DigiCanTrain

Digital Skills Training for Health Care Professionals in Oncology

Project Number: 101101253

WP1: Project management and coordination

Deliverable 1.3 Final report summary

Authors		Anita Narbro, Virpi Sulosaari	
Version		V2	
Due Date		6.3.2026	
Work Package		WP 1	
Deliverable		D1.3	
Dissemination level		PU	
WP Leaders		Turku UAS	
Delivered		16.3.2026	
Version	Date	Comments	Modified by
V2	23.4.2026	1. The number of the deliverable added on the front page 2. sub-title changed on page 11 3. Information on scientific articles added in a table 1 4. Table numbering has changed and the missing table numbers added.	Anita Narbro

		5. Action level indicators added.	

Digi Can Train

Co-funded by the European Union

Digital Skills Training for Health Care Professionals in Oncology

D1.3 Final Report Summary

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EXECUTIVE SUMMARY

This deliverable is the final report of the DigiCanTrain project, written for anyone interested in the DigiCanTrain project. The report describes the results, outputs, projects impact as well as risks associated to the project.

This report covers the whole length of the project. In addition, in the chapter 4 the report focuses to the Reporting period 2 with a timeframe of 1.9.2024 – 28.2.2026.

DigiCanTrain, a project co-financed by the European Union EU4Health programme has been a successful project bringing together partners from 7 countries and 14 organisations covering a range of sectors like research, education, healthcare, cancer care and patient organisations in Europe.

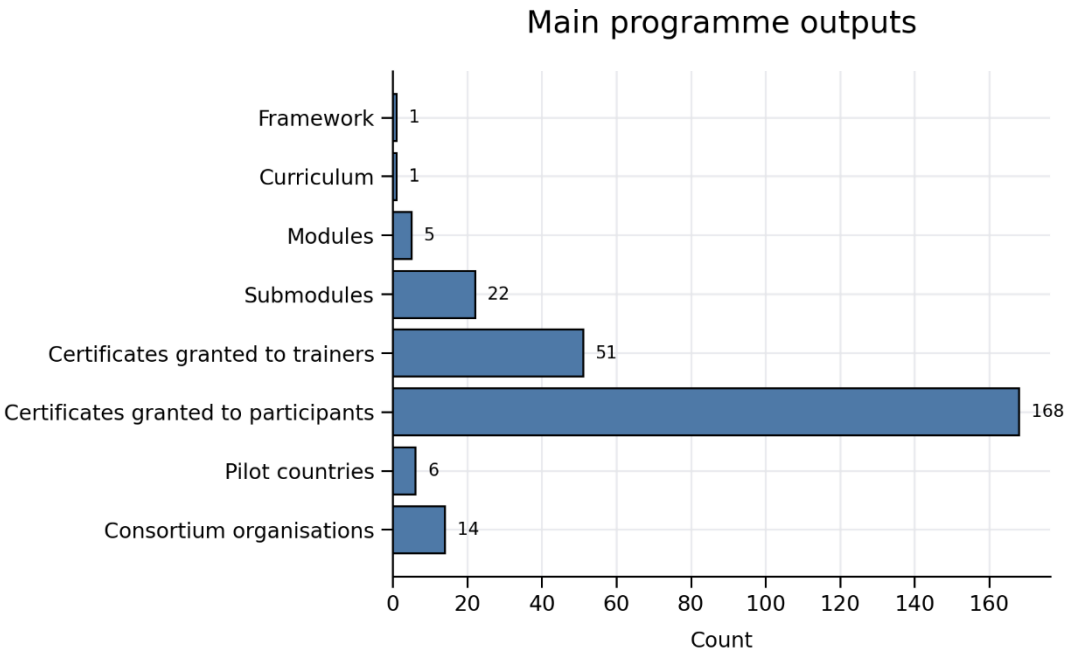
1. BACKGROUND OF THE PROJECT

Cancer remains one of the most common diseases worldwide. In 2022 there were ~20 million new cases and 9.7 million deaths. WHO/IARC project >35 million new cases in 2050 which is about a 77% rise from 2022. WHO news release; UN summary. In Europe, ECIS projections indicate about a 21% increase in new cancer diagnoses by 2040 versus 2020 across EU and EFTA countries. ECIS news; ECIS factsheets & explorer.

