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EDUCATION AND TRAINING STANDARDS IN CCC CERTIFICATION: A COMPARATIVE ANALYSIS OF OECI AND EUNETCCC

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Purpose: The purpose of this paper is to explore education and training standards in CCCs (Comprehensive Cancer Centres) certification within the OECI (Organisation of European Cancer Institutes) and EUnetCCC (European Comprehensive Cancer Centre Network) frameworks.
Design/methodology/approach: To achieve the research purpose, a narrative literature review and secondary data analysis were conducted. Education and training standards were compared across two frameworks: OECI and EUnetCCC.
Findings: The comparative analysis shows that the EUnetCCC standards in the field of Education and Training are reflected in the OECI framework. By contrast, EUnetCCC conceptualises Education and Training as a more explicit, cross - cutting dimension of CCC maturity.
Research limitations/implications: The literature analysis is based on a narrative literature review rather than a systematic one and relies only on secondary data and document review. The analysis is limited to two frameworks: OECI and EUnetCCC. Although these two represent relevant and influential approaches to cancer centre certification in Europe, they do not cover the full diversity of certification and quality assurance models operating across European healthcare systems. The analysed frameworks differ in their institutional maturity and degree of operationalisation, which limits the extent to which they can be compared.
Practical implications: It may help cancer centres benchmark their own practices, identify gaps, and prepare more effectively for certification.
Originality/value: This paper offers an original contribution by focusing on education and training standards as a dimension of European cancer centre certification.
Keywords: CCC - Comprehensive Cancer Centre, EUnetCCC, OECI, certification.
Category of the paper: Research paper.

1. Introduction

Cancer is a public health challenge, which is the result of demographic changes, increasing life expectancy, and change in life-style. Although considerable progress has been made in the field of diagnostics, therapy and drugs, cancer remains one of the leading global health issues.

The EU is working on the initiative of improving the management and control of cancers across the EU, supporting the development of Comprehensive Cancer Centres (CCCs) where the treatment of cancer can be provided within an integrated framework that fosters innovation, research and excellence in the management of cancer patients.

Oncological certification in Europe has become an important area of research due to its impact on cancer care quality, patients' equitable access to care, and patient outcomes (Bierbaum et al., 2024; Brand, Blankart, 2026; Mroczkowski et al., 2025). While progress has been made through the implementation of several oncology certification schemes, multinational standards for multidisciplinary training, and relevant legislation, the process continues and many aspects still need to be addressed for the alignment of cancer certification activities and practices for CCCs in Europe to be achieved between countries (de Paoli, Preziosa, 2024). Organisational certification in oncology means the evaluation of a hospital against a set of national or international quality and safety standards. While individual healthcare professionals can achieve certification in their profession, this certification is more about the structural items, the workflows and the organisational culture that are needed to run a high quality cancer service. Such features are common across several major European certification frameworks for cancer care, as well as features such as multidisciplinary care (Taberna et al., 2020), integration of research with clinical care and quality benchmarking. This trend is extending hospital accreditation towards the certification of Comprehensive Cancer Networks (Wind et al., 2023).

The Joint Action CraNE established the basis for a European network of Comprehensive Cancer Center (CCC) and certification criteria assuring a high level of care and organisational performance. These achievements are being further pursued within the context of the EUnetCCC project, which is aiming at refining the certification criteria for cancer centres with special focus on oncology. Importantly, two European certification schemes for CCCs (from all analysed) has fully met the predefined criteria for the admission of certified CCCs to the future EU Network (de Paoli, Preziosa, 2024), the one of the Organisation of European Cancer Institutes (OECI) and the Deutsche Krebshilfe (DKH).

The aim of this paper is to explore education and training standards in CCC certification within the OECI and EUnetCCC frameworks. This research task was tackled by conducting a narrative literature review and a secondary data-based comparative analysis. The paper is organised into two sections. The first part discusses OECI and EUnetCCC certification schemes. The second part undertakes the actual comparative analysis of the standard requirements of these certification schemes.

