DigiCanTrain

Digital Skills Training for Health Care Professionals in Oncology

Project Number: 101101253

WP 1: Project management and coordination

Deliverable 1.2: Midterm report summary

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Executive Summary

This deliverable covers the project period of 18 month from the start of the project. The report covers the progress in all work packages, key achievements, use of resources as well as impact and risk assessment.

CONTENTS

1. Background of the project

Cancer remains one of the most prevalent diseases worldwide. A WHO study in 2024 predicts that 35 million new cases will be diagnosed in 2050 which is a 77% increase from the estimates made in 2022. In Europe, the prediction is a 21% increase in cases by 2040. The healthcare system in Europe has had to swiftly adapt to the challenges posed by the COVID-19 pandemic. This pandemic highlighted the transformative potential of digitalisation in healthcare, enhancing resilience, efficiency, transparency, and convenience in healthcare services.

When used correctly, eHealth technology can significantly improve communication among healthcare professionals (HCPs) and address the health and care needs of the growing number of cancer patients. Digital technology is set to play a crucial role in the future of European healthcare. However, despite its current usage and the positive impacts of eHealth technology, many HCPs feel inadequately trained to navigate the digital revolution.

The DigiCanTrain project focuses on upskilling and reskilling the healthcare workforce in cancer care. This initiative supports the development of effective, person-centred healthcare, digital cancer care services, and the use of modern eHealth technology by HCPs. Additionally, the DigiCanTrain project contributes to lifelong learning in higher education (EQF levels 6-8) by integrating micro-credentials alongside ECTS and CME credit systems.

The project's goal is to design, pilot, and evaluate the DigiCanTrain training programme for trainers and both clinical and non-clinical HCPs. Ultimately, it aims to improve access to continuing professional education, enhance digital skills, and increase the use of eHealth technology among healthcare professionals working with cancer patients.

2. Summary of the achievements of the project by midterm

The DigiCanTrain project, co-funded by the European Union under the EU4Health programme, began on the 1st of March 2023. This report covers the project progress up until 31st of August 2024. The project is led by Turku University of Applied Sciences and is implemented in cooperation with 14 European partners from 7 European countries.

In summary, the project has made substantial strides in its initial phase, establishing a strong foundation for the upcoming pilot and implementation phases. With continued dedication and strategic planning, the project is well-positioned to achieve its long-term goals and impacts.

To this point, the project has used about 40% of the monetary resources.

Key objectives

In the first eighteen months of the project, significant progress was made towards achieving key objectives. Initially, the project management structure was established, which included the development of a quality management plan and an evaluation framework to ensure continuous improvement of both of the project and the outputs. Following this, a thorough needs assessment was conducted, focusing on the digital skills and digital tools of healthcare professionals working in oncology. This assessment also included a mapping study on training opportunities for healthcare professionals across EU member states.

A pivotal workshop on the Digital Competence Framework was organised, laying the groundwork for future developments in training modules. Concurrently, efforts were directed towards the co-design and development of the DigiCanTrain Curriculum, resulting in the creation of five training modules and introductory section with twenty-nine submodules and a substantial amount of content produced as the content for these submodules.

The content production was coordinated by University of Galway and the development of the content was carried out by all partners. The content,

pre/post surveys, feedback and feasibility questionnaires are available in ThingLink and Moodle platforms that were available from November 2024 onwards to the pilot group.

In addition, the pilot group for the testing of the pilot was successfully recruited exceeding the minimum target numbers. The work was coordinated by ICO and UOC.

A thorough evaluation framework for pre and post evaluation has been developed and the research plan and ethics applications to carry out the study have been approved.

Dissemination and communication

The DigiCanTrain project has been active in dissemination and communication. To disseminate the project and its progress, the consortium has both utilised their various professional networks and more unique opportunities. DigiCanTrain has been visible in various channels ranging from social media to scientific publications and conference presentations.

Period 2

Looking ahead to the next eighteen months, the project will transition into the pilot phase. The pilot, training of the trainers, starts right at the beginning of period 2. After the pilot phase, the content and platforms will be improved according to the feedback. Once the pilot will be evaluated and materials improved, the full training of the participants will convene. The project will culminate with the final DigiCanTrain forum in Estonia in 2026.

3. Work Package progress report

WP1 Project management and coordination

The project management consists of the daily project management practices and communication with HaDEA as well as keeping track of the content work in the project and the budget flow. The main achievement of the project management is the fact that the project has successfully been implemented close to what has been planned. There are no major deviations from the plan either in the content nor in the budget.