The COVID-19 period accelerated healthcare digitalisation in Europe. EU institutions strengthened the policy framework, and digital tools showed potential to improve resilience, efficiency, transparency, and convenience. Used well, digital interventions can streamline HCP-to-HCP communications and support growing oncology workloads. Furthermore, communication between HCPs and patients can be enhanced. Thus, evidence reviews also note persistent skills and implementation gaps, highlighting the need for workforce training.

DigiCanTrain project addressed this gap by developing and piloting programme for upskilling and reskilling the oncology workforce aligning with European Beating Cancer plan by delivering effective, person-centred digital cancer care and to adopt into use modern digital interventions. The project also aligns with EU's common framework for micro-credentials and recognition across EQF and ECTS. It also embeds lifelong-learning pathways in higher education (EQF levels 6–8), combining micro-credentials with ECTS and CME.

2. SUMMARY OF ACIEVEMENTS OF THE PROJECT



In just three years DigiCanTrain project successfully delivered all planned results. Here below is a list and direct links to the most important results.

- One Digital Competence Framework
- A mapping study on availability of digital skills training in EU Member States. (more details in table 1)
- Published Systematic review on digital skills (more details in table 1)
- Published Systematic review on digital tools in oncology (more details in table 1)
- One Curriculum
- One piloted training programme with two separate modules (trainer and trainee)
- 51 trainers have received certificate for completing the programme

- 168 participants have received certificate for completing the programme
- 17 other types of publications
- 52 oral presentations
- One video published on Europe's Beating Cancer Plan
- One Forum with 70 participants in Tallin, Estonia

Title	*Journal*	*Summary*	*Doi nr*
Digital skills of health care professionals in cancer care: A systematic review	Digital Health	The digital skills of health care professionals in cancer care are multifaceted and fundamental for quality cancer care. The skills need to be assessed to provide education based on actual learning needs. The review findings can be used for education and research in this field.	10.1177/20552076241240907
Interactive digital tools to support empowerment of people with cancer: a systematic literature review	Springer Nature	Interactive digital tools have been developed extensively in recent years, varying in terms of content and methodology, favouring feasibility and pilot designs. In all of the tools, people with cancer are either active or recipients of information. The research evidence indicates positive outcomes for patient empowerment through interactive digital tools. Thus, even though promising, there still is need for further testing of the tools.	10.1007/s00520-024-08545-9
Continuing Education in Digital Skills for Healthcare Professionals — Mapping of the Current Situation in	International Journal of Health Policy and Management	The rapid advancement of technology in healthcare is creating new competency requirements for professionals, such as skills for data management and the adoption of new technologies, understanding the effect of digitalisation on clinical processes, and evaluating clinical safety and ethics within	10.34172/ijhpm.8309

EU Member States		the context of digitalisation. These requirements call for improved educational curricula and ongoing continuing education in digital skills. This study, as part of the Digital Skills Training for Health Care Professionals in Oncology (DigiCanTrain) project, aims to map and describe the existing continuing education in digital skills for healthcare professionals (HCPs) in European Union (EU) Member States.	

table 1 Information about scientific articles

3. WORK PACKAGE PROGRESS REPORT

DigiCanTrain project was implemented from March 2023 to February 2026 and consist of six work packages:

- Management (WP1),
- Needs Assessment (WP2),
- Co-design (WP3),
- Pilot (WP4),
- Quality & Evaluation (WP5), and
- Communication, Dissemination and Exploitation (WP6).

Key phases of the project were the needs assessment from month 2 to month 7, curriculum and content co- design from month 5 to month 18, piloting from month 16 to month 31, and finalisation and exit from month 32 to 36 including the DigiCanTrain Forum at the end of the project.

During the **needs assessment**, three articles were published and those laid solid background for the Digital competence Framework development, programme content development and the piloting.

A curriculum with 5 modules and 22 submodules were produced in the **co-design phase** with scientific paper published in Journal of Cancer Education paper on programme development.

In the pilot phase delivery final Moodle data indicate 168 participants and 51 trainers as completed. In total, 684 participants and 118 trainers logged in at least once which means we had 516 participants and 71 trainers respectively that did not complete the course but where enrolled in the Moodle platform. Pilot concluded on 15 Sep 2025 and accreditation with certification was handled late 2025 and early 2026.

