karolinska Institutet acts as an overarching umbrella organisation, bringing together around 400 research groups across basic, clinical and translational research, epidemiology and care sciences. Its aims include improving prevention strategies, refining prognostication and therapy prediction to better tailor treatments, and developing new therapies that reduce morbidity and mortality. Education is also a strong priority, with 16 programmes for medical staff and cancer teaching integrated into undergraduate professional training.

Medical University of Vienna, Austria: a leading academic medical centre integrating research, education and specialised clinical care in close collaboration with Vienna General Hospital. It provides comprehensive oncology services across the cancer pathway to a large national and international population. The institution combines strong biomedical and translational research capacities with multidisciplinary clinical expertise, ensuring close alignment between research, teaching and patient care. It integrates all departments and institutes involved in oncology across both institutions, fostering a multidisciplinary approach to cancer care, research and education.

National Cancer Institute of Ukraine, Ukraine: a specialised cancer centre and national referral oncology institute based in Kyiv, providing unified diagnostics and treatment for oncology patients nationwide.to patients from across the country, with substantial inpatient and outpatient activity. To support improved cancer control in Ukraine, it developed the “National Programme for Cancer Control until 2016”. At the time described, the Institute included 17 scientific departments and laboratories and 33 clinical departments, with 600 beds and capacity to treat around 400 oncology patients per day, including highly complex surgical procedures.

Oslo University Hospital, Norway. a Comprehensive Cancer Centre created through the integration of major oncology services, including the Norwegian Radium Hospital and Ullevål Hospital. It combines specialised cancer care, multidisciplinary coordination, research and education within a large academic hospital setting. Close collaboration between clinicians and researchers, together with advanced infrastructure and core facilities, supports translational and clinical oncology. Its research profile includes cancer biomedicine, immunotherapy, stem cell research, personalised therapy and precision radiotherapy, while strong educational activity supports medical, nursing and radiotherapy training and reinforces the close integration of research with patient care.

Sahlgrenska University Hospital: a Comprehensive Cancer Centre with a single university-hospital-based regional cancer hub for Västra Götaland, serving around 1.7 million inhabitants. It provides care across the full cancer pathway, including paediatric oncology, and also holds national responsibilities for the treatment of several rare cancers. The centre is based on close collaboration between Sahlgrenska University Hospital and the Sahlgrenska Academy at the University of Gothenburg. This partnership spans a broad range of cancer research, from basic to translational and clinical studies. Education is a high priority, and the hospital is actively involved in the training of medical students, PhD students, cancer physicians and oncology nurses

Tartu Unversity Hospital, Estonia. a Cancer Centre based on the close collaboration between Tartu University Hospital and the Faculty of Medicine of the University of Tartu, which together form the core of the centre. Tartu University Hospital is the largest healthcare provider and the only academic hospital in Estonia, offering high-quality tertiary care across nearly all specialties. It is also the only institution in the country performing organ transplantation. The Cancer Centre oversees the full cancer care continuum across its structural units, including prevention, diagnostics, treatment, rehabilitation, palliative and end-of-life care, as well as teaching and research. In addition, its Genetics and Personalized Medicine Clinic serves the whole Estonian population.

Dresden University of Technology, Germany: one of the leading universities of technology in Germany, combining academic education, research and innovation across a broad disciplinary spectrum. It has particular strengths in areas such as life sciences, microelectronics, materials science, digital sciences and societal change. As a University of Excellence, TUD is recognised for its strong international profile, high research intensity and interdisciplinary approach. In oncology, its close links with University Hospital Carl Gustav Carus and the University Cancer Centre Dresden support the integration of research, education and patient-centred innovation within a major academic environment.

UNICANCER, **France**. is a hospital federation dedicated to the fight against cancer. Through its health cooperation group, Unicancer is also the only national hospital network exclusively specialised in oncology. It brings together 18 French Comprehensive Cancer Centres and an affiliated member, all offering a public service and playing a major role in healthcare and research in France**.**

Vall d'Hebron Barcelona Campus Hospitalari, Spain: is a Comprehensive Cancer Centre. The university hospital campus with a strong oncology research profile. Together with the Vall d'Hebron Institute of Oncology (VHIO) and the Universitat Autònoma de Barcelona (UAB), it forms a hub of medical and scientific excellence dedicated to advancing healthcare and improving patient outcomes. VHIO is a European leader in clinical and translational oncology, rapidly translating laboratory discoveries into early clinical trials and innovative patient therapies. Its pioneering multidisciplinary model, combined with extensive international collaborations, reinforces the close integration of specialised care, research and education across the campus.

Vejle Cancer Centre –Lillebaelt Hospital, Denmark: is a cancer centre that operates with a strong patient-centred approach, where all care is guided by the principle of "the patient first." The hospital integrates physical and mental healthcare and is supported by around 6,000 staff working collaboratively across disciplines. Patient and family involvement and shared decision-making are central to care delivery. The organisation emphasises continuous learning, innovation, and collaboration across sectors to ensure coherent patient pathways.

Wroclaw University of Economics and Business, Poland: a modern public university combining academic education, applied research and strong links with the socio-economic environment. Its work focuses on economics, management, finance, public policy and related fields, supporting evidence-informed decision-making, innovation and professional training. Through research, international projects and collaboration with external partners, the university contributes expertise relevant to health systems, organisation and policy, while also playing an active role in education and knowledge transfer.

Westdeutsche Tumorzentrum Essen-Münster, Germany: a network-based Comprehensive Cancer Centre built around University Medicine Essen and expanded in 2019 through a partnership with University Hospital Münster. This configuration supports coordinated specialist cancer services across two university hospital sites, with shared structures such as tumour boards and centre-wide programmes. The West German Tumor Centre Essen is the central facility for cancer care at Essen University Hospital, where multiple medical disciplines collaborate to provide state-of-the-art diagnostics and treatment based on the latest scientific and clinical evidence.

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