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N°	Cluster meeting participants	Organization	Project
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1.1	Co-authors list	27/10/25	Updated version including comments from all projects
1.2	Clara Mercader	30/10/2025	Coordinator final review and submission



List of Abbreviations

Abbreviation	Definition
4P-CAN	Personalized CANcer Primary Prevention research through Citizen Participation and digitally enabled social innovation
AI	Artificial Intelligence
CFIR	Consolidated Framework for Implementation Research
CPW	Cancer Prevention at Work: Occupational health surveillance in the implementation of prevention of infection-related cancer
CO-CAPTAIN	Cancer prevention among individuals with mental ill-health: co-adapting and implementing patient navigation for primary prevention
CoP	Communities of Practice
CRC	Colorectal Cancer
DMP	Data Management Plan
EC	European Commission
EU	European Union
FAIR	Findable, Accessible, Interoperable, and Reusable
HCV	Hepatitis C Virus
Hp	<i>Helicobacter pylori</i>
HPV	Human Papilloma Virus
KPI	Key Performance Indicator
KVC	Kveloce
LL	Living Lab
OMOP	Observational Medical Outcomes Partnership
NCI	National Cancer Institute
NGO	Non-Governmental Organization
NKUA	National & Kapodistrian University of Athens
ONCODIR	Evidence-based Participatory Decision Making for Cancer Prevention through implementation research
PCP	Primary Cancer Prevention Programs
PCP-IT	Primary Cancer Prevention Programs – Implementation toolkit
PI	Principal Investigator
PIECES	Towards large-scale adaptation and tailored implementation evidence-based primary cancer prevention programmes in Europe
PREVENT	Improving and upscaling primary prevention of cancer by addressing childhood obesity through implementation research-the PREVENT approach
R&I	Research and Innovation
SOPs	Standard Operating Procedures
tbc	To be confirmed
WG	Working Groups
WP	Work Package
Y1	First year
Y2	Second year
Y3	Third year



Executive Summary

Deliverable D7.10 presents the conclusions from the second annual meeting of the “Prevention and Early Detection – Implementation Research Cluster” that took place on September 29th, 2025, in Barcelona jointly worked and agreed upon the common annual meeting.

This report provides an overview of the Cluster and its projects, summarizing the key presentations from its second annual meeting. It reviews updates on project progress, outlines ongoing activities within the Cluster’s Working Groups, and highlights planned actions for the third year. Additionally, the report summarizes the second-year achievements, particularly in citizen engagement, addressing inequalities, and fostering research and innovation collaboration. The main conclusions from the meeting are also presented.



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1 INTRODUCTION

1.1 MISSION CANCER & CLUSTER PRESENTATION

1.1.1 Mission Cancer

The European Union, through its Mission Cancer program, is funding six innovative projects in the field of cancer prevention and early detection, in a way of combating one of the most prominent causes of death and socioeconomic burden among Europeans, that is preventable to a great extent. Ergo, the “Prevention and Early Detection – Implementation Research” Cluster comprises the collaborative effort of the six participating funded projects to improve cancer screening through working collaboratively to extend each other’s research and enhance their respective impact. The main cluster’s objective is to contribute, scale-up and improve primary cancer prevention and early detection programmes, considering the specific needs of the target population, in particular economic, cultural and geographical condition, with the specific objective to develop policy recommendations aiming at informing policy and decision-making.

1.1.2 Cluster Presentation



The **CO-CAPTAIN** project aims to address disparities in care for people with mental illness in Europe through innovative solutions such as the Patient Navigation Model. This approach focuses on patient empowerment, removing systemic barriers and ensuring access to primary prevention services. With the collaboration of experts and local governments, the project uses scientific approaches to reduce the burden of cancer and improve the overall health of people with mental health problems, reducing costs in health and social care systems in Europe. In addition, it aims to integrate integrated cancer care pathways and provide policy recommendations at the European level.



The **CPW** project researches the cost-effectiveness and social acceptance of incorporating prevention of cancers associated with *Helicobacter pylori*, Hepatitis C virus and Human Papillomavirus into ongoing primary occupational health surveillance programmes. The project involves workers and their families, policymakers, occupational health organizations, health authorities, companies and workers’ representatives, and cancer and patient organisations, among others, to identify the best strategies to increase the adherence of the population of workers in screening programs of infection-related cancers.



ONCODIR will identify risk factors associated with colorectal cancer and integrate multidisciplinary research methods and technologies (including health policy analytics, artificial intelligence, and decision support theories) to deliver evidence-based and personalized recommendations on colorectal cancer prevention. ONCODIR is developing a platform based on artificial intelligence and privacy principles. It will provide recommendation services based on input from citizens, clinicians, and policymakers. The project will consider factors such as lifestyle, nutrition, and economics.



PREVENT is a collaborative action to improve and upscale primary prevention of cancer by addressing childhood obesity. Through diligent implementation research and a comprehensive approach, this project aims to lay the foundation for a future where healthier lifestyles and brighter tomorrows await every child. The PREVENT project mission is rooted in epidemiological studies that have highlighted a clear link between obesity and increased risks of various types of cancer, including colon, endometrium, postmenopausal breast, and kidney cancer, among others.



4P-CAN'S mission is to understand barriers, whether legislative, socio-economic, commercial, or behavioural to the widespread adoption of cancer primary prevention measures across Central and Eastern Europe. By understanding barriers to policy implementation and individual adherence to healthy behaviours, 4P-CAN will improve primary prevention activities and reduce inequalities. With the collaboration of 18 organizations from 11 countries, including both EU and non-EU Balkan countries, as well as Western EU countries, 4P-CAN is dedicated to achieving these goals and fostering a healthier future.



The **PIECES** project aims to adapt and implement existing evidence-based programmes to improve implementation outcomes and by that, improve the reach and effectiveness of primary prevention programmes in real-world settings. It will address a wide range of risk factors and focus on the specific behaviour change mechanisms that promote healthy behaviours associated with a reduction of cancer incidence among the European Union (EU) population and beyond.



1.2 SCOPE

The scope of this deliverable is to summarize the main conclusions of the second 'Prevention and Early Detection – Implementation Research' Annual Cluster Meeting that took place on September 29th, 2025, in Barcelona, Spain. During the meeting, each Working Group provided a review of their second-year activities, the current status of ongoing tasks, and plans for the third year of work.

1.3 STRUCTURE

Following the overview of the "Prevention and Early Detection – Implementation Research" Cluster as well as the projects comprising it, the following sections review and summarise the presentations of the second 'Prevention and Early Detection – Implementation Research' Annual Cluster Meeting. Section 2 reviews the information given by EC representative Laura García, while Section 3 offers summary of the main points discussed in the round table: "From Research to Practice: Implementing Effective Cancer Prevention Strategies Across Europe". Section 4 provides an overview of the ongoing activities in the Cluster's Working Groups, along with the planned actions for the third year (Y3). Section 5 summarizes the second year achievements of the cluster projects focusing on Citizen Engagement, Addressing Inequalities and Research and Innovation collaboration. Finally, Section 6 presents the key conclusions from the first Cluster meeting.



2 INFORMATION FROM THE EC

EC representative, Laura García Ibáñez, did a brief presentation about the EU Cancer Mission, which contains more than 50 projects across 10 clusters, one of them the Prevention and Early Detection Cluster, which is focused on implementation research. The presentation included the Mission objectives and updates on Mission activities.

1 - Cluster Understanding (risk factors & determinants)	- launched Sept. 2022
1 - Cluster Understanding (tumour-host interactions)	- launched Sept. 2023
2 - Cluster Prevention & early detection (screening)	- launched Sept. 2022
2 - Cluster Prevention & early detection (implementation research)	- launched Jan. 2023
2 - Cluster Prevention & early detection (behavioural change)	- launched Sept. 2023
2 Cluster Prevention & early detection (heritable cancers)	- launched Jan. 2025
3 - Cluster Diagnosis and Treatment (refractory cancers)	- launched Jan. 2023
3 - Cluster Diagnosis & treatment (diagnostics)	- launched Sept. 2023
4 - Quality of Life	- launched Sept. 2023
4 - Quality of Life (AYA)	- launched Jan. 2025

Figure 1. Update on Mission project clusters

Source: Extracted from the presentation of Laura García Ibáñez on 29th September 2025

Regarding the work done by the Prevention & Early Detection – Implementation Research Cluster Progress, Laura highlighted that the deliverables completed so far, including the common work plan, cluster brochure, and policy brief, have been positively received by policy officers, with feedback encouraging clearer articulation of cluster goals and updates based on annual meetings. Future deliverable versions should build on previous submissions rather than starting anew, streamlining documentation and maintaining continuity.

In relation to the ongoing and future cluster work, Laura presented the current situation, including leaderships, and deliverable progress, as shown in Figure 2.



ID	Acronym	Leadership	End date
101104784	CO-CAPTAIN	1st Annual Meeting; Addressing inequalities	31/05/2026
101104777	ONCODIR	3rd annual meeting	30/11/2026
101104716	CPW	Data Management and Harmonisation work	30/04/2027
101104432	4P-CAN	Citizen Engagement	30/04/2027
101104390	PIECES	2nd Annual Meeting; Cluster Video and/or brochure	31/05/2027
101104618	PREVENT	4th annual meeting; Research & Innovation	30/06/2027

Figure 2. Cluster Projects and Leadership

Source: Extracted from the presentation of Laura García Ibañez on 29th September 2025

Taking into account the different projects end dates, Laura proposed scheduling the third annual meeting before May 2026 hosted by the ONCODIR project, allowing full participation of all six projects, and the fourth annual meeting before November 2026 hosted by PREVENT, with participation from five projects excluding the completed CO-CAPTAIN. The EC representative also proposed that one of these meetings may be held online to reduce travel burdens, a suggestion welcomed for balancing productivity and resource management.

Finally, leadership for the workgroup addressing inequalities, currently held by CO-CAPTAIN, will need reassignment due to CO-CAPTAIN project ending in May 2026.

The cluster discussed the suggested proposal from the EC representative and agreed that:

- The 3rd Cluster Meeting will be held online in March-April 2026. ONCODIR team will take the lead to schedule and organize the meeting.
- The 4th and final Cluster Meeting will be held in person in September-October 2026. PREVENT team will take the lead to schedule and host the meeting.
- During the 3rd Cluster Meeting, leadership for the workgroup addressing inequalities will be transferred from CO-CAPTAIN to one of the other projects.



3 OVERVIEW OF CLUSTER PROJECTS

3.1 GENERAL OVERVIEW OF PROJECTS

3.1.1 CO-CAPTAIN

CO-CAPTAIN	
Outline	The CO-CAPTAIN project aims to co-adapt and implement the Patient Navigation Model for primary cancer prevention for individuals with mental ill-health in four European countries (Austria, Greece, Poland, Spain). As part of this project, qualitative interviews were conducted, which provide information on the importance of prevention, key barriers, and facilitators. Furthermore, focus groups were conducted to co-adapt the Patient Navigation Model. The co-adapted Patient Navigation Model is currently being implemented and will be evaluated. Based on the findings, health and social care policy recommendations will be developed to support the broader adoption and implementation of the model across Europe.
Y1 Activities	○ Qualitative interviews, to determine barriers and facilitators to healthcare access and utilization, were conducted with 81 individuals (people with mental health problems, caregivers, care team members, representatives of mental health organisations and service managers). The results showed the following: ○ Importance of Prevention: Interviewees consider prevention to be a high priority, although health professionals often face difficulties in integrating it effectively into their daily practices. ○ Key barriers: Mental health problems have been experienced to lead to stigmatization and discrimination when accessing and utilizing healthcare. Physical health problems might not be taken seriously, and mental health problems might overshadow physical health problems, such as cancer. ○ Facilitators: Relationships to healthcare workers that are built on trust, joint decision-making, and adaptations of the health system to individual needs. ○ Focus groups were conducted with a total of 50 participants (people with mental health problems, caregivers, care team members, representatives of mental health organisations and service managers), to co-adapt the patient navigation model. Based on the insights gathered from the focus groups and the consortium's experience with patient navigation models from previous projects like CANCERLESS, CO-CAPTAIN has focused on facilitating access to healthcare services, enhancing health literacy, and empowering individuals with mental health challenges. In particular, patient navigators should have a professional background (e.g., medical/psychological/social) and skills such as empathy and the ability to develop supportive relationships.