In the Final phase an exit strategy was developed and a Final DigiCanTrain Forum was organized in Tallinn 11–12 Feb 2026 including policy practitioners, project participants, stakeholders and trainers.

In summary, the project completed all the work packages and implemented all the tasks and reached all the results promised in the Grant Agreement. Small delays were incurred in WP 3 when designing the DigiCanTrain Programme and in the WP4 when piloting the DigiCanTrain programme.

3.1 Project Management

WP Project Management was successfully completed under the leadership on Turku UAS. WP1 was designed to support the implementation of the DigiCanTrain project according to the PM² methodology. To support the implementation of the project, several teams where functioning. Those

where the work package leaders' team, Steering Group of the project, External Advisory Board and Whole Project Consortium.

The Work Package Leaders team was the most active team that met every month during the project except the summer vacation. In total we have 25 documented meetings where the progress of the project was discussed and steered. The team met online for one-hour meetings. Prior the meeting, each work package leader filled in one slide in the continuous work package report presentation. The presentation was always available to anyone on the consortium to see and follow. During the meeting each WP gave short updated and if there were any challenges those where discussed. If needed, decisions then were escalated to the Steering Group of the project. In practice, because there were no serious delays or unmanageable constraints, the Steering Group did not need to make any decisions.

The Steering Group of the project was the decision-making body, and it consisted of one representative from each organisation with one voting right. The Steering Group meetings were held once a year and when necessary.

External Advisory Board (EAB) was created to steer the project and gain stakeholder input for the various activities in the project. EAB was established and lead by E.C.O. The EAB meetings was dissemination forums for informing the stakeholders as well as gaining stakeholder input. Therefore, materials were sent to the EAB members prior the meeting and input was gathered during the meeting.

The Whole Project Consortium was not really established as a team but at about in the middle of the project we realised there was a need for more contact and more information sharing therefore regular whole consortium online meetings where scheduled. In addition to the whole consortium

being involved through the different WP tasks, this forum enabled partners to keep up to date and follow the project better. In addition, the consortium members received update letter from the project lead approx. every six months.

3.2 Need Assessment

The needs assessment was implemented under the leadership of UTU. WP2 consisted of mapping study on continuing education in digital skills for healthcare professionals across EU members states and two systematic reviews.

The mapping study showed needs for the development of the HCPs' training in digital skills. This study showed that there is great variation in digital skills development from more well-defined national strategies and those lacking systematic coordination, and differences in national level coordination of digital skills development. In addition, some countries have placed a strong emphasis on HPCs' digital skills with comprehensive strategies, specialized training, workforce development, financial incentives and mandatory continuing education in the field. There are also differences in offering the training between European countries.

The first systematic review focusing on digital skills of HCPs in cancer care showed that digital skills are multifaceted and fundamental in cancer care and there is a lack of education opportunities. The areas in digitalized care need to be developed were identified too: information technology, ethical practice, human oriented relationship and digital patient education and support. The second systematic review focused on interactive digital tools used to support empowerment of people with cancer. The results indicated

that there are a variety of reliable digital tools that can be used in empowering the people affected by cancer, but these tools have limitations on availability across the countries.

The needs assessment was further complemented by a narrative review of literature and consensus workshop to develop DigiCanTrain Competence Framework. This framework Digital competence was defined as a combination of knowledge, skills, attitudes, and values in confident, critical, ethical and responsible use of digital health in cancer care to communicate, provide high-quality patient care and caregiver support, manage information, collaborate, create, share and implement evidence based care in an effective ad secure manner in all phases of the cancer care continuum. Competence domains were identified: communication, collaboration and participation, information technology and digital health systems, person-centred digital cancer care, digital interventions in cancer care and safety and ethics related to digital interventions and data management. In addition of this the sub competences were defined consisting of 17 knowledge items, 24 skills items and 12 attitude/value items. Based these competencies learning outcomes for DigiCanTrain Programme were built. The main outcome of the WP2 was DigiCanTrain Competence Framework for applying in the curriculum development of the DigiCanTrain Programme.

3.3 Co-design of the DigiCanTrain Programme

WP3 was completed under the leadership of NUI Galway. Content production for the curriculum, 5 modules and 22 submodules in WP3 was finalised, and a progress was documented on the Teams site. All curriculum materials were completed and checked, including module and submodule

evaluations, and contracts for content production were completed where necessary. The final content met the criteria for a micro-credential at EQF7 level and equivalent to 4-6 ECTS, depending on programme modules undertaken.