The main active implementing body of the project is the work package leaders' group that meets regularly once a month. This group has been actively working together: sharing information, identifying risks and making risk mitigation plans. Regular meetings have meant that the group has developed close collaboration practices. As a tool, the continuous reporting slide set has worked reliably for coordination of the activities. The detailed and up-to-date contact list has enabled anyone from the consortium to find the necessary persons in each partner organisation. The individual budget discussions with each partner both at the grant agreement phase and the reporting phase have given an overview of the partners' financial situation and challenges.

Resources used for the work package

By the midterm report, WP1 had used 43% of the estimated budget. The pie chart below reflects the use of resources per partner in WP1.

Share of Resources used in WP1

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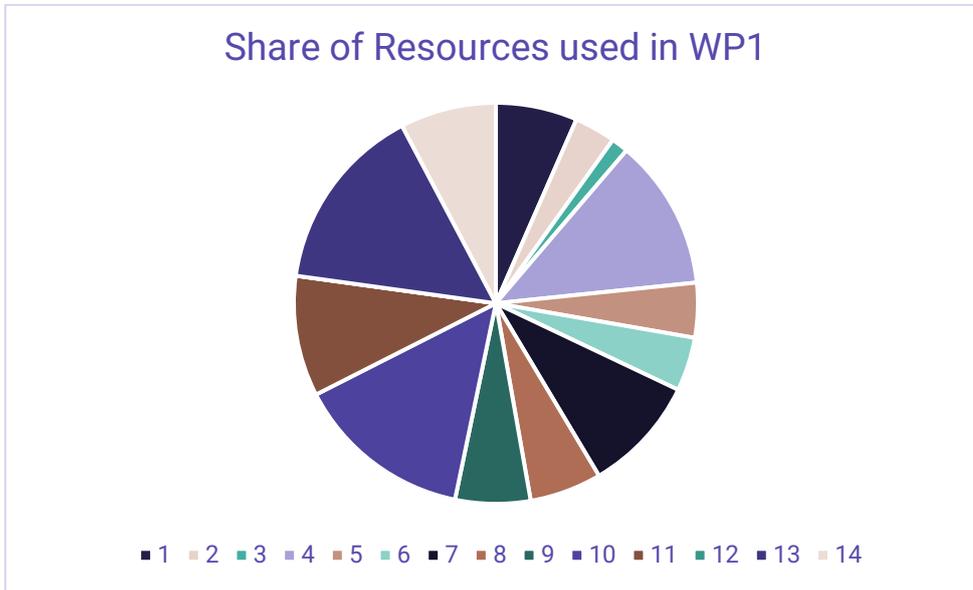
WP2 Need Assessment

Work package 2 was implemented by only 5 partners. The WP responsibilities have been completed and all objectives and deliverables have been produced. The main outputs of WP2 are the three published articles:

1. **Digital skills of health care professionals in cancer care: A systematic review**

   Authors: Tuominen L, Poraharju J, Carrion C, Lehtiö L, Leino-Kilpi H, Moretó S, Stolt M, Sulosaari V, Virtanen H.
   Published in: DIGITAL HEALTH, Volume 10, 24 March 24, 2024.

2. **Interactive digital tools to support empowerment of people with cancer: a systematic literature review**

   Authors: Tuominen L, Leino-Kilpi H, Poraharju J, Cabutto D, Carrion C, Lehtiö L, Moretó S, Stolt M, Sulosaari V & Virtanen H.
   *Published in:* SUPPORTIVE CARE IN CANCER, Volume 32, 31 May, 2024.

3. **Continuing Education in Digital Skills for Healthcare Professionals — Mapping of the Current Situation in EU Member States**

Authors: Kaihlanen, A, Virtanen L, Kainiemi E, Sulosaari V & Heponiemi T.
Published in: International Journal of Health Policy and Management (IJHPM), 24th June 2024.

Resources used for the WP2

The WP was resourced for only 5 partners. The total amount of resources sums up to 111% of the estimated costs for the WP. Part of the overrun in the costs is due to the revisions needed for the articles.