2. OECI and EUnetCCC certification schemes

2.1. OECI certification scheme

Amongst OECI's activities, the Accreditation and Designation Programme plays a special role (i.e. Mazzini et al., 2021). Its purpose is not only to assess the quality of care but also to identify the degree of comprehensiveness of a given centre or network - that is, the level of integration of treatment, research, education, and care organisation (OECI, 2025a). According to OECI data accessed on 8 March 2026, the OECI has 177 members, more than half of whom have completed the Accreditation and Designation Programme (A&D Programme) or are in the process of doing so. At that date, the OECI had certified 47 Comprehensive Cancer Centres, 22 Cancer Centres, and 2 Comprehensive Cancer Networks, and 40 are in the accreditation process (OECI, https://accreditation.oeci.eu/certified-centres/, March 8, 2026).

Oberst et al. (2020) identified 100 European Core Quality Standards that serve as the basis for quality requirements for cancer treatment and research centres. In turn, Kehrloesser et al.'s (2021) analysis, based on data from the A&D Programme, showed that this system enables differentiation between Cancer Centres and Comprehensive Cancer Centres using both qualitative and quantitative indicators. It is worth emphasising a key difference and, at the same time, a distinguishing feature of CCCs: their research potential, publication output, and clinical trial activity.

In recent years, the OECI has also developed a pathway for Comprehensive Cancer Networks (CCNs). This model examines not a single hospital but a network of oncology care built around at least one Comprehensive Cancer Centre, which also serves as the network's hub. In the CCN framework, CCC status is first accredited or confirmed. Then, network standards are applied across the entire network to ensure consistency in quality, patient pathways, research, and access to clinical trials (Wind et al., 2023).

The OECI accreditation framework is modular, with the standards defined within it divided into nine areas of oncology unit operations. These areas are: 1. Governance, 2. Organisation of quality systems, 3. Patient involvement and empowerment, 4. Multidisciplinarity, 5. Prevention and Early Detection, 6. Diagnosis, 7. Treatment, 8. Research, 9. Education and training. The exception is the 10th area, titled General, which is assigned only to the quantitative section.

The certification scheme consists of two parts. The first is qualitative and contains 87 synthetic standards, which are described by 287 detailed standards describing CC in the nine areas examined. The second is the Quantitative Questionnaire, which consists of 116 questions/items (no questions are provided for the Prevention and Early Detection area). During evaluation, CCC must comply with all standards and questions specified in the accreditation scheme. In contrast, CC must comply only with selected ones (OECI, 2025b).

2.2. EUCCC certification scheme

An EUCCC is understood as an organisational entity with clear governance, advanced infrastructure, and a high level of expertise. EUCCCs are expected to provide cutting-edge care, including for rare cancers, and to conduct translational research. They may also operate within, or in cooperation with, tumour-specific or regional Comprehensive Cancer Care Networks (CCCNs) (see more at https://eunetccc.eu/about-eunetccc).

The EUCCC certification scheme was developed in response to the needs of Europe's Beating Cancer Plan (EBCP), adopted by the European Commission in 2021. The plan introduced a new EU approach to cancer prevention, treatment, and care, based on policy integration and broad stakeholder involvement. One of its flagship objectives is the establishment of a network of Comprehensive Cancer Centres (CCCs) in every Member State in order to improve access to high-quality diagnosis and treatment and to strengthen cancer research and innovation (Wierzbic et al., 2025, p. 9).

The network is intended to consist of certified centres, with the goal of certifying 100 EUCCCs by 2028. At the same time, candidate centres may use existing OECI and DKH schemes, although these are not accredited certification schemes in the formal EUCCC sense.

The EUCCC certification model was initially developed within the CraNE Joint Action and is being further refined in the EUnetCCC project. A key reference document is D7.2 Set of criteria and standards and their application in a certification process for EU Comprehensive Cancer Centres (Dubois et al., 2024). This document defines standards grouped into seven domains: Governance, Care, Research, Integration of Research and Care, Innovation, Prevention, and Education and Training.

Some of these standards are classified as core standards. These are considered essential within the framework, receive particular attention during certification, require stronger evidence, and are prioritised during audits (Wierzbic et al., 2025, p. 13).

The structure of the set of standards, including the core standards, is presented in Table 1.

Table 1.
Number of standards, broken down by theme, including core standards, in specific themes

Theme	Total number of standards	Number of standards defined as core	Percentage of standards defined as CORE
Governance	39	11	28.2%
Care	134	17	12.7%
Research	60	13	21.7%
Integration Research and Care	40	15	37.5%
Innovation	18	2	11.1%
Prevention	12	1	8.3%
Education and Training	19	7	36.8%
All Themes	322	66	20.5%

Source: Wierzbic et al., 2025, p. 14.