An agreement was reached to estimate the hours (n=140) required for programme accreditation as micro-credential course as later for CME accreditation. Following this, discussions were held on who would provide the accreditation. This was finalised with accreditation from the Accreditation Council of Oncology in Europe (ACOE) under the Digital Skills Training for Health Care Professionals in Oncology (CME-3764).

ACOE has awarded 140 credits to this programme. The American Medical Association (AMA) and the Accreditation Council for Continuous medical Education (ACCME) designate this type of educational activity for a maximum of 1 AMA PRA category 1 credit per hour of activity.

An agreement for the use of the curriculum was drawn up, specifying the terms and conditions for its use, noting that materials are offered free of charge and are intended for non-commercial, educational use only.

The following presentations and a publication were achieved.

1. Project presentation at the 18th annual scientific meeting of Irish Network of Healthcare Educators (INHED) in Cork, Ireland (22nd May, 2025);

2. *44th Annual International Nursing and Midwifery Research and Education Conference* in Dublin, Ireland (27th February 2025);

3. Dowling, M., Sulosaari, V., & Hernon, O. (2025). Development and implementation of a digital skills E-learning program for healthcare

professionals in cancer: digicantrain: Challenges and solutions. *Journal of Cancer Education*, 1-5.

3.4 Pilot of DigiCanTrain Programme

WP4 of piloting was successfully implemented under the leadership and overall coordination of the Catalan Institute of Oncology (ICO), which was responsible for the operational planning, harmonised execution, monitoring and final evaluation of the DigiCanTrain pilot across all partner countries. ICO ensured methodological consistency, supported partners throughout recruitment and implementation, supervised data collection and analysis, and led the preparation and delivery of Deliverable D4.1 – Pilot Evaluation Report.

The pilot was carried out in two cohorts following the completion of the programme design. A face-to-face consortium meeting organised and co-led by ICO in Barcelona in September 2024 established the common operational framework for recruitment, implementation, timelines, responsibilities and monitoring procedures. This ensured a coordinated and standardised approach in all participating countries.

The pilot was implemented in six consortium countries (Finland, Estonia, Spain, Ireland, Romania and Greece), with additional participation from other European and non-European countries, confirming the international outreach and transferability of the training model.

All trainers and participants followed predefined learning pathways adapted to their professional profiles. Trainers completed the Train-the-Trainers module, the interprofessional education module and their profile-

specific module, while participants completed the interprofessional module and their corresponding professional pathway. Interaction and pedagogical support were provided through dedicated forums in the Moodle platform, coordinated under the WP4 framework.

ICO designed and coordinated a structured and jointly agreed recruitment strategy, including common eligibility criteria, shared materials and recruitment guidelines for all partners. A contingency plan, also developed within WP4, enabled the activation of local professional networks and direct institutional contacts when needed.

The pilot achieved wide outreach and exceeded the initially expected number of recruited professionals. In total, 843 individuals were recruited (133 trainers and 710 participants) and 794 registered on the Moodle platform. Participants came from a large and diverse number of healthcare and academic institutions, including cancer centres, hospitals, universities, educational organisations, governmental bodies, professional associations and NGOs, many of them beyond the consortium partners.

We designed and implemented a comprehensive evaluation framework to assess the pilot from multiple perspectives. This included:

- pre- and post-training surveys to measure impact on digital competences (analysed in WP5)
- feasibility and feedback surveys for trainers, participants and organisations
- mandatory quantitative assessment through submodule quizzes
- compulsory submodule and module satisfaction questionnaires
- detailed analysis of professional profiles, countries, institutions, learning pathways and completion rates

A total of 51 trainers (40.52%) and 168 participants (24.34%) successfully completed the programme. Those who completed the training reported high satisfaction, improved understanding of digital health in oncology and increased confidence to apply the acquired knowledge in their clinical practice.

The pilot confirmed the feasibility and relevance of the DigiCanTrain training model for professionals with different levels of experience, including those with limited previous exposure to digital skills training.