Share of Resources used in WP2

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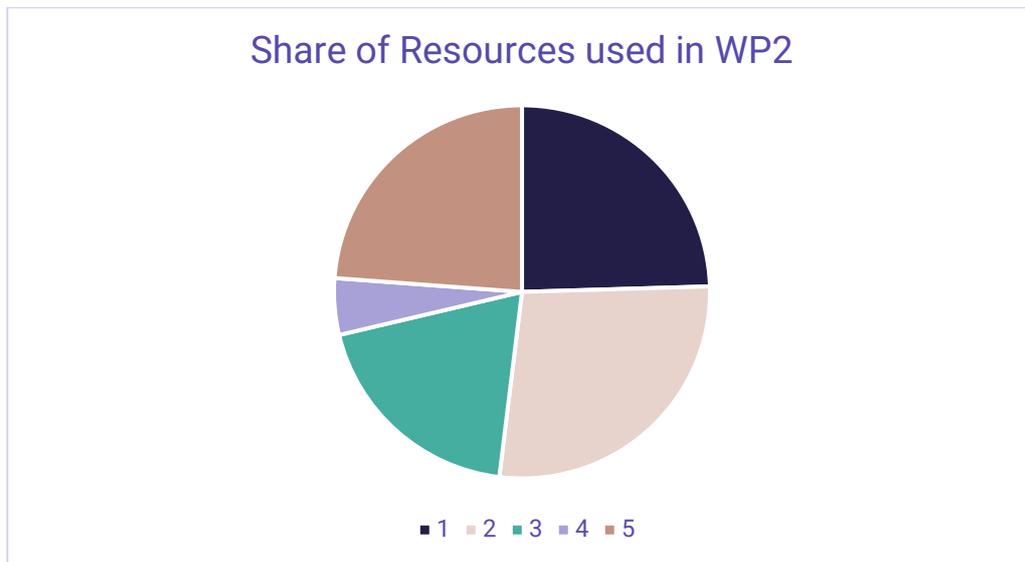
WP3 Co-design of the DigiCanTrain programme

The DigiCanTrain programme is developed for two groups, for trainers and participants. The initial content production of the modules and sub-modules is completed, and all the material is published on ThingLink and Moodle platforms. The ThingLink platform was created so that it provides

instructions on how to use it and navigate the programme. The programme modules and submodules are created according to each trainer or participant profile. There are profession-specific modules and also mandatory modules depending on the users' professional group. The professional groups are nurses, medical practitioners, non-clinical workers and allied health professionals. Each module and submodule had a leader and, together with the other partners and the WP3 leader, the content ideas were shared and created. Due to some changes in the evaluation framework, the re-submission of the D3.2 has been slightly delayed.

During this period of the project, the [Digital Competence Framework](#) of Healthcare Professionals working in oncology was developed and published on the project website. The [DigiCanTrain Curriculum](#) is published as D3.1 on the project website. The main learning outcomes, learning content and the participants' workload (ECTS, CME and micro-credentials) were calculated. All DigiCanTrain programme's lectures, videos, reading materials, learning tools and questionnaires were collected for all the six modules. The modules are Train the Trainers, Interprofessional education, Cancer Nurses, Specialists and General medicine, and for the Non- clinical staff.

Resources used for the WP3

This WP was resourced for all the 14 partners. The use of resources by the end of period 1 was at 61%. This is reasonable as the work on the work package still continues. In addition, the project actors foresee that the content will still need improvements once the feedback from pilot phase is received.

Share of Resources used in WP3

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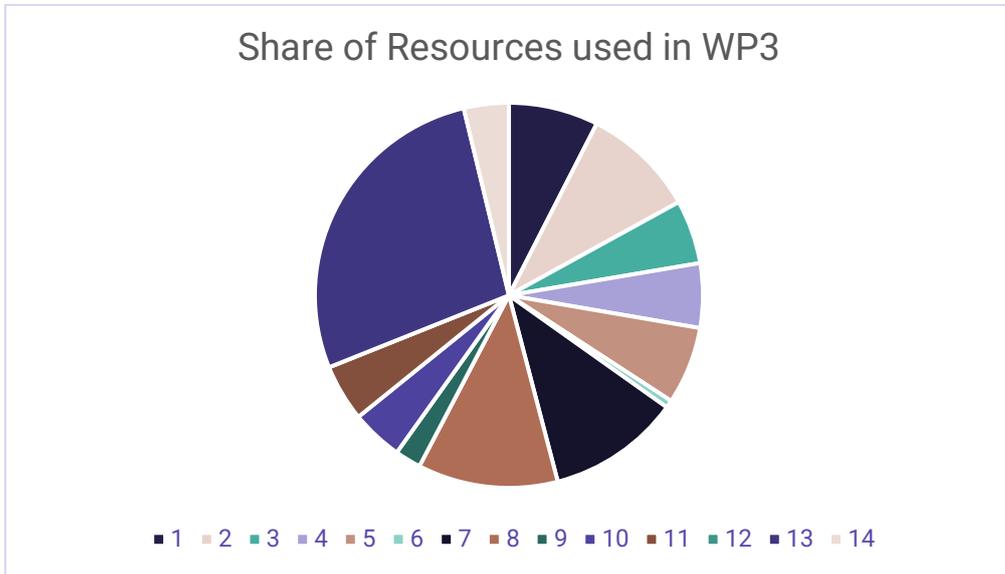
WP4 Pilot of DigiCanTrain programme