From the perspective of this article, the authors' main area of interest are the standards grouped under Education and Training. It should be noted that the authors do not go beyond this theme/domain in their analysis because of the necessity to fit the article to limited size. Nonetheless there are also standards in other themes that to some extent refer to the Education and Training topic. Analysis of these standards and their reflection in the OECI framework may be the subject of next article.

3. Education & Training – a comparative analysis of OECI and EUnetCCC

The comparative analysis begins with a secondary data analysis of the text documents aimed to identify semantic connections between the standards of both certification schemes. The standards analysis was based on the Sets of Criteria and Standards for CCCs and the OECI Qualitative Standards for Cancer Centres.

Table 2.
A comparative analysis (EUnetCCC and OECI) of standards grouped in Education & Training theme

EUnetCCC Standard in Theme "Education and Trainig"	Is Core standard in EUnetCCC?	Is Covered with OECI?	Corresponding OECI Theme	Corresponding OECI Standard
7.1.1.1 The EUCCCs offers its employees access to comprehensive list of formal education programs (CORE)	Yes	Yes	9. Education and training	85.270. There is a comprehensive training programme for all staff members based on the evaluation of individual training needs. CORE
7.1.1.3 The list of educational programs serves as an annual checklist to ensure that the program offers the education and training needed for the EUCCC to reach its strategic goals.	No	No	No	No standard corresponding.
7.1.1.4 The EUCCCs promotes a range of educational programs meeting professional needs and covers:	No	Yes	3. Patient involvement and empowerment 8. Research	21.67. The cancer centre organises communication (including public events) to showcase advances in cancer care and research. 78.243. There is a programme in place for research talent development.
Undergraduate and post-graduate education				
Continuous Professional Development (CPD) programs				
Postdoctoral research training in cancer				
Public outreach and awareness programs				

Cont. table 2.

7.1.2.1 The EUCCC fosters interdisciplinary and multidisciplinary collaboration by providing educational programs to unite healthcare professionals in a cohesive working relationship. (CORE)	Yes	No	No	No standard corresponding.
7.1.2.2 The EUCCC offers cancer research training programs that emphasise research methodologies, data analysis, and critical appraisal of scientific literature to facilitate integration research and care.	No	No	No	No standard corresponding.
7.1.2.3 The EUCCC offers training program bolstering healthcare professionals' capacity to seamlessly integrate research findings into clinical practice.	No	Yes	8. Research	76.239. Regular meetings on research activities, results and new opportunities are organised to promote interactions minutes of meetings, between researchers and clinicians. 77.242. There are procedures in place to ensure that results from internal and external research are translated into new practice (e.g. diagnostic tools, treatment or prevention).
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 programs. (CORE)	Yes	Yes	1. Governance	5.12. The cancer centre has formal agreements with universities agreements for cancer education, where those entities are not a legal part of the cancer centre. CORE
7.1.3.2 The EUCCC ensures stakeholder involvement in revision of the educational program.	No	No	No	No standard corresponding.
7.1.4.1 The EUCCC develops and offer a range of educational programs and resources for patients and their families, including topics on:	No	Yes	3. Patient involvement and empowerment	21.64. There are patient education programmes/processes that aim education; examples of at improving patient understanding of their illness, diagnosis, events for patients including information on self-care and how to manage multiple aspects of their illness or survivorship. CORE
• Cancer prevention				
• Treatment options				
• Supportive care				
• Self-care				
• Informed decision-making				
7.1.4.2 The EUCCC offer personalised counselling and support services to assist patients and their families in understanding and managing the complexities of cancer care.	No	Yes	3. Patient involvement and empowerment	21.66. Information and support services (including in-person and/or virtual platforms) are available in the cancer centre and easily accessible for staff, patients, family members and care givers.

Cont. table 2.