WP4 successfully implemented the DigiCanTrain pilot in two cohorts across the six consortium countries, with additional participation from other European and non-European countries. A total of 843 professionals were recruited and 794 registered on the learning platform, representing a wide range of cancer centres, hospitals, universities, higher education institutions, governmental organisations, professional associations and NGOs. 51 trainers (40.52%) and 168 participants (24.34%) completed the programme, confirming the feasibility and acceptance of the training despite the high clinical workload of the target groups.

3.5 Quality Control and Evaluation

The DigiCanTrain project quality control and evaluation process followed the PM² methodology and was focused on three main aspects 1) the quality of the project implementation, 2) the quality assurance of the deliverables and 3) the quality assessment of the programme.

Various questionnaires were used in the assessment, depending on the project activities and planned schedule. The questionnaires can be found in Table 2.

Assessment tool	Respondents	When	What is evaluated
Participants' Satisfaction with Training Modules	Participants	After completing the modules	Pre-post survey
Module Assessment	Participants	After completing the modules	Quality of created modules
Quality Assessment of the Learning Platforms and Website- Feasibility	Participants	After pilot	Satisfaction with the website
Literature Review Checklist	WP2 leader	End of deliverable	Quality of literature reviews
Gender Impact Assessment Checklist	WP2 leader	End of deliverable	Gender Impact factor in literature review
Leaflet Evaluation Tool	ICO, 2026	End of project	Quality of leaflet
Curriculum evaluation tool	TTK	End of WP3	Quality of curriculum
Communication Plan evaluation tool	UTU, 2023	Start of WP	Quality of communication plan
Need assessment report evaluation tool	UTU, 2023	End of deliverable D4	Quality of need assessment report
Project Implementation Activities Surveys	All project partners	Twice a year	Satisfaction
DigiCanTrain Deliverable Review Template	All project partners	End of deliverable	Quality of the results assessment template

Table 2 Questionnairs of the project

PROJECT IMPLEMENTATION QUALITY CONTROL

The biannual project implementation surveys offered important feedback, highlighting, communication bottlenecks that were addressed on an ongoing basis to ensure a smoother overall process.

The project implementation survey outcomes were combined in PDF document and saved in TEAMS folder. The summary of the survey outcomes was discussed in the WP leaders meeting under the WP5. If actions where identified, those were taken in the action plan and assigned to relevant WP leader. Like, for example, better communication about the pilot, updating of the contact lists or more specific about the programme piloting issues.

DELIVERABLE REVIEW

The deliverable review schedule was set in the initial quality plan D5.1 Quality Management Plan. The schedule for the deliverable review was followed although it was challenged by slightly delayed delivery of the deliverables. Due to changes in the schedule, caused by the extension of the pilot period, the assessment dates of both the deliverables as well as the assessment of the programme where re-allocated.

The deliverables review provided valuable insights into the quality of deliverables, enabling necessary corrections and enhancements prior to submitting the deliverable documents, which contributed to better quality results. The rotational principal for the deliverable review was good strategy to gain better overview of the quality of the material. After the deliverables where reviewed, the lead partner still implemented final edits and visual layout corrections. Each deliverable also passed through the project content

lead making sure that no result was out of the vision and the objectives of the project.

QUALITY ASSESSMENT OF THE PROGRAMME

Quality assessment was substantial part of the project. A study was designed to evaluate the impact of the DigiCanTrain pilot programme in improving digital health competences among clinical and non-clinical cancer care professionals across different European countries.

Participants self-assessed their digital health competence in six domains: 1) human-centred remote consultation competence, 2) digital solutions as part of work, 3) information and communication technology competence, 4) competence in utilising and evaluating digital solutions, 5) ethical competence related to digital solutions, and 6) cancer care-specific competence. Assessment was conducted through online surveys before the start of the training (November 2024–September 2025) and after completion (March–September 2025). Pre-to-post differences in competence domains were tested for statistical significance using repeated-measures t-tests. A previously validated instrument (Jarva et al. , 2023) was used to assess the general digital competences and new cancer setting specific dimension was developed.

The results of the study are available in the D5.5 Article on Impact of DigiCanTrain Programme on Digital Skills and a manuscript that was submitted to *BMC Medical Education* for peer review on 31 October 2025 and will be made publicly available upon acceptance.