In work package 4, the trainers' pilot planning and the trainers' recruitment are completed, and programme and impact evaluation are integrated on the pilot protocol. The original pilot launching timeline had to be delayed to finalise the trainers' recruitment and to allow time for final revisions and refinements to the programme content and platform. This delay does not cause any implications for the implementation timetable as the original plan had some flexibility.

All piloting activities will be thoroughly evaluated, and the study design with questionnaires were planned. Also, the pilot protocol was developed and discussed at the project meeting in September in Barcelona to ensure all partners were aware of the implementation of the pilot.

The trainers' recruitment was successful and resulted in 132 trainers from around 20 countries mainly from the EU but some external to EU countries were included as additional trainers (aim was a minimum of 60 trainers). The programme is planned so that the trainers outside the consortium will be able to complete the training, but for example language translations are not available for them.

Each partner has their own coordinator responsible for the pilot to keep in contact with trainers and other partner coordinators during the pilot. There will be small forums for questions and possible problems. All coordinators provided the same information to trainers before the pilot started, including the content of the curriculum and all surveys and questionnaires.

The recruitment plan with instructions is ready for the participant recruitment. The trainers will be engaged on recruitment of participants from their centres or institutes.

Resources used for the WP4

The overall use of the WP4 budget at the midterm report is at 14%. The work package only started shortly before the reporting period. Mainly, the expenses in the WP are for those partners that worked on the coordination of the task, developed the recruitment practices and participated in the evaluation of the applicants. WP4 is budgeted for all partners.

Share of Resources used in WP4

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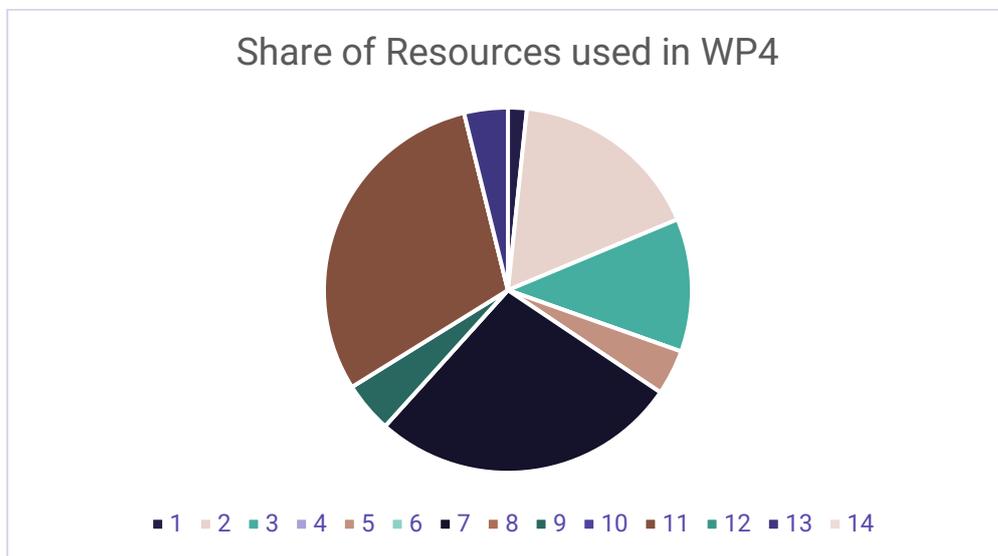
WP5 Quality Control and Evaluation

In WP5, the focus was on both the evaluation of the project content and the project quality at the implementation level. TTK has carried out an internal project evaluation by collecting feedback online from the project partners every six months. The evaluation report identified challenges in internal communication and the clarity of instructions for partners that have been addressed. Mainly, partners find that the project progresses well and that they receive the help they need for the implementation.

The WP5 assessment of the impact of the programme on the Digital Competence of trainers and participants is under the lead of Finnish Institute for Health and Welfare. The task group has developed the research design, prepared the measurement to be used for pre-and post-evaluation and also the ethical review of the study has been completed by Turku UAS. WP5 has worked in collaboration with both WP3 and WP4 to develop an adequate data collection protocol.