CO-CAPTAIN	
	○ Next steps: The implementation of the adapted Patient Navigation Model is currently in process and will be evaluated as part of the project. For the purpose of evaluation, CO-CAPTAIN also collaborates with CIDMA, who have developed a data management tool. This tool, registered by the UPV (Universitat Politècnica de València), allows for efficient data management, which is crucial for the implementation of programmes and the personalisation of mental health and cancer interventions. The tool is currently being tested and will be key in the pilot phase. Health and social care policy recommendations for the adoption and implementation of the Patient Navigation Model across Europe will be made based on the findings from the CO-CAPTAIN project.
Y2 Activities	○ Pilot implementation in four countries: since late 2024, the co-adapted Patient Navigation model has been rolled out across Austria, Greece, Poland, and Spain. The intervention is delivered by trained navigators — typically psychologists, social workers, or other care professionals — who guide and support individuals through personalised cancer prevention pathways. ○ Participant engagement and follow-up: as of the latest update, a total of 1,299 individuals have been approached across the four pilot countries, with 297 participants recruited into the programme. Of these, 212 are currently in T1 and 95 have progressed to T2, reflecting solid and sustained engagement. Spain continues to demonstrate an exceptionally high recruitment rate, while Poland shows strong follow-up retention. Austria and Greece are steadily advancing in participant engagement and phase progression. These figures highlight the growing trust in the Patient Navigation model and its adaptability across diverse healthcare settings. ○ Digital data tool for evaluation: CO-CAPTAIN has integrated a digital tool developed by CIDMA (UPV) for data collection and monitoring, enabling efficient management of participant data and progress tracking. The tool is actively used across pilot sites to support standardised follow-up and facilitate evaluation. ○ Stakeholder engagement and WP5 launch: in September 2025, CO-CAPTAIN launched Work Package 5, coordinated by IFIC, focused on developing policy recommendations and local implementation plans. A series of stakeholder workshops are planned in each country to validate findings and co-design policy guidance. ○ Next steps: ○ Ongoing evaluation of the model's implementation, effectiveness, and user experience. ○ Development of national and EU-level policy recommendations (Deliverable 5.2). ○ Finalisation of sustainability plans to ensure long-term integration of Patient Navigation in mental health and cancer prevention strategies.



3.1.2 CPW

CPW	
Outline	The CPW Project is designed to investigate innovative strategies for preventing infection-related cancers (eg., cancers caused by Helicobacter pylori- Hp, Hepatitis C Virus – HCV and Human Papilloma Virus –HPV) within occupational health programs across Europe. The project's primary goal is to assess these interventions' feasibility and effectiveness (including cost-effectiveness) by evaluating their outcomes, exploring public health impacts, and identifying sociocultural and behavioural barriers to their implementation. Pilot interventions will be conducted across different countries—Italy, Slovakia, Spain, and Romania—and also within a range of industries, including healthcare, manufacturing, metalworking, retail, and the financial sector. By targeting diverse workplace settings, the project will assess how preventive strategies can be tailored to the unique needs and risks of each industry. The data's insights will inform policymakers about targeted strategies for implementing these programs across the European Union, ensuring the scalability and adaptability of cancer prevention efforts across different countries and industries.
Y1 Activities	In the inaugural year of the CPW project, significant preparatory activities were undertaken to establish a robust framework for interventions. Key accomplishments include: Development of Standard Operating Procedures (SOPs) and Questionnaires: Tailored SOPs were created for each intervention, considering the diverse contexts of participating countries and industries. A comprehensive, cross-disciplinary baseline questionnaire was developed to collect critical data on participants' demographics, occupational details, health status, sociocultural resources, and health behaviours related to HP, HCV, and HPV. Additionally, a specific questionnaire for healthcare providers associated with implementing partners was designed with the goal of gathering specific data on barriers and facilitators affecting the implementation. Moreover, a tool for monitoring intervention costs is also under advanced development. Comprehensive Literature Reviews: Extensive reviews of existing preventive programs for HP, HPV, and HCV were conducted to identify best practices, knowledge gaps, and the sociocultural and behavioural, and economic factors influencing the success of cancer prevention and treatment initiatives. Initiation of Baseline Data Collection: The project has commenced the process of recruiting participants and initiating baseline data collection at the first implementing centers. The infrastructure for secure data collection and management has been established using RedCap, which will facilitate systematic and efficient data handling across all participating sites over time. Achievements: A notable success during this year was the opening of the HPV vaccination center at F.D. Roosevelt Hospital in Banská Bystrica, Slovakia, marking a crucial step in both project implementation and its positive impact on citizens.



CPW	
	Communication and Stakeholder Engagement: The project team developed tailored communication materials in multiple languages to support interventions in each participating country.
Y2 Activities	The second year in CPW was marked by progress in pilot implementation and stronger coordination across countries. WP1 continued to support data management, REDCap use, and cross-WP collaboration, completed the first reporting period, and organized the third consortium meeting. Monitoring visits were carried out in all pilot centers in Romania, Slovakia, and Italy. Pilot interventions in Italy, Spain, Slovakia, and Romania moved forward with active data collection and first process evaluations. Several centers are close to completing baseline activities and starting the follow-up phase. A follow-up questionnaire and common data collection guidelines were developed to ensure consistency across sites. In the sociocultural and behavioral component, data collection using the <i>12-Circles Drawing Technique (12-CDT)</i> was completed. This participatory tool helped capture workers' self-perceived health priorities and the social or economic factors shaping preventive behaviors. Early findings show that <i>family</i> and <i>stress management</i> stand out as shared priorities across countries. The <i>Health Capital Questionnaire</i> was also finalized and is now being implemented. WP6 focused on defining the tools and data requirements for the economic evaluation to be conducted after completion of the intervention phase. Preparatory work ensured that cost and feasibility data collected across countries will feed into comparative analyses in Year 3. A survey among occupational health providers showed encouraging results, confirming that integrating primary cancer prevention into workplace health services is both feasible and well accepted. Providers underlined the relevance of such interventions and the importance of supportive organizational environments to make them sustainable. Dissemination activities expanded, with growing visibility of CPW through conferences, stakeholder meetings, and regular updates on the project website and social media. The CPW protocol paper has been published, presenting the project's framework and first steps to the wider scientific community.

3.1.3 ONCODIR

ONCODIR	
Outline	ONCODIR aims to address the challenges of colorectal cancer in a Pan-European dimension through interdisciplinary co-creation activities by implementing tools and methodologies for: • Risk-based stratification for citizens • Integrated decision support tools for clinicians • Intelligent monitoring tools for policy makers



ONCODIR	
	All the above will contribute towards personalised prevention, successful interventions and implementation plans by incorporating the perspectives of citizens/patients, medical experts and policy makers through a participatory co-designing approach, reinforced by open innovation and FAIR data. Thus far, what has been achieved is reflected in the following overview: - Project introduction - Literature review and meta-analysis completed of Cancer Incidence Risk Factors - Identification of barriers - Results shared with policy makers to improve programmes.
Y1 Activities	ONCODIR is based on two main pillars: the interventions developed and how these interventions will be exploited. Several digital tools have been designed to respond to the needs of citizens, health professionals and policy makers. Methodological Development: ONCODIR's objective is to design a framework to aid in the formulation of a National Cancer Plan which will include multidisciplinary research methods: • Health policy analytics • Social and behavioural science • Decision support theories to deliver evidence-based cancer prevention programmes • AI-powered retrospective data analytics and Innovative AI-powered personalised prevention approaches Comprehensive Literature Reviews: Two comprehensive literature reviews have been conducted as part of the project. The first review focused on identifying risk and protective factors associated with colorectal cancer, while the second examined European policies aimed at preventing colorectal cancer and promoting a healthy lifestyle. Baseline Data Collection: Various CRC-related open datasets have been collected, which will be used as a baseline for the training of ONCODIR's AI solutions. Technical Development: The integration aspect of ONCODIR's platform has been already tested, with most digital tools already being able to exchange information. Moreover, the mobile application integration is being tested next, during the following two months, with citizen recruitment having already started. Achievements: During its 1st year ONCODIR started the development of a decision-support matrix for policy makers at local, regional and national level based on the Analytic Hierarchy Approach. Despite the matrix requiring more time for maturing, this first year its core elements were established. They consist of the most prominent decision-making criteria and the policies addressing inequalities and citizens' engagement as they emerged from an exhaustive review of the standing national cancer plans or equivalent documents of the 27 EU member states. The matrix will be perfected and validated in the next years of the project to provide in the end a decision-making tool applicable to different circumstances. During the first implementation phase, ONCODIR also engaged in the organisation of several focus groups with different stakeholders (clinicians, policy makers, citizens) to discuss current structural and behavioural barriers to participating in CRC



ONCODIR	
	prevention programmes and identify related mitigation measures and existing good or promising practices on which the project can further build. These engagements will also serve as a basis for the project's living labs approach.
Y2 Activities	During the second year (Y2) of the ONCODIR project, activities were strategically focused on two complementary pillars: (a) Pilot Preparation and Technical Maturation and (b) Policy Contextualization and Regulatory Mapping. Regarding technical readiness, the team successfully executed three Laboratory Integration Tests (LiTs) in Greece, Belgium, and Spain, yielding validated outcomes and critical insights that fueled the iterative co-creation and refinement of the project's digital tools. Tool maturation was significantly advanced through targeted user-requirements validation sessions and, critically, by leveraging the newly completed meta-analysis results to successfully integrate a novel, evidence-based CRC risk scoring tool into the ONCODIR platform. These preparatory actions finalized the pilots' scope and context, ensuring their formal implementation is on track to commence in 2026 (Y3). Concurrently, in the policy domain, the decision support methodology for policy makers was finalized, establishing a structured framework for evidence-based planning. To facilitate future upscaling and sustainable uptake of ONCODIR solutions, dedicated Country Profiles documenting the regulatory landscape were prepared for Greece, Lithuania, Spain, and Romania. A series of high-level roundtable discussions are now organized for early 2026 (Y3) to thoroughly test the finalized decision support matrix across diverse national contexts and formalize the necessary regulatory pathway.

3.1.4 4P-CAN

4P-CAN	
Outline	4P-CAN is a four-year initiative aimed at reducing cancer risk at the national (macro), community (meso), and individual (micro) levels. The project combines the recommendations of the European Code Against Cancer with cutting-edge approaches such as implementation research, social and behavioural sciences, and advanced technology. Through co-created knowledge and the use of living labs, 4P-CAN develops personalized tools for cancer primary prevention. The project focuses on addressing modifiable cancer risk factors, including smoking, alcohol consumption, physical inactivity, excess body weight, preventable infections, and environmental pollutants like radon. Additionally, 4P-CAN seeks to identify barriers to policy implementation and individual adherence to healthy behaviours, with a focus on improving primary prevention and reducing inequalities, particularly in Eastern Europe.
Y1 Activities	In the first year of the 4P-CAN project, we focused on the Living Lab in Leresti, Romania , implementing several pioneering activities to advance primary cancer prevention through citizen engagement. Key activities included:



4P-CAN

- **Pilot Testing of Personal Network Analysis:** We launched (September 2023) a pilot study in Leresti to test the applicability of **personal network analysis** in understanding the community's social dynamics related to cancer primary prevention.
- **Validation of Methodology:** The methodology for applying **personal and social network analysis** in the field of primary cancer prevention was validated (December 2023). This step ensured that the tool is effective in capturing relevant social networks that influence cancer primary prevention related behaviours.
- **Data Collection in Two Waves:** Two rounds of data collection were conducted using personal network analysis in Leresti: the first in **September 2023** and the second in **March 2024**. These data waves provide insights into the evolving social connections influencing cancer primary prevention in the community.
- **Comprehensive Stakeholder Mapping via NetMap:** An extensive **stakeholder mapping** exercise was carried out using the **NetMap method** and the **pentahelix model**. This effort mapped key actors at the European, national, and local/regional levels, identifying influencers and stakeholders essential for the success of cancer prevention efforts.
- **Establishment of a Citizen Jury:** A **citizen jury** was formed within the Living Lab to foster direct engagement between citizens and the project. The jury provides a platform for community members to have a say in the design and implementation of cancer primary prevention activities.
- **Two Cancer Prevention Interventions:** Over the first year, we organized **two town halls** with citizens, held in **October 2023** and **February 2024**, where community members were involved in discussions about cancer primary prevention.
- **Adaptation and Implementation of a Personalized Communication Model:** Based on the data collected from the personal and social network analysis, we adapted the **personalized communication model** tailored to the needs of the community. This model was then implemented across the three cancer primary prevention interventions in the Leresti Living Lab.
- **Activation of Non-Traditional Stakeholders:** Non-traditional stakeholders were actively involved in the project, notably the **local football team**, which became an ambassador for the 4P-CAN initiative. This helped engage a broader segment of the community and beyond Leresti, at county level.
- **Collaboration with Media and Local Influencers:** We established a broad collaboration with the **media** and **local influencers**, ensuring that the project's message reached a wider audience and raised awareness of cancer prevention initiatives in Leresti.
- **Policy Event and Early Systemic Dialogue:** We are organizing a policy event at the **European Parliament** in April 2024 to disseminate the first results from the Living Lab and initiate an early dialogue with **high-level European policymakers** on scaling the project's impact across Europe.