ASSESSMENT OF ACTION LEVEL INDICATORS

Actin level indicators	**trainers**	**participants**
Number of HCPs completing the training on interprofessional education	48	169
Number of HCPs completing the communication training for HCPs in cancer care (focus on Communication in digital environment).	48	169
Number of HCPs completing the training from information sharing to coaching transforming the cancer care towards person centred care.	48	169
Number of HCPs completing the training on Digital Technology and Digital Health Tools in Oncology.	48	169
Number of HCPs completing the training on Digitalised Multidisciplinary work models in Cancer Care	48	169
Number of nurses who completed the training module for nurses	40	156
Number of nurses who completed the training on person centred care and digital self-management support in cancer	40	156
Number of nurses who completed the training on Patient Involvement on PROMs for care and management (in health data base)	40	156
Number of nurses who completed the training on Remote Monitoring and eConsultation in oncology nursing practice (Nurse to Nurse consultation services)	40	156
Number of doctors who completed the training on oncology specialists and general medicine	31	134
Number of doctors who completed the training on Digital tools and AI technology in cancer diagnostics	32	143

Number of doctors wo completed the training on AI methodology as a part of modern radiotherapy planning	32	139
Number of doctors who completed the training on Digital decision supporting systems as working environments in implementing genomics to cancer treatment and prevention	32	136
Number of doctors who completed the training on electronic patients records and real word data in supporting treatment decisions	32	135
Number of doctors who completed the training on eHealth and digital tools in patient surveillance	32	134
Number of nHCPs working in health systems or health authorities, who completed the training	31	136
Number of nHCPs who completed the training on European Crises response Model in Oncology	31	137
Number of nHCPs who completed the training on Digital Support in Health Care System Resilience and Leadership	31	135
Number of trainers who completed the training (all modules)	26	5
Number of trainers who completed the training (received certificates)	48	169
Number of trainers who completed the training on pedagogical approaches on digital health literacy and education, blended leaning approached in the era of digitalisation	48	6
Number of trainers who complete the training on the Future operating environments and education technology; remote learning and teaching in oncology	48	6
Number of professionals who completed the training on virtual reality and simulation in post-pandemic word	48	6

Number of professionals who completed the training Digital skills – the Educator's toolkit; interprofessional education in the support of digitalization of oncology services	48	6
Number of trainers completing the DCT modules	26	5
Number of persons completing the DCT	Total 160; Finland 20, Estonia 20, Spain 40, Ireland 20, Romania 20; Greece 60) from which specialists and GPs (40), nurses (60), nHCPs (40) and allied (40)	
Number of ECTS/CME/micro credentials admitted (per profession, module and country)	Participants: 140 hours is 1 micro credential in EQF7 levels and equals 5 ECTS Participants: 80 hours is 1 micro credential in EQF7 levels and equals 3 ECTS Trainers: 140 hours is 1 micro credential in EQF7 levels and equals 5 ECTS	

table 3. Action level Indicators

3.6 Communication, Dissemination and Exploitation

The Communication, Dissemination and Exploitation WP was led by Turku UAS. The communication, dissemination and exploitation plan is available in the D6.1 Communication, Dissemination and Exploitation plan. In short, all the communication deliverables have been delivered and the objectives set out in the plan achieved.

The target numbers of the project communication where set to

Activity	Target	Reached
scientific publications	3	3+1
other publications	10	17
website views during the project	500	10 582
presentations, workshops, or webinars	10	52
participants in presentations, workshops, or webinars	200	40 498 (estimate of all audiences in total for oral presentations)
appearances in media	5	7
social media publications	40	40

Table 4. Project communication activities

dissemination log was kept during the project in TEAMS platform and in every whole consortium meeting, work package leaders meeting was reminded to fill in the log.

FINAL FORUM SUMMARY

DigiCanTrain project concluded with the Consortium Meeting and Final Forum held on 11–12 February 2026 in Tallinn. The event was hosted by the team of Tallinn Health University of Applied Sciences from Estonia. For the team, organising an event of this scale was a significant challenge, as they lacked prior experience. The challenge was further increased by the fact that this was not a conventional conference: the first day was dedicated to a Consortium Meeting for consortium members, while the second day featured a Final Forum aimed at a broader audience. In addition, the event was hybrid format, most participants attended on-site, but some joined online. Managing the hybrid format required careful attention to a wider range of technical considerations.

Key risks included staying within the planned budget and ensuring sufficiently broad outreach to secure an adequate number of participants.