7.1.4.3 The EUCCC provides access to support groups, survivorship programs, and community resources that can offer additional support and information. (CORE)	Yes	Yes	3. Patient involvement and empowerment	24.80. Information about patients' associations and about self-help, and support groups is given to patients and their caregivers. 28.90. Information is given to patients on relevant patient support and advocacy groups.
7.2.1.1 The EUCCC offers a comprehensive range of educational activities to meet the diverse learning needs of healthcare professionals and cover all stages of the cancer patient pathway. (CORE)	Yes	Yes	7. Treatment 9. Education and training	56.189. Nurses who are involved in the care of cancer patients are trained in oncology according to their role and responsibility. 60.199. There is regular education for staff on pain management. Standards from 85.270-278
7.2.1.2 The EUCCC evaluates the specific educational needs and competencies required for different professional roles in cancer care and design training programs accordingly.	No	Yes	9. Education and training	Standards from 85.273-276, ex. 82.273. Based on the analysis, the cancer centre defines an annual or multi-annual oncology training programme for physicians.
7.2.1.3 The EUCCC regularly based on peer experts and feedback from participants evaluates their training and education programs to inform improvements.	No	Yes	9. Education and training	85.278. The cancer centre collects and analyses feedback about the quality of the continuous professional training programmes.
7.2.2.1 The EUCCC collaborates with patient associations or advocacy groups to co-create education and training programs, ensuring they are aligned with patients' needs and perspectives. (CORE)	Yes	Yes	3. Patient involvement and empowerment	20.63. There is a formalised committee representing the patient voice and serving as a link between the cancer centre and the patients for advice and consultation.
7.2.2.2 The EUCCC integrates patient-centred principles in their education and training programs, highlighting the significance of shared decision-making and empowering patients in their healthcare journey.	No	Yes	3. Patient involvement and empowerment	23.72. There are procedures in place which specify how and by whom patients are informed about their diagnostic results, treatment options and risks, follow-up, and survivorship support, which involve shared decision-making.
7.2.2.3 The EUCCC offers training opportunities for healthcare professionals, aiming to improve their communication skills with patients, involve them in treatment planning, and cater to their unique needs and preferences. (CORE)	Yes	Yes	3. Patient involvement and empowerment	23.74. Expertise and specific training on communicating with patients and their families is available for all relevant staff.
7.2.3.1 The EUCCC participates in student exchange programs, fellowships, and staff mobility to support international education and training.	No	Yes	9. Education and training	86.283. The cancer centre offers oncology education to medical/nursing/supportive discipline students from other countries, e.g. through exchange programmes.

Cont. table 2.

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.	No	Yes	8. Research 9. Education and training	75.237. The cancer centre has formalised collaborations with international research organisations and networks. 86.283. The cancer centre offers oncology education to medical/nursing/supportive discipline students from other countries, e.g. through exchange programmes.

Source: Own elaboration.

It briefly looks into the 19 EUnetCCC standards in the field of Education and Training in relation with OECI standards and specifically mentions the relation of core standards with the other standards.

Overall there is a partial but substantial match. 14 out of 19 standards were reflected in the OECI, while 5 did not match with any standard. The highest degree of correspondence was found concerning the organisation of educational programmes, patient and family support, the training needs of doctors, the assessment of educational activities and international co-operation in education.

Standards not included in OECI are those related to the strategic and participatory aspects of education. They include achieving a high level of alignment between educational activities and the institution's objectives, stimulating interdisciplinary approaches within the institution, and strengthening the involvement of external stakeholders. In comparison, the OECI appears to be oriented more towards operational aspects, while EUnetCCC has a clear focus on the strategic and systemic level of education.

4. Conclusion

The main purpose of the paper was to examine the OECI and EUnetCCC frameworks, with special attention to certification standards, in terms of the education and training dimension dedicated to CCCs.

The research results show that the EUnetCCC standards in the field of Education and Training dimension are substantially reflected in the OECI framework. Importantly, the EUnetCCC conceptualises Education and Training as a more explicit dimension of CCC organisational maturity.

Several limitations of the study need to be considered. The literature analysis is based on a narrative literature review rather than a systematic one and relies only on secondary data (document review). Moreover, the comparison is limited to two frameworks: OECI and EUnetCCC. Although these two represent relevant and influential approaches to cancer centre certification in Europe, they do not cover the full diversity of certification across European

healthcare organisations. Finally, the analysed frameworks differ in their institutional maturity and degree of operationalisation, which limits the extent to which they can be compared.

These limitations show several future research directions. We suggest conducting a systematic literature review to provide comprehensive and replicable literature review results on oncology certification in Europe. Additionally, conducting interviews as primary data sources (completing our secondary data analysis) with certification representatives could help us gain a deeper understanding of how education and training standards and requirements are implemented in practice. Moreover, we believe that identifying good practices in certified centres could provide reliable insights into how to incorporate and adapt to certification frameworks effectively.

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