Resources used for WP5

The total use of the WP resources is 24%. Most of the partners have not reported the costs for the WP yet, which is reasonable since the evaluation of the content will start once the pilot implementation begins.

Share of Resources used in WP5

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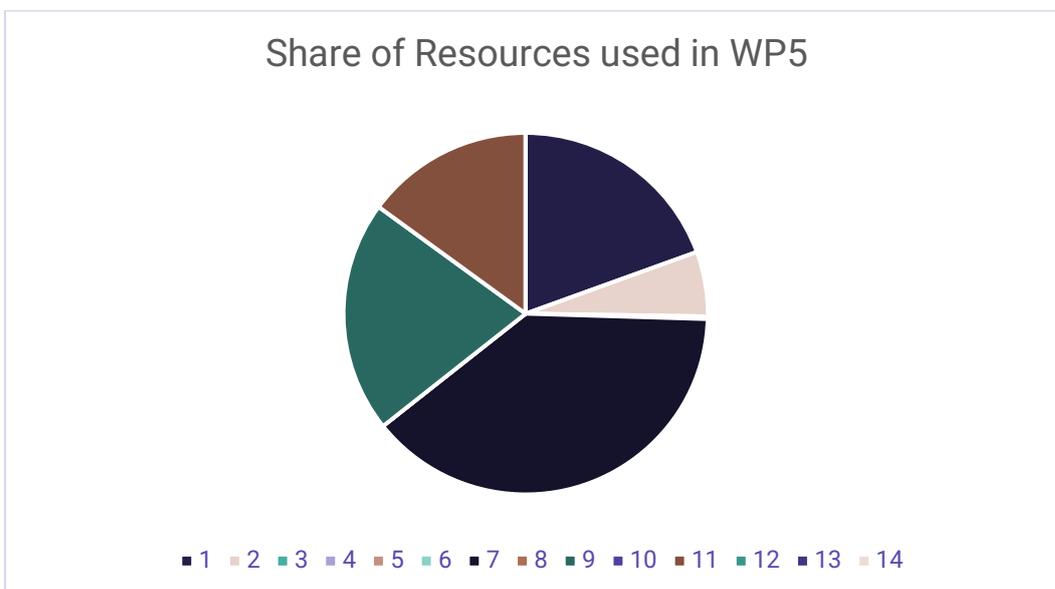
WP6 Communication, Dissemination and Exploitation

The project has been active in the communication and dissemination of the project and its activities.

The project acquired a visual appearance, a poster, a document template and a presentation template that have been utilised in the communication activities.

The [DigiCanTrain website](#) was created at the beginning of the project containing information about the project and the consortium, the DigiCanTrain programme and publications. During the first period, there were 3419 website visits and 1610 visitors.

Also, in the beginning of the project, DigiCanTrain fact sheets were created in all project languages. The project presentation containing essential project information, and recruitment invitations to trainers have made it easy for any partner to communicate in various contexts. All produced material has contained the EU emblem and disclaimer and funding statement indicating the support from the EU.

The project was also communicated from the target groups' point of view, and the most essential communication channel has been oral presentations, which have been actively targeted to healthcare professionals and to some extent to healthcare organisations and policymakers. Altogether, there have been 34 presentations with an estimated 2667 participants, exceeding the target numbers.

The number of scientific publications has reached up to three. In addition, an article was published and a poster was presented at a conference. Three press releases and 23 social media posts were published. In addition, DigiCanTrain has had 12 appearances in newsletters and the consortium published five news articles. Three videos have also been made about the project: two showcasing the project and one introducing the project. The DigiCanTrain programme was communicated as a part of the trainers' recruitment.

Resources used:

Share of Resources used in WP6

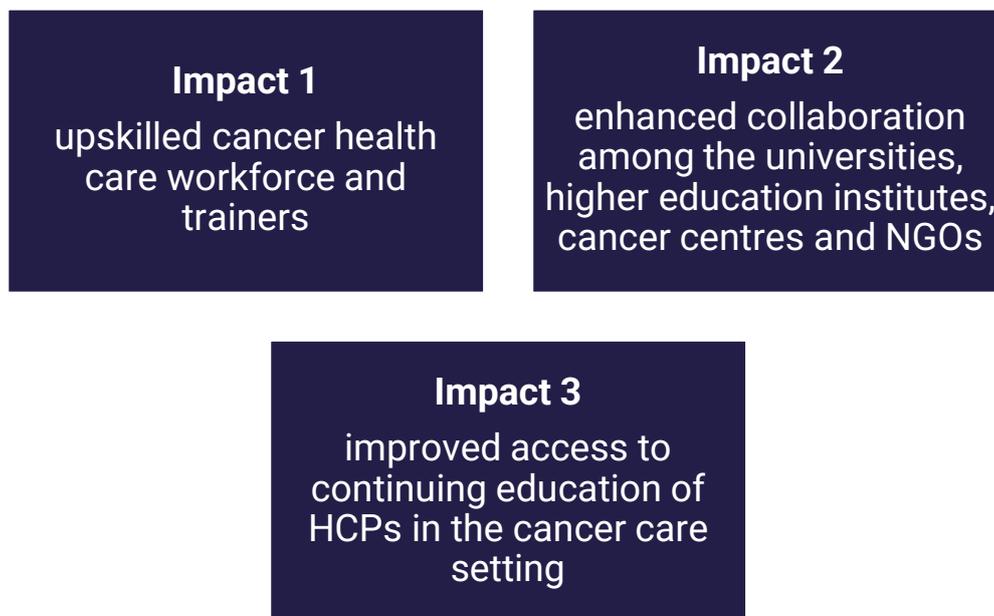■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 ■ 8 ■ 9 ■ 10 ■ 11 ■ 12 ■ 13 ■ 14
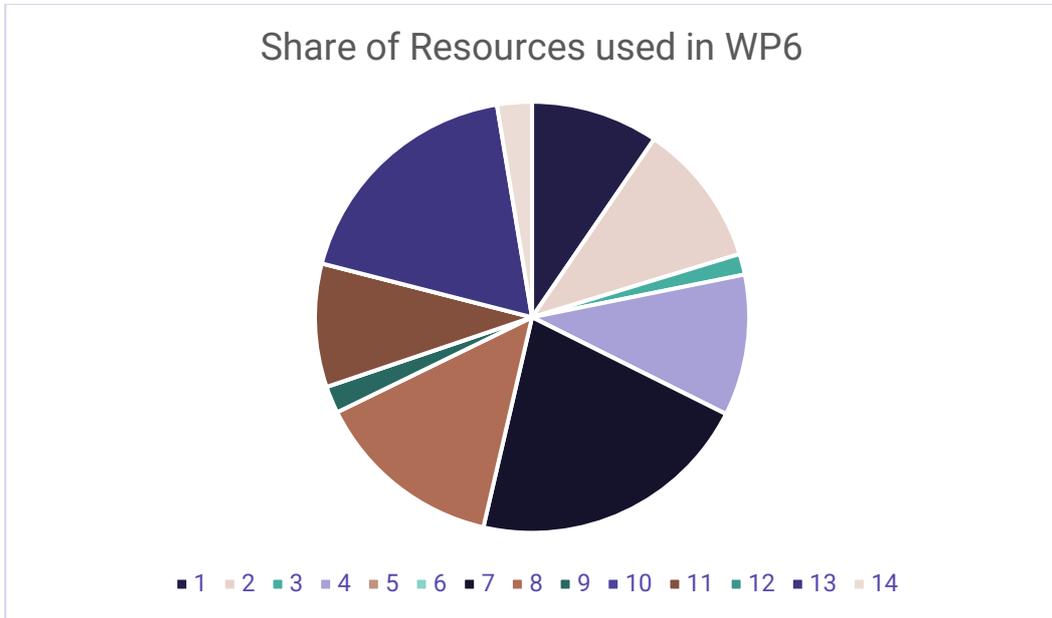
4. Impact assessment

To evaluate the state-of-the-art of the direct impact at the mid-term assessment, the DigiCanTrain project created a short survey among the partners. The impact of the project was evaluated with a median score 8 out of 10 points. The project has both direct and indirect impacts.

4.1 Direct Impact

The project aims to reach three direct impacts:

Impact 1

upskilled cancer health care workforce and trainers

Impact 2

enhanced collaboration among the universities, higher education institutes, cancer centres and NGOs

Impact 3

improved access to continuing education of HCPs in the cancer care setting

Reporting on Impact 1 - upskilled cancer health care workforce and trainers

At the mid-term, the project group identified that Impact 1 is demonstrated in the project so far, as increased awareness of digital competences. The Digital Competence Framework makes the needed competence visible and therefore will also support digital competence development outside the project consortium. Several presentations (poster and oral presentations) on events and conferences have already taken place regarding the development and description of the Framework. The

Framework has also been shared with the sibling project TRANSiTION to be later used in evaluation of their programme. The Framework increases the awareness of areas that needs to be developed. Later, through the dissemination of results from the upcoming pilot, we expect increased knowledge about online educational platforms.