While the budget was successfully maintained, the risk related to online participation did materialise. Although 71 individuals registered to attend the Final Forum online, only 23 actually joined, despite all registered participants having received the necessary information, including the Zoom link and the event programme.

33 participants attended the Consortium Meeting on site, and a total of 37 participants attended the DigiCanTrain Forum on site, including the speakers. The two-day event brought together the consortium and a wider group of European stakeholders to review the outcomes of the DigiCanTrain project and discuss its future use. The first day focused on analysing the pilot experience, refining the project's exit strategy and preparing final reporting, supported by group discussions that helped consolidate shared conclusions about the programme's effectiveness and sustainability.

The second day, in the Forum, the results of the project were introduced to a broader audience, presenting evidence on digital competence development in cancer care, showcasing national and international examples of digital innovation, and sharing experiences from programme participants. The forum also highlighted the project's key findings and future potential and concluded with a panel discussion on strengthening collaboration across Europe to advance digital skills in the health workforce.

4. IMPACT OF THE PROJECT

The impact of the DigiCanTrain project is assessed at two level. First the evaluation of the project and the impact of the project as a whole and

second the deliverable D5.2 specifically dived in the impact of the programme.

THE IMPACT OF THE PROJECT

At the project level the impact was projected for five beneficiary groups. The table below analyses the estimated and achieved impacts with indicators.

Beneficiary groups	Targets	Achieved
Health care professionals (direct): medical doctors, general practitioners, nurses working with people affected by cancer, cancer-specialist nurses, allied health professionals and managers, researchers, educators, NGO experts	Access to quality education and training Integration of online learning with workplace learning Lower threshold to take new technology into use Better understanding of eHealth in the oncology setting	The DigiCanTrain programme is accessible for HCPs after the project and materials maintained Integration is made easy by providing open access Moodle based programme with implementation guide and recommendations for certification The content of programme provides perspectives on utilising contemporary digital interventions
Trainers and Participants (direct)	Increased digital skills Increased knowledge and self-confidence in digital skills in an oncology setting. Concrete materials to support future provision of education and training at their organization Access to quality materials for learning at work	Positive impact identified in the pre-post study (WP5). DigiCanTrain programme and implementation guide available on Turku UAS Moodle after the project. Partners will continue the use on their own institutions.
People affected by cancer (indirect)	Better support indirectly as HCPs improves digital skills and adopt eHealth tools more readily. Lower adoption threshold among staff can translate into more consistent use of digital solutions in care.	Patient data was not measured in the DigiCanTrain project HCPs demonstrated positive change towards person-centred care and communication in the pilot.

	Improved communication	
Health care organisations (indirect)	Indirect benefit from staff with higher digital competence and a lower threshold to adopt new tools. adapting to changing environments (resilience) improved abilities for international collaboration	Positive feedback on the DigiCanTrain programme from trainers and participants: average score 6,6 (feedback survey after the project) average score 7,5 (feedback survey after the project) average score 8 (feedback survey after the project)
Policy makers (indirect)	Indirect benefit from evidence that education and training are key methods to develop digital competences and enable change in practice (as noted in the text). Basis for policies that promote scalable online workplace learning models.	3 articles documenting the needs and results of the project 1 video in Europe's Beating Cancer Plan site 52 oral presentations several presentations in HADEA events 2 collaboration meetings with sibling project

Table 5. The impact of the project

IMPACT OF THE PROGRAMME

To make proper assessment if the pilot improved digital health competences among cancer-care professionals across Europe a pre–post survey study was embedded in WP5. Participants self-rated six competence domains before and after they participated in the DigiCanTrain programme. Changes were tested with repeated-measures t-tests (two-tailed, $p \leq 0.05$) and IBM SPSS Statistics v30 was used. Ethical review on ethics (for the study was granted by Turku UAS Research Ethics Committee.

The study used the DigiHealthCom (©Jarva et al., 2023) instrument (five domains) adapted to oncology plus a new cancer-specific domain, producing six domains in total: (1) human-centred remote consultation, (2) digital solutions as part of work (attitudes/motivation), (3) ICT competence, (4) utilizing and evaluating digital solutions, (5) ethical competence, and (6) cancer-care-specific digital competence (latter developed for the study).

Items were rated on a four-point agree–disagree scale; composite domain scores were calculated.