4P-CAN

Y2 Activities

In the second year of the 4P-CAN project, we continued several initiatives launched in 2023 while also expanding into new areas of work:

- We continued conducting Network Canvas face-to-face interviews with the community members, part of Lerești Living Lab. This entails a total of four panel waves of data collection (Sept 2023; Mar-Apr 2024; Mar-Apr 2025; Sept 2025), which aided us in refining interventions. This methodology allowed us to reach and understand the health-related patterns of almost half of the community (roughly 2000 inhabitants).
- The waves of data collection were complemented by preventive health activities/ workshops (conducted in schools and in the community). Access to preventive resources was ensured: a health advice phone line was made available for the members of the Living Lab, free blood tests and medical examinations were provided.
- We continued organising the Health Festival, which attracted broad participation from the local community, but also from nearby communities. As part of the event, healthcare professionals were invited to offer medical consultations and advice. In connection to this, we also continued organising health-related seminars and sport tournaments (engaging the local football team, but also teams from nearby communities).
- Recently, we organized an art gallery-style event in the community's main cultural venue, where 3D-printed visualizations of both community-wide and individual (anonymized) social networks were exhibited (these representing data collected within the data collection phase). Attendance was ticketed (no cost), which allowed us to track participation. The event was very well received and helped reinforce the message that improving diet and addressing unhealthy habits is a shared, collective responsibility. It also helped in having the data collection process better understood by the study participants. **The art of networks:** <https://4p-can.github.io/Leresti-digital-stories/>.
- In the summer of 2024, Leresti Living Lab was one of the 15 locations visited as part of the EU's Cancer Mission Bus Roadshow, the European Commission's initiative aimed at increasing knowledge of cancer and cancer prevention, as well as screening, particularly in more remote rural areas.
- We have started discussions of scaling-up the project in the South-Muntenia region of Romania, engaging communities close to Leresti, but also other communities with low access to healthcare. The Living Lab methodology was also scaled-up to Plovdiv, Bulgaria, where activities are already under development.
- In terms of synergies with other EU-funded projects, the MAYA project supports the replication of our Living Lab model - along with our knowledge, methods, and tools - across eight other European countries. This effort aims to identify the needs and improve support for adolescents and young adults who were diagnosed with cancer, their families, and caregivers. We continued



4P-CAN	
	the common work with the ECHoS project and started new synergies with CURTAIN project.

3.1.5 PIECES

PIECES	
Outline	The PIECES project focuses on the selection, adaptation and implementation of evidence-based primary cancer prevention programs across diverse European regions. The project addresses modifiable cancer risk factors such as tobacco use, alcohol consumption, physical inactivity, HPV infection, and poor diet. PIECES aims to enhance the real-world effectiveness of cancer prevention programs by tailoring them to local contexts, ensuring better outcomes for European citizens.
Y1 Activities	1. Repository development: PIECES concentrated on creating and populating a Repository of Evidence-Based Primary Cancer Prevention Programs (PCP). This repository is the result of a systematic review of existing cancer prevention interventions. Each program within the repository is accompanied by detailed logic models that outline the pathways through which these interventions are expected to achieve their desired outcomes. - o The systematic review assessed interventions based on their effectiveness, scalability, and adaptability to various European contexts. Programs targeting major modifiable cancer risk factors—such as tobacco use, alcohol consumption, unhealthy diets, and sedentary lifestyles—were reviewed and selected for inclusion based on rigorous evaluation criteria. Additionally, the review focused on identifying interventions that can be tailored to address specific cultural, socioeconomic, and geographic challenges. The PCP repository is fed from 3 different sources: Cochrane library reviews, National Cancer Institute (NCI) evidence-based control programs, and interventions from PIECES implementation sites (<i>practice-informed</i>) - o For each program, logic models were developed to map the intervention inputs, activities, theories of change, mechanisms of action, outputs, and expected outcomes. These models serve as a crucial tool for implementers, providing clear pathways to understand how each program works and the necessary conditions for its success. By including these models, PIECES ensures that local implementers have a robust framework to guide them in replicating or adapting the interventions effectively in their regions. 2. Repository of implementation determinants: PIECES developed a comprehensive repository of implementation determinants, which identifies and categorizes over 97 factors that impact the implementation of primary cancer prevention programs. These determinants were extracted from existing research using the Consolidated Framework for Implementation Research (CFIR), a widely recognized framework in implementation science. The repository covers multiple domains such as program characteristics, inner and outer settings, and



PIECES	
	individual-level determinants. This strategic repository serves as a guide for local implementers to recognize and address potential barriers to adapting cancer prevention programs. By identifying key factors like stakeholder engagement and environmental conditions, PIECES helps implementers tailor interventions to specific community needs and optimize program outcomes. 3. Repository of implementation strategies: in the PIECES project provides evidence-based methods for overcoming barriers and enhancing the effectiveness of cancer prevention programs. It includes a comprehensive collection of strategies based on frameworks like the CFIR. Key focuses include stakeholder engagement, contextual adaptation, overcoming resource barriers, among others. 4. PCP Implementation Toolkit (PCP-IT): The project developed the implementation framework and the “PCP-IT” platform to guide local implementers in selecting, adapting, and implementing cancer prevention programs suited to their specific cultural, socioeconomic, and geographic needs. The evidence-based PCP program repository, determinants repository and strategy repository developed during the course of this first year are embedded in the platform. 5. Translation, testing and allocation of the toolkit (ongoing). - o All components of the PCP-IT, including the repository of programs, determinants, and strategies, are being translated into the local languages of participating countries. - o After the translation process, the toolkit will undergo testing and piloting in various regions to assess the effectiveness and clarity of the translations. - o Once translation and testing are completed, the PCP-IT will be allocated to local implementers. This involves providing access to the digital platform, training users in how to navigate and utilize the toolkit and ensuring that support systems are in place to assist with any challenges that arise during implementation. The toolkit’s deployment is accompanied by training workshops or online tutorials to guide healthcare professionals in using the translated materials effectively. 6. Evaluation of the PCP-IT (ongoing): PIECES project focused extensively on evaluating the feasibility and effectiveness of the PCP Implementation Toolkit (PCP-IT). This evaluation aims to assess how well the toolkit supports the selection, adaptation and implementation of evidence-based primary cancer prevention programs across diverse settings and countries. 7. Study protocol development: To ensure that the PCP-IT can be applied more broadly and consistently across different regions, PIECES is currently developing a study protocol. This protocol is designed to provide a standardized framework for using and evaluating the toolkit’s effectiveness across various countries and to ensure that implementation and evaluation comply with ethical standards.
Y2 Activities	1. Launch of the ItFits Forum: The PIECES Consortium launched the <i>ItFits Forum</i>, an interactive online space integrated into the PCP-IT platform. The



PIECES	
	Forum fosters collaboration, peer-to-peer learning, and exchange of best practices among implementation practitioners across Europe. It provides a sustainable, community-driven environment for sharing experiences, seeking guidance, and co-developing solutions to local implementation challenges. 2. Deployment of the PCP-IT Toolkit (ongoing): following translation and testing activities completed in Y1, more than 20 implementation teams across eight countries (Spain, the Netherlands, Albania, the UK, Italy, Ukraine, Ireland, and Germany) began applying the Primary Cancer Prevention Implementation Toolkit (PCP-IT) in real-world contexts. Teams selected and adapted evidence-based prevention programmes from the PIECES PCP Repository and implemented tailored strategies to address identified barriers. 3. Evaluation of the PCP-IT (ongoing): The PIECES Study started to assess the feasibility, usability, and effectiveness of the PCP-IT. - o Quantitative evaluation was launched through periodic online surveys to systematically gather data on user experience and toolkit performance across all participating countries. - o Qualitative evaluation has recently begun with in-depth user interviews in Ukraine and Spain, focusing on toolkit usability, functionality, and impact on implementation processes.

3.1.6 PREVENT

PREVENT	
Outline	- Project Set up - Communities of Practice (CoP) - Identification of barriers and facilitators - Baseline assessment and metrics - Design the digital and social means - Set up three Living Labs - Results shared with policy makers to improve programmes.
Y1 Activities	PREVENT is based on the following main pillars in the first year: the set up and activation of the CoPs, the identification of the main metrics for assessment and the design of the interventions developed. Socio-tech tools have been designed to respond to the needs of citizens, health professionals and policy makers. • The CoPs encompass a diverse array of stakeholders, including physicians, oncologists, obesity associations, guardians, academic institutions, educators, nutritionists, policymakers, ministries, and more. Their primary role is to oversee the formulation, adjustment, execution, and evaluation of the PREVENT interventions and engagement policies. Moreover, these groups aim to suggest comprehensive strategies, actions, and potential legislative measures to enhance the scaling-up process.



PREVENT	
	• A list of somatometric indicators that relate obesity in children and adolescents to cancer risk in adulthood has been provided. • A survey has been conducted to analyse and identify current primary policies regarding childhood obesity across different scales (medical, genetics, cultural and ethnic, regional, societal and economic), alongside with the bottlenecks and gaps they face while being implemented in schools. With regards to the clustering activities, PREVENT has a leading role to the organisation of all relevant activities regarding R&I. The project have collaborated and actively participated to all meetings organised by EC and the cluster projects.
Y2 Activities	Second year in PREVENT was all about the preparatory procedures necessary for the pilots' implementations. Using the outcomes from our 1st year's analysis, new interventions that will tackle childhood obesity and therefore prevent cancer in adulthood were produced. • Living Labs in each pilot site were created in each node (Catalonia-Spain, Greece and Sweden). LLs will be used for research implementation, piloting and continuous assessment. • Digital assistive interventions were created in each node. 2 in Catalonia-Spain, 3 in Greece and 3 in Sweden. Digital tools are adopted for achieving increased engagement and speed up the behavioural change. • A pre-pilot phase has been conducted in each pilot site promoting the co-creation principle and enable interventions tailored to the end-users needs. • Active engagement strategies related with the delivered multi-actor & context-aware primary intervention policies were delivered. The engagement strategies take into consideration different domains and actors, such as engagement strategies within a school community, actions related with the local market and community, plans targeting family/friends and peers, public policy engagement as well as the digital engagement means. • A legal and ethical framework has been produced reassuring that the new, PREVENT interventions are complied with EU standards, each country's legislation and GDPR. Next steps: • Continuous Implementation of the Interventions and Piloting. • Data collection and analysis from each pilot site based on a Multi-Domain Assessment Matrix. • Design the framework for the PREVENT scaling-up model



3.2 SUMMARY OF ROUND TABLE

During the second Cluster meeting in Barcelona, representatives of each project participated in a Round Table aimed at sharing updates from each project and discuss barriers and opportunities encountered during the projects' efforts to implement effective cancer prevention strategies across Europe.

The round table was planned as a Cluster dissemination activity open to everyone and key stakeholders were invited to attend either in person or online. A recording of the round table is available on the Cluster Sharepoint and can be shared with interested people outside the cluster on demand.



PREVENTION and EARLY
DETECTION CLUSTER
Implementation Research



Funded by
the European Union

Round Table

Prevention & Early Detection Cluster

From Research to Practice: Implementing Effective
Cancer Prevention Strategies Across Europe

 Monday, September 29th (09:00 h - 11:30 h)

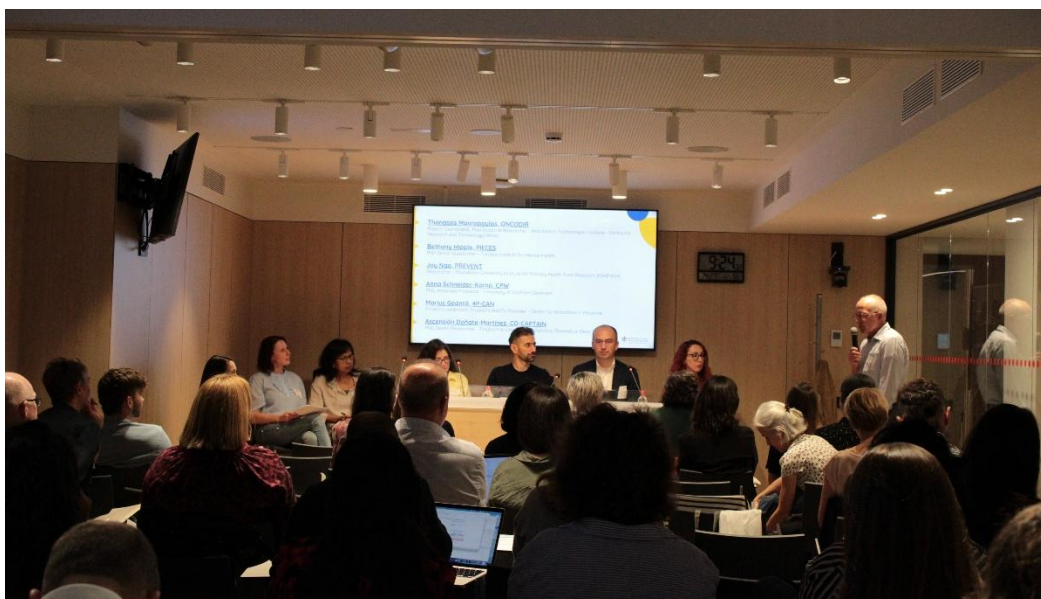
 Public Health Secretary, Catalan Health Department, Barcelona (Spain)



The round table was moderated by Wolfgang Fecke (PIECES) and featured representatives from each of the six projects of the Prevention and Early Detection Group:

- Thanassis Mavropoulos, ONCODIR.
- Bethany Hipple, PIECES.
- Joy Ngo, PREVENT.
- Anna Schneider-Kamp, CPW
- Marius Geanta, 4P-CAN
- Ascensión Doñate-Martínez, CO-CAPTAIN

In addition, all attendees were invited to participate in the discussion by sharing comments, reflections and questions addressed to the project representatives, which fostered an open and interactive exchange.