The competence assessment is conducted by surveys and a Pre-Post design will be used to evaluate the impact of the DigiCanTrain programme on the digital competence of healthcare professionals in oncology, as well as to evaluate their perceptions of the change after the programme such as improved communication, readiness to adopt digital interventions, and intention to change their current practice following the original plan. The post-evaluation also includes an evaluation of the programme piloted.

For measuring the Digital Competence and changes in the competence, we will use an instrument developed and validated by Jarva et al. 2023. (Jarva, E., Oikarinen, A., Andersson, J., Tuomikoski, A. M., Kääriäinen, M., Meriläinen, M., & Mikkonen, K. (2022). Healthcare professionals' perceptions of digital health competence: A qualitative descriptive study. Nursing open, 9(2), 1379–1393. https://doi.org/10.1002/nop2.1184   Jarva, E., Oikarinen, A., Andersson, J., Tuomikoski, A. M., Kääriäinen, M., Meriläinen, M., & Mikkonen, K. (2022). Healthcare professionals' perceptions of digital health competence: A qualitative descriptive study. Nursing open, 9(2), 1379–1393. https://doi.org/10.1002/nop2.1184)

This instrument already has several language translation versions, only Romanian and Greek versions were made for the study in DigiCanTrain. Permission to use the instrument was obtained from the original developer and the copyright owners of translated versions. In addition, we added new background questions more specific to the oncology context and created more oncology specific short questionnaire. The specific context related questions focus on human-oriented relationship with people, dealing with emotions, delivering difficult news, and digital communication, as examples. The original project plan included specific indicators to assess the impact of the programme, and these were included as questions in the overall survey.

In the midterm, the pilot has not yet started but these areas will be explored as part of the programme evaluation. Piloting of the programme with trainers will begin in November 2024.

Reporting on Impact 2 - enhanced collaboration among the universities, higher education institutes, cancer centres, and NGOs is already visible as increased collaboration possibilities, socialisation and collaboration with universities for healthcare organisations, and collaboration with other cancer centres and NGOs for recruitment practice. In addition, the project recognises that bringing together professionals from different organizations to nurture the various perspectives has been crucial for the successful development of the content.

Reporting on Impact 3 - improved access to continuing education of HCPs in the cancer care setting

At this stage, it is estimated that the developed material will increase the access to continuing education in HCPs. The trainers who will participate to the pilot represent different healthcare professions within the healthcare workforce. For the trainer, the direct benefits of completing the programme include increased knowledge and self-confidence in digital interventions within an oncology setting. Additionally, the programme provides concrete materials to support the ongoing provision of education and training in the future.

The collaboration among the universities, higher education institutes, cancer centres, and NGOs will have a positive impact on future continuing education. The national and internationals networks created during the project with partners will improve the quality of education and training for digital skills.

The indirect or long-term impacts cannot be directly measured as they involve people affected by cancer and healthcare organisation data and were not planned to be part of the project evaluation. However, these impacts have been planned to be measured via trainers' and participants' self-assessment.

4.2 Indirect Impact

DigiCanTrain project has identified four indirect impacts.

Impact 1: improved equality	**Impact 2:** access to high quality person-centered cancer care
Impact 3: increased heath care system resilience	**Impact 4:** readiness to adapt to changing care environments and situaitons

Reporting on indirect impact 1 - Improved equality refers to ensuring that all individuals have equal access to opportunities, resources, and rights, regardless of their background, identity, or circumstances. In this project, all partners worked together, and all volunteers, trainers, and participants can join the platforms to go through the curriculum.

Reporting on indirect Impact 2 - access to high-quality person-centred cancer care refers to providing cancer patients with healthcare services that are tailored to their individual needs, preferences, and values. This approach emphasizes the importance of addressing not just the physical aspects of cancer, but also the emotional, social, and psychological needs of patients. It ensures clear, respectful, and empathetic communication between patients and healthcare providers to facilitate shared decision-making. It ensures that all patients, regardless of their background or location, have access to the necessary healthcare professionals and treatments and involves a team of healthcare professionals from various specialties to provide comprehensive care.

Reporting on indirect impact 3 - Increased healthcare system resilience refers to the ability of health systems to prepare for, respond to, and recover from crises while maintaining core functions. Enhancing resilience is crucial for ensuring that healthcare services remain effective and

accessible during emergencies, such as pandemics, natural disasters, or other disruptions. Using digital environments for education, training, and support, quality of care and collaboration healthcare systems can build resilience, ensuring they are better prepared to handle future challenges and continue providing high-quality care to all cancer patients.