Baseline **n = 333** completed the pre-survey. Of these, **212 (63.7%)** completed the training. **81** completers also submitted the post-survey (**38.2%** of completers), yielding **24.3%** retention and **75.7%** attrition from baseline to post. Respondents represented all six partner countries, predominantly women with Bachelor's/Master's degrees, spanning nurses, physicians and allied/non-clinical roles. Digital tools were common for clinical and administrative tasks. Direct digital communication with patients was less frequent.

Surveys ran in **six languages** (EN/ET/FI/EL/ES/RO) with validated/forward–backward processes to ensure conceptual equivalence. Responses were matched via e-mail (anonymised in analysis). Missing data up to **25%** within a domain were allowed when computing composite means, trainers and participants were analysed together due to small cell sizes.

Primary outcome of the evaluation was observed in **five of six** domains:

- **Human-centred remote consultation** — **largest gain**; better capability to guide via video/chat, sustain trust, adapt communication, and assess patients' readiness for remote care.
- **Utilising and evaluating digital solutions** — marked improvement; more confident identification, creative application, and critical appraisal of tools.
- **Cancer-care-specific digital competence** — notable increase; improved ability to support emotions, deliver sensitive information remotely, and collaborate digitally in oncology teams.
- **Ethical competence** — moderate improvement from a relatively high baseline (privacy, data security, autonomy, fairness).

- **Digital solutions as part of work** (motivation/attitudes) — modest improvement, consistent with high baseline positivity among volunteers.

5. RISKS ASSOCIATED TO THE PROJECT

The risk assessment of the project was part of the WP1 and was periodically discussed in the WP Leader meeting, in addition, the risk management and mainly mitigation strategies where covered.

The identified risks of the project where:

Description	Did you apply mitigation strategy?	Did the risk materialize?
Risks associated with traveling	Yes	No
Partner leaving consortium	No	No
Risk of overspending the budget	No	No
Delays	Yes	Yes
Conflicts	No	No
Added in period 1		
Overlaps with sibling project	Yes	No
Trainers and participants do not answer the questionnaire	Yes	No
Added at the end of the project		
Too many questions for trainers and participants leading to fatigue on participating	No	No
Low competition rates	Yes	Yes

Table 6. Risks of the project

6. CONCLUSIONS

DigiCanTrain project offers a tested, accredited and implementable pathway to strengthen digital competence in oncology teams. The assets and evidence are in place for scale-up and continued impact.

We built a shared digital competence framework for oncology and translated it into a curriculum and a micro-credential course and full 1 micro-credential programme at EQF Level 7 (4–6 ECTS). The programme received accreditation from ACOE (CME-3764_) for 140 credits, with AMA/ACCME equivalence.

The pilot of the programme reached a broad, international audience across care and education settings. Recruitment and registrations were high. Completion varied by role and workload, yet the programme proved feasible and acceptable in routine conditions.

Evidence. Pre–post evaluation showed clear improvement in five of six competence domains. Gains were strongest in human-centred remote consultation, in the ability to utilize and appraise digital solutions, and in cancer-specific digital competence. Ethical competence and motivation also improved from a high baseline.

Key risks: timelines and completion. Mitigations included clearer communications, a harmonised recruitment playbook, targeted support for trainers, and streamlined surveys. Lessons learned have been captured in the exit plan and materials.

The programme is ready for continued use. Materials remain accessible in Moodle with an implementation guide and recommendations for recognition of learning. The accreditation and micro-credential structure enable credit transfer and CME use across contexts.

Impact. The programme aligns with Europe's Beating Cancer Plan and supports workforce digitalisation and EU's common framework for micro-credentials and recognition across EQF and ECTS. Partners outside the original consortium engaged in the pilot, indicating scalability.

Limitations remain. Completion rates reflect real-world workload and institutional variation. National differences in digital infrastructure and policies affect uptake. Some indicators rely on self-report and matched responses.

Next steps are practical. Maintain and refresh content annually. Localise further languages. Embed the programme in organisational onboarding and CPD plans. Sustain a trainer network and communities of practice. Continue outcome measurement and publish results.

DigiCanTrain project met the grant obligations. The consortium delivered the core outputs and validated them in practice. Project management followed PM² methodology. Regular WP leader meetings, external advisory input and a rotational deliverable review process supported quality.