Following is a summary of the points discussed during the round table:

Implementation Challenges and Adaptation Strategies

Participants in the round table highlighted that while projects share several implementation challenges, these are highly context-dependent and therefore require tailored adaptation strategies to ensure success. In particular, multinational, multicultural, and multidisciplinary teams often struggle to establish a shared language and understanding, which makes continuous on-site engagement essential for identifying and addressing local barriers and facilitators. Moreover, the diversity of settings and populations further magnifies these difficulties, as varying occupational groups demand distinct intervention methods even within the same project. To address these complexities, adaptation must also extend to practical and structural aspects, such as simplifying academically oriented materials for practitioners and restructuring complex, time-intensive training into shorter, more flexible units that fit clinicians' schedules.

In addition, projects incorporating AI and big data face further implementation barriers due to data quality and regulatory requirements, notably compliance with the EU AI Act. Finally, the frequent turnover of partners and the lack of established cancer registries—particularly in Eastern Europe—exacerbate these challenges, requiring substantial investments of time and resources to align new participants and strengthen data infrastructure across sites – necessitating substantial resources for partner alignment and infrastructure development.

Sustainability and Long-Term Impact Considerations

The participants emphasized that ensuring the sustainability of project outputs beyond the funding period remains a critical and shared concern. In particular, the PIECES project faces uncertainty regarding the long-term maintenance of its open-access toolkit and intervention repository, raising questions about continued updates and user engagement once external



funding concludes. This concern reflects a broader issue, as stakeholders acknowledged that many similar databases and resources tend to become defunct after project completion, leading to the loss of valuable knowledge and tools. To mitigate this risk, projects such as CO-CAPTAIN are proactively developing local implementation plans and policy recommendations to promote adoption among healthcare staff, social services, and at the European policy level, thereby embedding the patient navigator model more sustainably.

Complementary dissemination efforts, including the use of open-access platforms like Zenodo and dedicated project websites, aim to enhance accessibility and long-term visibility. Moreover, several initiatives highlighted the importance of engaging local stakeholders from the outset and integrating tools within existing community and health infrastructures to strengthen sustainability prospects. Finally, while formal impact measurement remains challenging, anecdotal evidence indicates that project materials and tools often find unanticipated long-term use among practitioners and communities, underscoring the enduring value of close collaboration with end users.

Stakeholder Engagement

The discussions underscored that effective stakeholder engagement is essential to overcoming the systemic barriers that hinder implementation, particularly in the field of primary prevention. Engagement with policymakers, healthcare providers, and communities has revealed deep-rooted structural challenges, including fragmented healthcare systems and persistent stigma—especially surrounding mental health—which often leads to resistance from primary care and hospital units. As a result, many projects have had to rely extensively on NGOs for community outreach and intervention delivery; however, these organizations frequently face funding instability, posing significant risks to long-term sustainability.

Marius Geantă, representative for 4P-CAN project, which works very closely with local communities, added that “local authorities often lack clear mandates or sufficient motivation to prioritize public health prevention, making it necessary to adopt more innovative engagement strategies, such as policy dialogues with mayors and regional agencies, to secure institutional support. Insights from social network analyses further demonstrate that health-related behaviors, such as smoking, tend to spread within community clusters, suggesting that prevention initiatives must take an integrated approach addressing interconnected health issues like cardiovascular disease and obesity”. Across projects, a strong emphasis was placed on bottom-up approaches that center community needs and promote cultural adaptation rather than relying solely on top-down directives. Finally, while multidisciplinary collaboration can introduce communication and coordination challenges, it remains crucial for combining technical, social, and medical expertise to design and implement effective, context-sensitive interventions.



As a complement to the discussion regarding sustainability, the EC representative recommended the EC Knowledge Valorisation Platform on the meeting chat: https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/eu-valorisation-policy/knowledge-valorisation-platform_en

Cross-Project Learning and Collaboration Opportunities

The discussions highlighted that the cluster provides a valuable platform for cross-project learning and collaboration, offering significant potential to enhance overall implementation impact. Several projects expressed strong interest in sharing resources—such as the PIECES repository and CPW's sociocultural and behavioral assessment tools—to improve the selection and adaptation of interventions across diverse contexts. This collaborative spirit is reinforced by the shared understanding that up to 80% of implementation success depends on thorough preparation, including barrier analysis, stakeholder engagement, and tailored training, thereby underscoring the importance of exchanging best practices in these foundational areas. In addition, projects agreed to coordinate future meeting formats and schedules collaboratively to strengthen alignment and ensure broad participation in upcoming cluster events. Importantly, the diversity of intervention targets, populations, and methodological approaches represented within the cluster was recognized as a major asset, providing an ideal environment to test, refine, and cross-validate innovative strategies for cancer prevention and implementation science more broadly.



4 REVIEW OF WORKING GROUPS' ACTIVITIES

4.1 DATA MANAGEMENT PLAN

Data Management Plan (CPW leading)		
	Presentation	Role of CPW: - Leads coordination of Data Management in the cluster - Organizes Working Groups (WG) meetings - Design collaborative strategies - Act as a consultation point for partner projects in specific cluster projects' data management issues (technical and legal requirements on data management, how to comply with FAIR principles, definition/description of variables and, standard data format and vocabularies). - Questions and requests: cpw.dmp@almahealthdb.it
Report 1 (2024 – Vienna, Austria)	Y1 Update	- Identification of differences and similarities in data management strategies across projects - Optimization of data comparability and interoperability, share and discussed with Principal investigators (PI) in cluster meetings - Work on common issues - Identification of collaboration points, such as: the creation of a community in a trusted repository for data sharing, potential overlaps in data variables across projects, options of standardizing information. - Common DMP Chapter was submitted, although it is a living document that may be adapted during the course of the cluster - CPW has proposed Zenodo as a data repository platform for cluster community – Pending to be approved by the rest of projects
	Steps towards Y2	- Webinar on FAIR principles - tbc: To catalogue the possible anonymous and /or anonymizable sources from now until the end of the project - tbc: To identify overlaps with the sets of variables collected within the projects (each project starting with CPW will release their description of datasets) - tbc: To catalogue the current hypotheses regarding the standardization of datasets and related metadata (CPW plans to adopt OMOP standard) - tbc: To standardize the descriptions of datasets to be published on the common repository - Other actions may be proposed by the other members of the cluster.



Report 2 (2025 – Barcelona, Spain)	Y2 Update	- DMP leader held a webinar on data management concepts and procedures and shared a spreadsheet template to collect information on each project research variables - DMP leaders have faced challenges harmonizing datasets due to high heterogeneity among the six projects, making it difficult to identify meaningful overlapping variables for combined analysis
	Steps towards Y3	- Proposal to publish a comprehensive codebook by January 2026 cataloging all variables collected across projects with standardized descriptions and linked concepts to clarify meanings for future researchers. The codebook will be evaluated for publication in public repositories (e.g., Zenodo). - Evaluate the opportunity of enriching the codebook with standard terminologies (e.g., SNOMED, ICD-10). - Planned series of one-on-one meetings with projects in order to clarify specific metric definitions and implementation outcomes to tailor support and improve data standardization efforts. - The team recognized the opportunity to incorporate co-creation processes as data sources, enriching qualitative insights for publications.
	Main conclusions	By Year 3, we plan to finalize and publish a comprehensive codebook to improve consistency and clarity of data across projects. Following the DMP webinar and shared variable template, we continue addressing challenges linked to the high heterogeneity of datasets, using one-on-one meetings and co-creation processes to refine definitions and capture richer qualitative insights for transparent and meaningful future research use.



4.2 COMMUNICATION AND DISSEMINATION

Communication and Dissemination (PIECES leading)		
Report 1 (2024) – Vienna, Austria	Objectives	- Increasing awareness about the cluster's scope, initiatives and expected impacts - Help individual projects spread their activities and results - Influence key stakeholders, especially policymakers
	Y1 Update	- Target groups identified - Co-creation of cluster logo, deliverable and presentation templates, cluster brochure - Establishment of the umbrella branding (graphic elements, colours and typography) and guidelines, so it can be implemented consistently by each cluster project in different formats. - As agreed by the working group members, no cluster-specific social media profile, website or newsletter has been created. Instead, cluster-related information will be disseminated through the existing communication channels of the individual projects in order to reach a wider audience - Creation of cluster-related content for social media, newsletters and websites - A common hashtag has been created to help track all cluster-related social media posts: #CancerPreventionEU
	Steps towards Y2	- Improving and updating the initial tools and channels - Disseminating synergies and cross-cutting activities among cluster projects - Effective monitoring of the process through specific KPIs - Other communication channels are also planned for the future: - o Joint scientific publications, prioritising open access - o Press releases - o Media appearances (articles in specialised journals and magazines, interviews) - o Events (workshops, conferences, symposia...) - Addressing communication-related needs of the other cluster workgroups



Report 2 (2025 – Barcelona, Spain)	Y2 Update	- Created a LinkedIn newsletter, produced monthly in collaboration with all the cluster projects. - Periodic meetings to check current progress and discuss ideas for the future.
	Steps towards Y3	Cluster Newsletter: Continue regular publication to maintain engagement and visibility. Cluster Video: Propose production of a video by early 2026 highlighting collaborative outputs rather than individual projects. Estimated cost: €300–400 per project, with funding coordinated across the cluster. Webinars for Policymakers and Researchers: - Policymaker Webinar (before Summer 2026): Focus on common policy recommendations and preliminary results. Leverage existing work to avoid duplication. - Researcher/Implementer Webinar (2027): Launch of a common repository, targeting researchers and implementers to encourage adoption and collaboration. Final Project Events: Each project will aim to secure presentation slots at their final events to showcase collective outputs. Communication strategies will be aligned across projects to maximize sustainability, policy influence, and overall impact. Communication of joint academic publications
	Main conclusions	Effective communication is a central activity of the Prevention and Early Detection Cluster, keeping Mission Cancer members informed and engaged while demonstrating the enhanced impact of collaborative efforts to key stakeholders and the wider public. This year, the cluster introduced its newsletter, offering regular updates and insights into ongoing cluster activities as well as individual projects and achievements Looking ahead, continued collaboration across all six projects will be essential to further strengthen communication strategies, broaden the reach of results, and engage stakeholders effectively in upcoming initiatives.



4.3 ADDRESSING INEQUALITIES

Addressing Inequalities (CO-CAPTAIN leading)		
	Objectives	- Detect and analyse health inequalities in cluster projects - Develop strategies to jointly address identified inequalities within the cluster
Report 1 (2024 – Vienna, Austria)	Y1 Update	- Webinar reviewing the concept of inequalities in health care and specifically in Cancer prevention and treatment - Cluster projects have been working on their Project Positionality Matrix, and their team's positionality to map potential issues that may influence interpretation of project results and identify possible improvement measures (work in progress) (4PCAN is pending to submit its matrix. Deadline: 31/10/2024) - Based on Positionality Matrix received, an early set of recommendations has been prepared in order to minimise negative effects of positionality, maximise inclusion and participation of vulnerable population, and enhance the influence on policy makers
	Steps towards Y2	- Continue working on the Positionality Matrix - Further analysis of Matrix and elaboration of a Report to share ideas on what can be done till the next cluster meeting - Implementation of changes based on recommendation - Analysis of the early results of the cluster
Report 2 (2025 – Barcelona, Spain)	Y2 Update	As part of the ongoing work of the Working Group on Health Inequalities of the <i>Prevention & Early Detection Cluster</i>, two key tools are being developed to reflect on how equity is being addressed in the cluster's projects: - Survey on Positional and Team Composition. This is an updated version of the reflexivity tool used last year. It invites each project to reflect on the current composition of their teams (e.g., gender, disciplines, lived experience), with the aim of promoting transparency and critical reflection during implementation. - Draft Analytical Matrix for Equity. This working document analyzes how equity is being incorporated into the implementation phase. A first version of the matrix has been developed based on presentations, meetings, and shared materials, including a complete example for CO-CAPTAIN. The collaboration of the other projects is required to complete and validate the data. Both tools were presented and discussed at the cluster's second annual meeting, with the aim of gathering input and reinforcing their usefulness as instruments for analysis, learning, and formulating future recommendations.