Reporting on indirect impact 4 - readiness to adapt to changing care environments and situations

The long-term impact, the efficiency in cancer care involves optimising resources, processes, and treatments to provide the best possible outcomes for cancer patients. Long-term impacts include better patient outcomes, cost savings, and innovation and research. Efficient use of resources reduces waste and lowers the overall cost of care, making treatments more accessible. Efficient systems can allocate more resources to research and development, leading to new and improved cancer therapies. During the project by improving digital skills these can be achieved in the future.

Multidisciplinary teamwork in healthcare involves collaboration among professionals from various specialties to provide comprehensive patient care.

5. Risk assessment

The risk assessment is carried out in the monthly work package leader meetings. Risks identified in the application are listed in the table.

Risk	Status
Risks associated with travelling	The meetings have been carefully planned and instructions provided to partners for safe travelling. As the project reports in the unit costs, the actual travel costs do not impact the project.
Partner leaving the consortium	At this stage, there has been no indication of a partner wanting to leave the consortium.
Risk of overspending the budget	The budget expenditure is well in line with the project activities.
Delays	There have been some delays with deliverables that have been communicated to HaDEA. Furthermore, the minor delay in launching the programme does not have implications on the pilot as we anticipated in the project plan that some delays might occur.
Conflicts	There have been no significant conflicts in the project. By having proper communication among the partners, we have avoided any serious conflicts. Some misunderstandings have occurred due to

	language and cultural differences, but we have been able to solve all of them.
Difficulty to recruit participants to pilot	We were aware that the recruitment for the testing of the pilot could be challenging. While we do not have any challenges in meeting the numbers, we were careful to make the requirements clear to each partner to have the additional participants recruited to ensure the minimum (at least 15% more in case of dropouts from the programme). We were very successful with the trainers' recruitment. The risk during the project is in WP4 with the trainers' and participants' participation and finishing the pilot. This has been mitigated by 15% additional recruitment.
Poor quality on teaching materials	By having a proper and continuous evaluation (every 6 months), we have eliminated the risk. However, we realise that during the pilot we will encounter needs to revise and refine the programme. This was anticipated and addressed in continuation in WP3.

We have identified new risks linked to the project.

Potential risk of overlaps with sibling project TRANSiTION	We have identified this risk and carried out actions to eliminate it by organising common interactions. There has been thorough engagement and follow-up on the TRANSiTION activities. The risk of

	overlaps has been eliminated and it is now visible that the two projects are very different in their nature, and their outputs. The lead content manager of the project has done substantial work to keep this in control.
All surveys and questionnaires in sub-modules might have a risk that the trainers or participants don't answer to questions.	A mitigation plan is to emphasise the importance of recruitment and partners in each country are ready to provide additional support if needed.

6. Conclusions

Overall, the DigiCanTrain project has progressed according to the project plan and is on schedule.

Project overview
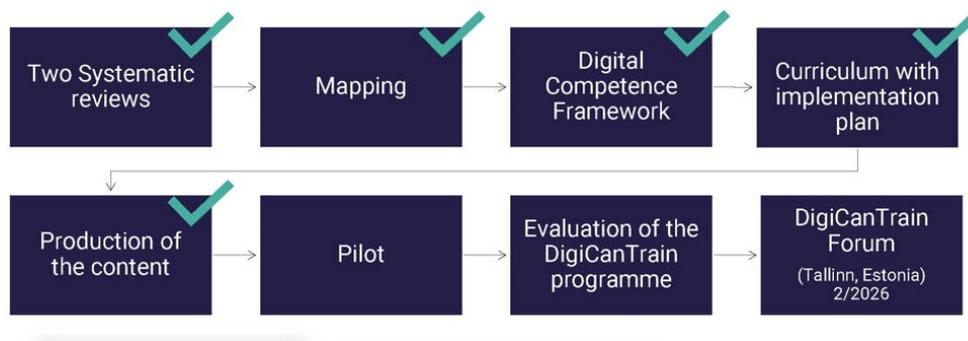
It can be said that the goals of the project have been mostly met, and the project documents generally supported the implementation of project activities. The general opinion of the consortium is that the project is developing both personally for the partner representatives and at the organizational level.

Partners feel they receive support from other project participants or team members to carry out development activities. The support was received also from the research team. In general, the respondents are satisfied with the participation in the project and consider collaboration important.