	Steps towards Y3	- All projects will complete the Positionality and Team Composition Survey to update information on team diversity and structure. - Each project will review and update their section in the Draft Analytical Equity Matrix to ensure data accuracy and completeness. - A common position paper will be co-developed by the six projects, using the matrix as a basis to reflect on how equity is addressed in implementation. - Work will begin on the Interim Report on Inequalities Recommendations, a joint deliverable due in May 2026, summarising shared lessons and concrete policy proposals.
Main conclusions		In the second year, the Health Inequalities Working Group focused on developing two practical tools: an updated Positionality and Team Composition Survey and a new Analytical Equity Matrix. These resources have supported all projects in assessing how equity is integrated into implementation, promoting critical reflection and identifying gaps. Both tools were built collaboratively using input from previous meetings, fostering shared understanding and enabling more systematic analysis across the cluster.



4.4 CITIZEN ENGAGEMENT

Citizen Engagement (4P-CAN leading)	
Objectives	- Mapping Best Practices: Identify and analyse successful citizen engagement strategies in cancer primary prevention from across the Cluster's projects - Co-Creation of a Citizen Engagement Framework: Collaborate to co-create a comprehensive framework for citizen engagement tailored to cancer primary prevention following the EC Code of Practice on Citizens engagement for knowledge valorisation - Enhancing Community Participation: Strengthen citizens engagement in Cluster projects by applying the co-created framework, ensuring citizens play an active role in co-designing interventions that reflect their needs and contribute to sustainable cancer primary prevention efforts.
Report 1 (2024 – Vienna, Austria)	As part of our Year 2 plan, and building upon the webinar organized by 4P-CAN on September 3rd and the session during the Cluster meeting in Vienna on September 23rd, the next step will be the co-creation of a Citizen Engagement Framework aligned with the EC Code of Practice on Citizen Engagement for Knowledge Valorisation. Some of the criteria that the Citizens Engagement Framework will take into account include: • Citizen Engagement Strategy: Presence of a clear strategy and action plan for engaging citizens in knowledge valorization. • Implementation Methods: Use of appropriate participatory methods such as living labs, co-creation workshops, public consultations, or interactive digital platforms. • Trans-disciplinarity and Collaboration: Degree of collaboration across different sectors and domains, involving citizens, researchers, healthcare professionals, and decision-makers. • Social Inclusion and Diversity: Ensuring participation of diverse and vulnerable groups, promoting gender equality, and addressing barriers to engagement. • Recognition and Incentives: Mechanisms to acknowledge and reward citizen contributions, such as awards, certifications, or other recognition schemes. • Evaluation and Impact: Implementation of an evaluation framework with clear indicators and metrics to assess the effectiveness of engagement processes and their impact on cancer primary prevention.



Report 1 (2024 – Vienna, Austria)	Steps towards Y2	• Use of Digital Technologies: Integration of human-centric and sustainable digital solutions to facilitate citizen engagement and promote inclusivity. • Sustainability and Scalability: Potential for replication and scaling of engagement actions in other contexts or regions, supported by toolkits and best practices. Based on these criteria and the direct input from the projects within the Cluster, we will co-create the Framework for Citizen Engagement in cancer primary prevention. This framework will guide future initiatives, ensuring a unified, effective, and sustainable approach across all Cluster projects. By aligning with the European Commission's Code of Practice on Citizen Engagement for Knowledge Valorisation, we ensure that our strategies adhere to European best practices and address the real needs of citizens.
Report 2 (2025 – Barcelona, Spain)	Y2 Update	During the cluster meeting in Barcelona, representatives from each project shared the citizen engagement activities they had carried out as part of their project and the activities that will be carried out in the following years. This allowed us to gather the final piece of input we needed to complete the Citizen Engagement Framework.
	Steps towards Y3	In the following period we will work on operationalizing the Citizen Engagement Framework into two scientific articles and one policy paper.
Main conclusions		During the past months, we put together a document that was circulated among all partners, “Citizen Engagement as a Driver of Knowledge Valorization in Cancer Prevention and Early Detection”, document which comprises a set of recommendations based on each project's experience. Some of these recommendations were validated during the most recent Cluster Meeting (September). These are also listed below: 1. Health is shaped by social structures, cultural norms, and lived experiences; it cannot be addressed with clinical solutions alone (especially in the era of AI). Social sciences and humanities (SSH) offer a more profound, contextualized understanding of how to better adapt interventions to real-world settings. -> Continue to strengthen the integration of SSH in health, particularly in prevention. 2. Living Labs empower less previously heard voices - be these rural voices, voices of children and adolescents, or voices of individuals with



lived experiences of mental ill-health, of cancer etc. - that are often overlooked when employing top-down approaches.

-> Funding should follow the most in need, with particular attention to rural areas, where access to health services and opportunities is often limited.

3. Stakeholders' engagement lay the foundation for citizen participation, facilitating the acceptance and successful implementation of projects while mobilizing the community. In rural communities, local authorities are central to driving this process.

-> Funding for primary cancer prevention should be directed at regional and local levels, to recognize, support, and enhance the vital contribution of local authorities.

4. Cancer prevention must be integrated with broader disease prevention strategies, including cardiovascular health, while ensuring that cancer remains a central priority for the Commission. To help reduce health inequalities, especially the East-West divide, efforts should focus on increasing public adherence to prevention measures and empowering citizens through improved knowledge and cancer literacy.

5. Resources should be directed toward implementation science, not basic research, to ensure that evidence translates into practice.

These recommendations will also be included in a policy brief.



4.5 RESEARCH AND INNOVATION: POLICY RECOMMENDATIONS

As a final activity of the meeting, participants collaborate to identify synergies based on the challenges faced in each project. The group focused discussing each project findings related to:

- Community level challenges
- National level challenges
- EU level challenges
- Identified good policies

The conclusions drawn from those working sessions are presented in [Annex 1](#).



5 CLUSTER PROJECTS' ACHIEVEMENTS

5.1 CITIZEN ENGAGEMENT

CO-CAPTAIN	
Y1	CO-CAPTAIN has conducted interviews and focus groups with individuals affected by mental health problems, care givers and professionals to co-design and develop a more effective intervention model. Through these activities, the perspective of end-users has been captured, enabling interventions to be better tailored to their needs.
Y2	CO-CAPTAIN has integrated citizen engagement as a core element of its approach from the outset. The project was co-designed with people with lived experience of mental ill-health, involving them through interviews, focus groups, and workshops in all four pilot countries (Austria, Greece, Poland, and Spain). These activities informed the design of a person-centred, emotionally supportive Patient Navigation model , shaped around real-life barriers such as stigma, lack of trust, and fragmented care. Engagement continued during implementation, with community input influencing navigator roles, recruitment strategies, and communication tools to ensure accessibility and relevance. Rather than being consulted, citizens became active partners in shaping and adapting the intervention within their local contexts.

CPW	
Y1	Baseline Questionnaire Development and Initiation of Data Collection: The CPW Project has successfully developed comprehensive baseline questionnaires targeting workers across different countries and industries. This initiative aims to collect critical data on participants' demographics, occupational details, health status, sociocultural resources, risk behaviors, and knowledge related to HP, HCV, and HPV with feedback. Gathered data will serve as the foundation for assessing the effectiveness of the interventions and helping to identify barriers to accessing health services. Opening of the HPV Vaccination Center: Establishing the HPV Vaccination Center at F.D. Roosevelt Hospital in Banská Bystrica, Slovakia, was a significant achievement and a key milestone in the project's implementation. This hospital is a crucial resource for health services in the region, and opening the HPV vaccination Hub will improve citizens' access to vaccinations and positively impact public health. Development of Tailored Communication and Educational Materials: The project team developed communication materials in multiple languages to support interventions across participating countries. This effort ensures that information is accessible and



CPW	
	relevant to diverse populations, enhancing workers' engagement and participation in the research project. Social Media Campaigns: Ongoing social media campaigns have been conducted to promote the project, raise awareness, and educate the general population about HP, HCV, and HPV infections, as well as cancer prevention strategies. Comprehensive Literature Reviews: Extensive reviews of existing preventive programs for HP, HPV, and HCV were conducted to identify best practices and knowledge gaps. This research informs the project's approach and ensures that citizen engagement efforts are grounded in evidence-based strategies. Stakeholder Mapping: National and international stakeholders have been mapped to enhance collaboration and support for the project in the next years.
Y2	As part of the Mission Cancer Cluster, CPW took part in the Citizen Engagement for Knowledge Valorisation survey coordinated by InoMed. The aim was to map how EU projects involve citizens and to share CPW's experience in engaging workers, families, and patient organisations in cancer prevention and awareness activities. This contribution underlines CPW's focus on inclusive and worker-centred approaches to cancer prevention in workplace settings.

ONCODIR	
Y1	ONCODIR's citizen engagement strategy targets individuals who do not have colorectal cancer to gather valuable feedback for testing the project's digital tools. To obtain this input, baseline questionnaires have been distributed to various groups, with university students playing a key role to highlight the importance of prevention among young people. Since ONCODIR's consortium spans various countries, interventions need to be developed into the respective languages for all communication materials, digital tools and questionnaires. Moreover, ONCODIR has established a Living Lab for a creative and participatory policy-centric dialogue for evidence-based policy making, focusing on citizen engagement, including patients and healthcare professionals. To create a more effective intervention model and to co-design the system, ONCODIR has conducted interviews and focus groups with both patients and healthcare professionals. Specifically, the Ministry of Health Greece (MoHGr) collected a total of 1000 responses by filling questionnaires aiming to identify common behavioural barriers. EUREGHA and EFPC have successfully conducted two focus groups in Italy and Slovenia respectively. Two more focus groups are planned by INCLIVA in Spain and MoHGr in Greece.



ONCODIR

Y2

ONCODIR expanded its citizen engagement efforts, transitioning from foundational research and planning to active participation and system testing. Building upon the groundwork established in Year 1, ONCODIR's activities focused on direct citizen involvement and pilot preparation, ensuring citizens remain central in the development of the ONCODIR system.

The project continued fostering participatory spaces through Living Labs, workshops, and dissemination initiatives. The Living Labs activities provide an open forum for dialogue among citizens, healthcare professionals, and policymakers, encouraging participants to exchange ideas and express concerns regarding cancer prevention and health system barriers.

To refine the ONCODIR digital tools, interactive workshops were organized to gather citizens' and stakeholders' feedback on the system's usability, functionalities, and recommendations, allowing for citizens to shape the system according to their real-life needs and experiences.

At the same time, the consortium developed the ONCODIR Pilot Protocol. The pilot phase is designed not only to test the system's technical performance but also to empower participants through improved health literacy. By receiving tailored lifestyle recommendations and professional guidance, participants will integrate preventive habits into their daily routines.

The project is now in an advanced stage of development, accounting with tools such as the Fusion Engine, designed to collect and process citizen feedback from the mobile app, and APPO, which detects and mitigates bias in data and outcomes. These tools ensure that citizens' experiences and contextual challenges, such as access to resources or facilities, are properly represented and can support the evidence-based policy recommendations.

4P-CAN

Y1

In Year 1, the 4P-CAN project made significant strides in citizen engagement through its innovative Living Lab in Leresti. The establishment of the citizen jury empowered local residents to take an active role in shaping cancer prevention strategies, ensuring that their voices were heard in both the design and execution of interventions. Through two town halls, we directly engaged citizens (10% of the population living in Leresti) in meaningful discussions about cancer risk factors and prevention methods, fostering a sense of ownership and collaboration. Furthermore, leveraging non-traditional stakeholders, such as the local football team as ambassadors, allowed us to reach a broader and more diverse audience, building trust and strengthening the community's commitment to the project.



4P-CAN

Y2

In Year 2 of the project, we continued our work with the community, based on the following innovation cycle: exploration → co-creation → experimentation → evaluation & reuse. In exploration, we worked with the Mayor's Office of Lerești, Lerești Gymnasium School, ACS Zimbrii Lerești (football NGO), and the Citizens' Jury to identify primary cancer-prevention priorities through community immersion, face-to-face interviews, and brief consultations. In co-creation, residents and the Jury adapt our sociological methods (clear prompts, memory aids, context-fit name generators) and co-design interventions aligned with school and sports calendars and local specificities. In experimentation, we run face-to-face Network Canvas interviews in multi-wave panels and deliver real-life activities (health festivals, school workshops, walking-football events), while signposting residents to prevention resources (medical advice hotline; access to tests). In evaluation & reuse, we refine interventions based on the feedback received.

At the same time, as part of our common work with the other projects in the cluster, we've explored - through various methods - how the citizen engagement component has been implemented across the Prevention and Early Detection Cluster. This showed us so far that that engagement in the Prevention and Early Detection Cluster projects was naturally focused, up to now, on the early stages of informing and consulting, with future initiatives planned to gradually advance towards higher levels of the spectrum, towards collaboration and empowerment. Moreover, a preliminary assessment of the activities conducted across the Cluster, mapped against the Code of Practice on Citizen Engagement, highlights several insights: transdisciplinary or cross-sector collaboration, inclusion, diversity and the gender dimension are clearly embedded within the citizen engagement component of each project. On the other hand, there is less clarity regarding the implementation of financial or non-financial compensation and recognition, which points towards the need of systematization in this area. The cluster projects provide insights on a variety of settings (with Living Labs in rural Eastern Europe to those in urban Western Europe). This variability highlights common challenges across settings, but also context-specific challenges that call for tailored solutions that are mindful of social determinants like cultural background, digital literacy levels, the density of social relationships within the community, local capacity and many others.



PIECES	
Y1	In its first year, PIECES has focused on the development of a digital toolkit to facilitate the implementation of primary cancer prevention (PCP) programs. The toolkit emphasizes the importance of citizen engagement and provides guidance to engage relevant stakeholders throughout the process of selecting, adapting and implementing PCP programs. Among other components, the toolkit also includes an interactive module to foster a community of practice and enhance collaboration among implementers. Over the next years, the toolkit will be tested by implementers from diverse countries and disciplines.
Y2	In Y2, PIECES significantly advanced its citizen and stakeholder engagement efforts. The stakeholder mapping was updated to include new members from Norway, Ukraine, and Germany, further diversifying the project's network and strengthening representation across Europe. The launch of the ItFits Forum provided an interactive space for implementers and stakeholders to share experiences, exchange ideas, and build a sustained community of practice around the PCP-IT. In parallel, Implementation Coordinators in each participating country played a key role in engaging local implementation teams, fostering collaboration, and supporting the practical use of the toolkit in diverse settings. To consolidate this growing network, a webinar — currently in preparation—will serve to welcome new stakeholders, introduce the toolkit, and encourage active dialogue on adaptation and implementation strategies.

PREVENT	
Y1	PREVENT has already set up the living labs in 3 EC countries (Spain, Sweden and Greece) and work towards citizens engagement (children/adolescents, school units/heads/teachers/professors, parents and the wider communities). PREVENT has conducted interviews and focus groups with school heads, sociologists, psychology and educational experts, and health care professionals in order to develop a more effective intervention model. The perspective of the school communities has been initially captured in order to provide interventions that are tailored to their needs. PREVENT works in close collaboration with UNICEF to prepare better engagement strategies and tools (both digital and social ones).
Y2	PREVENT continued working with children/adolescents, parents, school units/heads/teachers/professors, health care professionals, nutritionists, psychologists and policy makers and launched a pre-pilot phase where they're all exposed to PREVENT's digital means for a short period of time. Workshops, interviews, questionnaires were conducted with the end – users and our Communities of Practice experts in order to provide effective interventions tailored to the needs of each pilot site.



5.2 ADDRESSING INEQUALITIES

CO-CAPTAIN	
Y1	The project has addressed health inequalities by identifying key barriers such as stigma, discrimination and issues in provision of a care in the public health system. In addition, efforts have been made to tailor health services to the individual needs of people with mental health problems. As leader of the Inequalities work package in the Cluster, CO-CAPTAIN organised a webinar for all cluster members, in which issues related to reducing inequalities in access and provision of health services were discussed. In addition, it is leading further activities to map out inequalities and suggest how these can be overcome in all cluster projects.
Y2	CO-CAPTAIN places people with mental health problems at the centre of its cancer prevention strategy, addressing their lower participation and higher risk. Through interviews and focus groups, the project identified key barriers such as stigma, fragmented care, and lack of continuity. The Patient Navigation model is now being implemented in Austria, Greece, Poland, and Spain, adapted to each country's health system. As part of their role, Navigators focus on identifying individual risk factors and access barriers in a person-centred manner (person-centred approach) within a population diagnosed with mental health conditions (population management), mobilising the necessary resources and facilitating access on a case-by-case basis. Navigators also provide both emotional and practical support to help individuals access preventive services. Additionally, digital tools track participation and identify gaps, supporting more equitable and evidence-based prevention strategies.

CPW	
Y1	Pilot Interventions Across Diverse Settings: The CPW Project has initiated pilot interventions in various industries, including healthcare, manufacturing, metalworking, retail, and finance. By tailoring these interventions to the unique needs of each sector, the project addresses specific barriers to engagement that may vary by workplace culture and employee demographics. The CPW Project developed comprehensive baseline questionnaires and conducted a thorough literature review to investigate sociocultural and behavioural factors limiting engagement with preventive health interventions. This research aims to uncover varying levels of awareness and cultural stigmas associated with HP, HCV, and HPV infections, providing a deeper understanding of the barriers and facilitators faced by different populations. Feedback Collection Mechanisms: The project has implemented mechanisms to gather feedback from participants on their experiences with health interventions. Special attention



CPW	
	will be given to workers who test positive for HP and HCV infection or express willingness for HPV vaccination. Training for Healthcare Providers: The project has conducted numerous training sessions for healthcare providers (occupational physicians, nurses, and beyond) to equip them with the skills to effectively communicate the project while engaging with diverse populations and improving patient (employee)-provider interactions.
Y2	During Y2, CPW has developed a custom projective technique for sociocultural and behavioral assessment: the 12 Circles Drawing Technique (12-CDT). The 12-CDT is an innovative tool built to expose and potentially address health inequalities and inequities. The 12 CDTs is a scalable, engaging, projective method for collecting rich qualitative data across diverse working populations. It is explicitly designed to uncover health inequities and inform equity-focused action. The 12-CDT operationalizes “health capital” as the social, cultural, economic, and personal resources that individuals consider as impacting their health and health behaviors. Health capital is unequally distributed and shaped by social determinants such as educational background, language skills, and income, making it especially relevant for diverse study populations. Workers’ health capital in the form of health-related resources is dynamic and relational, encompassing not only individual traits such as resilience or health knowledge, but also external factors like institutional access, socioeconomic status, and cultural familiarity with healthcare systems. Because these determinants are unequally distributed, 12-CDT makes disparities visible at the point of data collection. The method is accessible across literacy levels and languages, accounting for diverse worker cohorts and ensuring that conventional interviews or surveys do not filter unequally distributed voices. Based on the extensive number of 12 CDTs collected (2,118 at the time of reporting), we lower barriers to participation by applying the 12-CDT as a visual, self-administered, multilingual-friendly technique, as well as making hidden drivers visible: the size and placement of the resource placed in the drawing reveal the perceived power of social determinants. We also opt for standardized comparability: drawings can be systematically coded and merged with quantitative data for equity monitoring across groups and time, opening the avenue for mixed-methods research that integrates baseline and follow-up data with sociocultural and behavioral assessment data. The identified inequality patterns have the potential to yield actionable targets, such as in the integration of workers’ families and support in stress handling and healthcare system navigation. The approach is scalable and reproducible, making it ideal for large, heterogeneous samples without sacrificing sociocultural nuances.



ONCODIR

Y1

The ONCODIR project during its first year focused on identifying and mapping behavioural & structural barriers and facilitators for CRC primary prevention, analysing habits such as lack of exercise and preference for fast food, collecting in parallel valuable insights regarding primary prevention in general. Despite conducting a dedicated survey on the general population of the consortium countries, clinicians and policymakers were invited as well to take part and assist in seeking effective facilitators and strategies. The analysis of preliminary data revealed more than 40 barriers (behavioural, financial, social, cultural, legal), more than 4 inequalities linked to primary prevention, and more than 20 facilitators.

In addition, a series of focus groups sessions with healthcare experts from consortium countries that is planned for after M12 (started on M16) aims in identifying the population groups that mostly require support concerning primary prevention as well as already established effective strategies for addressing those barriers and inequalities in local, regional and national level.

Y2

A central cross-cutting focus in Y2 was the rigorous commitment to addressing health inequalities and disparities in CRC prevention across the EU. This commitment was operationalized by **leveraging the foundational Year 1 results**, which identified and mapped **over 40 structural and behavioural barriers** and **more than four key inequalities** related to primary CRC prevention. The identified barriers, facilitators, and inequalities were critical inputs that:

1. **Informed Pilot Scenarios:** They directly shaped the scenarios and protocols of the three national pilots to ensure real-world relevance and test targeted mitigation strategies.
2. **Refined Policy Instruments:** The finalized decision support matrix specifically incorporates elements from national cancer plan to prioritize policies that address the identified socioeconomic and regional engagement barriers.

This framework of addressing barriers and inequalities is further embedded into forthcoming activities, including the Living Labs sessions (end Y2/start Y3) and the dedicated regulatory roundtable discussions (early Y3). This iterative approach ensures that all policy recommendations generated by the project are fully aligned with the contextual challenges facing citizens in the target upscaling countries (Greece, Spain, Lithuania, and Romania), actively contributing to fairer, more inclusive public health outcomes.



4P-CAN

Y1

The 4P-CAN project in its first year focused on addressing **health inequalities**, particularly in underrepresented and vulnerable groups in **rural areas** like Leresti. The project's activities, including **personal network analysis**, provided a **deep understanding of local networks and barriers** to accessing cancer prevention services, especially among **elderly** populations and marginalized communities like the **Roma**. By focusing on these vulnerable groups and adapting our **personalized communication model** to meet their needs, we were able to deliver targeted interventions aimed at reducing disparities in cancer prevention. Our efforts to bring prevention services closer to these populations are helping to bridge gaps and improve health outcomes in regions often overlooked by traditional health initiatives.

Y2

The 4P-CAN project continues to work in the direction of understanding the barriers (legislative, socio-economic, commercial, behavioral) which stand against the access to a quality care and to improve, as a consequence, the primary prevention activities. In essence, the project addresses:

1) health inequalities which are frequently associated with rural areas (rural Romania records the highest AROPE rate in the EU27) – the community faces a shortage of healthcare professionals, limited access to diagnostic services, and underdeveloped preventive care. The Living Lab supports access to cancer prevention knowledge, screenings, and community-based health promotion (e.g., Health Festival, ECAC awareness).

2) digital inequalities - many residents, especially older adults, have low digital and health literacy. The Living Lab incorporates face-to-face network data collection and educational in-person events, to foster an inclusive approach.

3) socioeconomic and educational inequalities – the community is affected by rather low income and an aging demographic, which together contribute to marginalisation and poor health outcomes. Through participatory methods and co-creation (e.g., workshops, festivals), the Lab helps residents engage in local decision-making and access health promotion content tailored to their needs, mitigating disadvantage due to income or educational level.

4) gender and age inequalities - older adults and women (who often act as caregivers) are frequently underrepresented in research and health innovation. The Living Lab includes specific attention to intergenerational engagement (e.g., through school partnerships and senior-friendly physical activities like walking football), and its programming reflects community-selected priorities, including gender-sensitive issues such as obesity and caregiving.

5) knowledge inequality with regard to policy and research - rural voices are often missing from policymaking and public health research, resulting in interventions that are poorly adapted to rural needs. By conducting longitudinal ego-network research, stakeholder mapping, and co-producing health promotion activities, the Living Lab continues to



4P-CAN

democratise knowledge and include community voices in health system planning and cancer prevention strategies.

PIECES

Y1

In its first year, PIECES has developed a digital toolkit aimed at reducing inequalities in the implementation of primary cancer prevention (PCP) programs. The toolkit provides guidance on selecting, adapting, and implementing programs, taking into account and addressing local inequalities. It includes evidence-based repositories of implementation barriers and strategies to overcome them, helping match specific barriers with appropriate solutions. Additionally, all toolkit components are being translated into the local languages of participating countries to ensure broader accessibility.

Y2

Throughout Y2, PIECES continued to advance its commitment to reducing inequalities in cancer prevention by implementing the **PCP-IT Toolkit** across a diverse range of **countries and settings**. With over **20 implementation teams** operating in **eight European countries**—including Spain, the Netherlands, Albania, the United Kingdom, Italy, Ukraine, Ireland, and Germany—the project ensures representation across varied socioeconomic, cultural, and healthcare contexts. This diversity strengthens the relevance and adaptability of the PCP-IT, allowing teams to tailor evidence-based interventions to local population needs and address disparities in access to prevention programmes. By supporting implementers through training, peer exchange in the **ItFits Forum**, and continuous coordination from national leads, PIECES contributes to promoting equitable approaches to primary cancer prevention and ensuring that effective strategies reach all communities, including those in resource-constrained or underserved areas.

PREVENT

Y1

The PREVENT team has actively joined all relevant workshops/campaigns towards enhanced inclusivity, diversity and dealing with socio-economic inequalities. Through the direct inclusion of all needed political partners and the decision makers in the consortium, PREVENT will promote at higher level the equity issues in cancer prevention further to the lifetime of the cluster. PREVENT has addressed health inequalities by identifying key barriers such as socio-economic discrimination and health system dysfunctions.



PREVENT

Y2

Second year of our project has been a preparatory stage for the upcoming pilots' implementation. Health inequalities have been addressed by including children/adolescents/parents from all socio-economic levels, rural and urban areas in each Living Lab. The policy maker partners of our consortium along with the health care professionals involved have tried to avoid discriminations in multiple levels based on the barriers analyses that has been carried out the first year of our project.



5.3 R&I COLLABORATION

CO-CAPTAIN	
Y1	During the first year, CO-CAPTAIN has made progress in creating research and innovation collaborations with partners and experts in the implementation of cancer prevention models in vulnerable populations. These collaborations have facilitated the integration of expertise in mental health and healthcare, strengthening the multidisciplinary approach of the project.
Y2	During the second year, CO-CAPTAIN has deepened its research and innovation collaborations, particularly through the active implementation of the Patient Navigation model across the four pilot countries. Ongoing work with partners and local stakeholders has reinforced the project's multidisciplinary focus, combining expertise in mental health, primary care, and public health. These collaborations have been essential for adapting the model to real-world contexts and ensuring its relevance to vulnerable populations.

CPW	
Y1	CPW has a leadership role within the Cluster for the Data Management Plan (DMP) Common Chapter. CPW coordinated data management efforts among partners, organized working group meetings, consulted on data management issues, and designed collaborative strategies for future cooperative efforts. The joint DMP chapter was successfully submitted. In Year 1, CPW made significant progress in Research and Innovation collaboration among partners, undertaking various preparatory activities to establish a robust framework for interventions. Key activities included developing SOPs for each intervention, considering the diverse contexts of participating countries and industries. A comprehensive baseline questionnaire was created to collect critical data on participants, while a healthcare provider-specific questionnaire was designed to gather insights on implementation barriers. A cost-monitoring tool is also in development. Extensive reviews of preventive programs for HP, HCV, and HPV were conducted to identify best practices and key challenges, supporting the project's goal of evaluating innovative, cost-effective cancer prevention strategies within occupational health programs.
Y2	During Y2, CPW has created an AI-based analysis tool for the projective techniques (12-CDTs). This tool builds on state-of-the-art image segmentation (Segment Anything) and a custom optical character recognition (OCR) model to process complex projective drawing data into rankings of self-perceived importance of sociocultural and behavioral health-related resources. The AI-based tool detects visual features in drawings and captures handwritten textual labels, automating the most labor-intensive parts of the data



CPW	
	processing. The result is both faster workflows and more consistent, scalable, and reproducible qualitative analysis. Additionally, this way of quantifying the qualitative has opened up the possibility for mixed-methods insights into the sociocultural and behavioral datasets. Also, the cost-monitoring tool moved from initial development to focused, practical implementation. CPW engaged directly with each its work group (HCV, H pylori and HPV) to explain the methodology, discuss potential burdens, and explore the feasibility of running the tool across different interventions and contexts. This collaborative approach ensured that the tool was adapted to the diverse occupational settings involved in the project and that partners were equipped to provide accurate cost data.

ONCODIR	
Y1	Continuous feedback: a feedback loop was established in which results from the app and information from the doctor-patient interaction are sent to policy makers to adjust and improve prevention programmes. The project has now completed a comprehensive literature review and is transforming these results into practical recommendations for clinicians. Laboratory testing is underway, and the application is expected to be tested in the next two weeks, with a view to launching a pilot soon.
Y2	During the project's second year, the technical teams gathered end-user requirements through two separate rounds of workshops. The tools developed have received positive feedback and were successfully tested in the planned integration tests. These tools include: A mobile app for citizens to receive personalized prevention recommendations. A Clinical Decision Support System (c-DSS) to help clinicians create meaningful recommendations for their patients. A policy analytics platform to assist policymakers in making evidence-based decisions for national-level Colorectal Cancer (CRC) prevention campaigns. In the final phase of the project, these tools will be validated in the three pilot countries—Romania, Greece, and Lithuania—to evaluate their performance in a real-world operational environment. Lessons learned and impact analysis will be shared within the cluster for further analysis and collaboration.



4P-CAN

Y1

In Year 1, 4P-CAN made significant progress in Research and Innovation (R&I) collaboration, particularly through the use of personal and social network analysis. These tools provided deep insights into local networks, helping to understand how social relationships influence cancer prevention behaviours. In addition, we conducted stakeholder mapping using the NetMap method and the pentahelix model, allowing us to identify and engage key actors at the European, national, and regional levels, ensuring a coordinated and comprehensive approach to cancer prevention. The project also fostered a strong multidisciplinary collaboration, bringing together social scientists, public health experts, medical doctors, health communicators, and nurses to ensure our interventions were grounded in diverse expertise and practical realities. We validated our methodologies with international experts and submitted the first three scientific publications for review, marking an important step in disseminating our findings.

Y2

In year 2 of the project, several scientific articles were published, and others are under review

- Hâncean, M.-G., Lerner, J., Perc, M., Molina, J.L., Geantă, M., Oană, I. & Mihăilă, B.-E. Processed food intake assortativity in the personal networks of older adults. Scientific Reports 15, 10459. <https://doi.org/10.1038/s41598-025-94969-0> 2025;
- Mihăilă, B.-E., Hâncean, M.-G., Perc, M., Lerner, J., Oană, I., Geantă, M., Molina, J.-L. & Cioroboiu, C. Cross-sectional personal network analysis of adult smoking in rural areas. Royal Society Open Science 11, 11, 241459, <https://doi.org/10.1098/rsos.241459> 2024;
- Oană, I., Hâncean, M.-G., Perc, M., Lerner, J., Mihăilă, B.-E., Geantă, M., Molina, J.L., Tincă, I. & Espina, C. Online Media Use and COVID-19 Vaccination in Real-World Personal Networks: Quantitative Study. Journal of Medical Internet Research 26 e58257, <https://www.jmir.org/2024/1/e58257/> 2024;
- Feliu, A., Barrera, B., Drury, A., Hâncean, M.-G., Geantă, M., Koczkodaj, P., Pinto, P., Pla, M., Tchalakov, I., Vučković, H., Zeeb, H., & Espina, C. Perceptions towards the adoption of multi-risk factors cancer prevention educational tool among European Union citizens: A multi-country qualitative study protocol. International Journal of Qualitative Methods 23, <https://doi.org/10.1177/16094069241256276> 2024

As an innovative feature of the project, we recently organised a 3D gallery event within the Living Lab, allowing participants to visualise their personal networks, based on the data collected. This helped illustrate that health-related behaviours - whether positive or negative - are not formed in isolation, but are shaped within peer groups and the broader community context.



PIECES

Y1

In its first year, PIECES has developed an innovative digital solution that integrates an evidence-based repository of primary cancer prevention (PCP) programs, along with repositories of implementation determinants and strategies. This comprehensive toolkit has been reviewed by project partners as well as a board of international experts in implementation science and health promotion.

Y2

Across its first two years, PIECES has established itself as a dynamic platform for research and innovation collaboration in implementation science and cancer prevention. Building on the foundational work of Y1, the Consortium has continued in Y2 to strengthen cross-country partnerships and promote co-development of research outputs. The collaborative design of the PCP-IT Toolkit and the launch of its multi-site evaluation study have brought together researchers, practitioners, and policymakers from eight countries, fostering a rich exchange of expertise and methodologies. This transdisciplinary approach ensures that innovation is informed by real-world practice while maintaining scientific rigour and comparability across settings. Several scientific papers detailing the development of the repositories, the PCP-IT framework, and the study protocol are currently underway, reflecting the project's contribution to the evidence base for implementation research.

PREVENT

Y1

PREVENT is leading the R&I collaboration among the participating projects. During the first year, PREVENT has made progress in creating research and innovation collaborations with partners and experts in the implementation of cancer prevention models with regards to obesity and other metabolic disorders. Most of these collaborative activities will run in the second year.

Y2

This second year, workshops have been held with the R&I working group of all sister projects mostly focused on the challenges each project faced towards the implementation phase and what measures have been taken to overcome them. The PREVENT team has enhanced collaborations with experts and policy makers on cancer prevention, actively promoting its innovative implementations. Collaborative activities run with partners and experts on obesity, metabolic disorders and cancer prevention.



6 CONCLUSIONS

The second annual meeting of the “Prevention and Early Detection Cluster” served as a valuable platform for updating the progress of each project within the cluster, with a focus on the various working groups: Citizen Engagement, Addressing Inequalities, Research and Innovation Collaboration, Communication and Dissemination and the Data Management Plan. During the meeting, each working group presented its main achievements over the past year and outlined its work plans and objectives for the second year.

The second annual meeting provided an opportunity to share experiences, exchange knowledge, and identify synergies across the different areas of focus. By building this strong base, the projects are now well-positioned to advance further. As we move into the third year, there is a shared expectation that our collaborative work will lead to more tangible outcomes.



ANNEX 1: POLICY RECOMMENDATIONS

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Version	Author	Date	Status
0.1	Sergio Oliveira Formoso	15/OCT/2025	First draft
0.2	All	25/OCT/2025	Contributions from all partners
1.0	Dora Spyropoulou	27/OCT/2025	Final review and submission

List of Abbreviations

Abbreviation	Definition
EC	European Commission
WP	Work Package
CO-CAPTAIN	Cancer prevention among individuals with mental ill-health: co-adapting and implementing patient navigation for primary prevention
CPW	Cancer Prevention at Work: Occupational health surveillance in the implementation of prevention of infection-related cancer
ONCODIR	Evidence-based Participatory Decision Making for Cancer Prevention through implementation research
4P-CAN	Personalized CANcer Primary Prevention research through Citizen Participation and digitally enabled social innovation
PIECES	Towards large-scale adaptation and tailored implementation evidence-based primary cancer prevention programmes in Europe
PCP-IT	Primary Cancer Prevention – Implementation Toolkit
PPP	Primary Prevention Programs
PREVENT	Improving and upscaling primary prevention of cancer by addressing childhood obesity through implementation research- the PREVENT approach



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1 INTRODUCTION

The goal of this annex is to update the set of initial policy recommendations under the collaborative efforts from the 6 projects within the "Prevention and Early Detection" cluster of the Mission Cancer initiative, based on the Research and Innovation strand. This policy brief is intended to amplify the overall impact on the Mission Cancer's aspirational objective of enhancing the lives of over 3 million individuals by 2030.

Firstly, the main challenges each project faced in community, national and EU-level are presented, alongside with identified opportunities. This was followed by the outcome of our workshop in Research & Innovation during our 2nd annual meeting the 29th of September 2025 in Barcelona. Finally, the updated policy recommendations each project formulates based on their findings so far and a list of our updated common policy recommendations as a cluster are presented.



2 RESEARCH FINDINGS AND POLICY RECOMMENDATIONS

2.1 RESEARCH FINDINGS

In this updated policy brief, we show the key challenges that each project addressed at the community, national, and EU levels, along with the opportunities identified during their research phase. At the community-level, the key challenges focused on local or regional barriers, such as insufficient resources, low awareness, or lack of local support, which hinder the implementation of interventions and research. On the national level, projects identified difficulties in scaling interventions, largely due to variations in healthcare systems, misalignment of policies, or funding limitations. At the EU level, pan-European challenges emerge, including policy fragmentation, regulatory hurdles, and the need for greater standardisation across member states. Additionally, the projects highlighted existing opportunities and action points at local, national, and EU levels that could be adapted or scaled to support broader cancer prevention efforts.

The updated research findings from the six clustering projects are presented below:

- Table 1 details the challenges and opportunities for each individual project and their respective updates.
- Table 2 updates previous information with the common findings identified and agreed upon during the "Research & Innovation" working group workshop, led by PREVENT, at the Cluster Annual Meeting held in Barcelona on 29th September 2025.
- Table 3 outlines each project's updated policy recommendations, including their potential impact and advantages.



2.1.1 Table 1. Updated Project-Specific Research Findings

	Community-Level Challenges	National-Level Challenges	EU-Level Challenges	Identified Opportunities
CO-CAPTAIN	1. Fragmented systems hinder access to prevention: Poor coordination between mental health and cancer services creates silos that exclude people with mental ill-health from standard prevention and screening pathways. 2. Low mental health awareness among non-specialists: Limited understanding of mental ill-health among non-mental health professionals hinders effective prevention and early detection efforts. 3. Stigmatisation of people with mental health problems: Persistent prejudice prevents people from seeking or receiving appropriate medical help, which complicates cancer prevention and treatment. 4. Lack of integration of services: Fragmentation of local mental and physical	1. Limited recognition in public policies: While there are health policies aimed at groups in vulnerable situations, people with mental ill-health are often not sufficiently specified or prioritised in prevention strategies, which can limit equitable access. 2. Limited resources for integrated care: Many systems lack sufficient funding and resources to effectively connect physical and mental health services, making it difficult to implement integrated prevention approaches for people with mental ill-health. 3. Geographic disparities in health service provision. 4. Mental health invisibility in cancer data: The lack of non-stigmatising data collection structures and the exclusion of mental health status from cancer	7. Lack of coordination in health policies: The absence of a shared EU framework leads to differences in how countries approach cancer prevention and treatment, resulting in unequal access and outcomes across regions. 8. Difficulty of transnational coordination: There is limited coordination between European countries to address common challenges in mental health and cancer prevention. 9. Lack of data on mental health in cancer registries: The absence of mental health status as a variable in cancer registries limits the ability to assess its impact on cancer incidence, diagnosis, treatment, and outcomes—hindering evidence-based policy and resource allocation.	10. Building community support networks: Strengthen the role of local health networks and NGOs to provide integrated cancer prevention and mental health support programmes. 11. Promote participatory spaces in health and care structures to partner with people experiencing mental ill health for the design, follow-up and evaluation of services. 12. Putting people experiencing mental ill-health at the centre of the design of health policies. 13. Implementing digitally-enabled solutions to enhance person-centred cancer care and prevention for people experiencing mental ill-health. 14. Strengthening collaboration between EU countries: Leveraging



CPW	health services, hindering a comprehensive approach to cancer prevention. 5. Patient navigation programmes build trust but require the allocation of both more time and general resourcing. 6. Responsibility for preventive care in people with mental health problems is unclear: whether it lies with primary care, hospital mental health units, or other services. 7. Lack of partnerships with people experiencing mental ill health in the design, implementation follow-up and evaluation of services	systems and registries hinder equity-focused research and policymaking. 5. Health system barriers for those lacking health insurance. 6. Lack of cancer related research with people experiencing mental ill health		programmes such as Horizon Europe to facilitate collaborative research and innovative practices in public health. 15. Training of health and care professionals: Expand training programmes for physicians and mental health professionals in interdisciplinary approaches combining cancer prevention and mental health and include navigation models in national prevention plans. 16. Scale patient navigation models guided by cost-utility analysis from pilots. Include mental health status as a variable in the cancer inequalities registry
	1. Low awareness of infection- related cancers and primary prevention, particularly regarding H. pylori's role. 2. Barriers to accessing	1. Low attention to and investment in infection-related cancers, particularly stomach and liver cancer. 2. Lack of stakeholder involvement in infection-	1. Lack of occupational-based Policies and guidance for cancer prevention. 2. Scarce implementation of screening for infection-related cancers, especially in Eastern Europe.	1. Expanded role of the occupational physician in promoting cancer prevention, with potential company- supported cancer screenings integrated into annual



cancer screening and preventive services, including hesitancy toward HPV vaccination. 3. Fear, shame, and stigma around sexually transmitted infections (HPV, HCV), hindering individuals from seeking prevention and treatment. 4. Caregiving strain and fear of infection transmission within the household, adding emotional and logistical burdens on families. 5. In our sociocultural assessment, family is the most frequently indicated health priority across national and cultural contexts, which suggests potential leverage points for intervention design such as the involvement of family members or the addressing of familial barriers in preventive programs. 6. In our sociocultural assessment, stress handling abilities were a	related cancer prevention, especially for H. pylori. 3. Weak representation of occupational medicine in healthcare and cancer prevention efforts. 4. Limited engagement of employers and occupational health services in national cancer prevention. 5. Sociocultural attitudes and norms complicating health and vaccination efforts.	3. Lack of attention to H. pylori as a carcinogen, with limited screening programs. 4. Scaling interventions to the supranational level is difficult due to healthcare system variations and policy misalignments within the EU. 5. Scientific guidelines may need updates, such as for H. pylori testing and HPV vaccination in adults. 6. Scarce literature regarding occupational-based cancer screening for the targeted infections (H.pylori, HCV, HPV).	health services. 2. Collection of workers' occupational history, clinical, and lifestyle information for comprehensive health risk profiling and creation of dedicated registries. 3. Contribution to the European Beating Cancer Plan to reach HPV vaccination rates of 90% for girls and increase vaccination of boys by 2030. 4. Find new evidence on infectious-related cancer epidemiology in high-risk countries, enabling updates to data and guidelines. 5. Multicomponent interventions involving healthcare professionals and public authorities for comprehensive cancer prevention. 6. Increase participation in cancer screening and vaccination campaigns beyond HPV, HCV, and H. pylori. 7. Integrate preventive screening and
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ONCODIR	priority for many workers, indicating that mental well-being might be an overlooked facilitator of preventive programs.			vaccination into occupational health surveillance mechanisms. 1. Scale up outreach activities using workplace channels.
	Accessibility: Free of charge or low-cost community prevention programs are inaccessible to citizens due to narrow eligibility criteria and/or complex registration processes. Limited awareness: Communication campaign does not properly address targeted populations' information needs while not being tailored to their health literacy levels. Lack of dedicated education programs: established programs are short in duration and raise very specific topics. There should be health education programs not only in schools but also across all establishments and population groups of interest, i.e., day care centres, facilities for the	Healthcare professionals' competencies: The required competencies for addressing properly the cultural and health-literacy related barriers impeding CRC primary prevention are scarce among them. Dedicated trainings are required. Limited face-to-face interactions with patients: Professionals having limited time due to their heavy workload affects individuals' negatively as they value personalized interventions, especially when preventive care is considered. Occupational health: The available programs are limited despite employees recognizing	Lack of a common standard for prevention: EU countries address cancer differently. Many of them have established national cancer plans incorporating initiatives of different policy fields through different perspectives - not all of them address preventive care. Initiatives should be taken to ameliorate the fragmented legislative setting, to create living guidelines and harmonised standards for AI tools and genetic testing. Private sector involvement: Regulations are required to encourage and facilitate public- private-partnerships. EU Code Against Cancer	Society engagement: Engagement and collaboration between different public and private entities in a "whole-of-society" approach to properly address prevention barriers. Policymaker Involvement: Preventive services should be offered by all administrative levels and mainly where people reside and reside. Clinical studies support: Encourage the conduction of clinical studies to produce evidence-based needs assessment while the effectiveness of different measures is studied as well. Infrastructure support: Infrastructure for physical activity is required for individuals to leverage



disabled, prisons, pregnant women, the elderly, etc. 4. Cultural challenges: Language barriers, dietary influences, marginalization. 5. Social challenges: Lack of social support while heavily relying on family for health- related decisions. 6. Hesitancy: Fear of cancer, stigmatization and lack of community outreach programs increase hesitancy towards prevention. 7. Adaptability issues: Adopting and maintaining preventive behaviours requires significant resources that are scarce in contemporary lifestyles (e.g., sufficient income, substantial time, being stress free, etc.). 8. Distrust in the healthcare system: There is limited trust to healthcare professionals mainly due to issues of agency, patient-provider	them as positively affecting them towards preventive and positive health behaviours. 4. Tailored approaches required: Despite citizens being in favour of genetic testing and personalized care healthcare professionals appear hesitant towards such approaches. 5. Lack of prioritisation by national policymakers: Policy makers appear more concerned with budgeting and resources issues thus being less supportive of preventive care. 6. Fragmentation: Fragmented clinical pathways difficult the centralisation of generalisation of use of AI tools.	Update: There is a need for the update of the code in a way that encompasses more novel approached (i.e., digital health) while impedes the grave variations of the awareness and engagement campaigns through setting specific standards. 4. Financial barriers: More resources should be provided to communities of member states for preventive care. 5. Environmental & Occupational Health: Incentives for investing in environmental and occupational health is important to be provided to the member states. 6. Additional support for the development of novel technologies: It's important to support the development and validation of genetic tests to provide individual care to citizens. 7. Additional support for the development of novel technologies: It's important	and be supported in adopting positive health behaviours. 5. Cross-country collaboration: Foster opportunities for collaboration especially for the development and validation of genetic tests. 6. Education and awareness programs: Campaigns tailored to the populations' respective health information needs that enable them to surpass cultural and language barriers while promote equity.
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	communication and lack of patient-centred care. 9. Fear of cancer: Adoption of avoidant behaviours. 10. Low engagement of community leaders: Collaborations and synergies are limited as a “whole-of- society approach” hasn’t been adopted so far. 11. Technical barriers: Poor digital health literacy competencies, limited resources at community level.		to support the development and validation of genetic tests to provide individual care to citizens.	
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4P-CAN	1. Desire for continuity beyond a temporary project. 2. Lack of engagement from local healthcare professionals. 3. Low trust in the healthcare system and widespread disappointment, especially in rural settings. 4. Cultural barriers and resistance to change. 12. Limited local infrastructure and resources.	1. Barriers in local and regional implementation of European projects, often due to fragmentation and lack of coordination. 6. Excessive politicization of healthcare issues, including cancer, hindering effective action. 7. Poor integration between national initiatives and projects, leading to fragmented efforts and inconsistent outcomes. 6. Ineffective traditional (top-down) implementation of primary cancer prevention programs, compounded by limited long-term policy support.	1. Insufficient funding and resources, especially in Eastern Europe. 2. Difficulty aligning national priorities with EU health strategies in Eastern Europe. 7. Limited cross-border collaboration and data sharing	1. Identification of local influencers beyond the “usual suspects”, using social network analysis. 2. Deep understanding of local networks influencing cancer prevention and risk awareness. 3. Direct engagement with citizens for co-creation of tailored cancer prevention strategies. 4. Enhanced outreach to underserved populations through locally adapted interventions. 7. Scale up low-cost community events.
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PIECES	1. Limited resources: There are insufficient financial and human resources at the local level to support the widespread implementation of prevention programs. 2. Low awareness and stakeholder engagement: Many local communities have low awareness of the importance of primary cancer prevention programs. Additionally, socioeconomic and cultural factors, such as low health literacy, complicate engagement with preventive measures. 3. Lack of implementation expertise: Many communities lack the local expertise to access, adapt and implement evidence-based cancer prevention programs effectively. 5. Despite a significant amount of research being conducted, many interventions at the community level are not based on strong evidence or lack the	1. Funding limitations: National health budgets often prioritize immediate healthcare needs over preventive care, making it difficult to allocate sufficient resources for long-term cancer prevention strategies. 2. Inconsistent training and knowledge gaps: Nationally, many implementers lack the necessary training and knowledge of implementation science, making it difficult to effectively roll out cancer prevention programs.	1. Policy fragmentation: At the EU level, inconsistencies in healthcare policies and cancer prevention guidelines hinder effective cross-border collaboration. Regulatory barriers and lack of uniform policies create challenges for scaling initiatives. 2. Need for greater coordination: More consistent collaboration across EU member states is needed to optimize the dissemination and implementation of best practices in cancer prevention. Furthermore, the lack of expertise in implementation science at the EU level hinders the effectiveness of scaling programs. 3. Lack of standardization: Varied definitions and understandings of "healthy lifestyle" and cancer prevention across EU countries complicate the harmonization of health campaigns and	1. Repository of Primary Cancer Prevention (PCP) programs: PIECES has established a comprehensive, evidence-based repository that supports local adaptation and implementation of cancer prevention programs. This offers a significant opportunity to improve the uptake and success of primary prevention across various settings in EU. 2. Expanding the repository: Other projects working on cancer prevention programs, provided they produce evidence-based outputs, could be added to the PIECES repository. This would allow for a broader selection of programs that can be adapted and utilized by implementers across Europe and beyond, increasing the repository's utility and impact. 3. Toolkit adaptation: The PIECES PCP Implementation Toolkit
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	practical adaptation needed for real-world settings. This gap in implementation science knowledge at the grassroots level limits the ability to tailor programs to specific community needs and contexts, often resulting in poor outcomes 6. Lack of capacity and support: Beyond limited funding and expertise, communities often lack the time, organizational capacity, and institutional support needed to effectively plan, implement, and sustain prevention initiatives.		interventions. 4. Many evidence-based primary cancer prevention programs fail to publish the necessary materials and resources required for others to reproduce and scale interventions. 5. Long-term infrastructure and support for the PCP-IT toolkit is challenging due to the need for continuous updates, development, and EU-level funding mechanisms. Reliance on temporary funding makes it difficult to ensure sustainable infrastructure. PPP could be explored, but require substantial negotiation and coordination efforts across multiple stakeholders. 6. Capacity building: Establishing a permanent platform for training and upskilling implementation science practitioners across EU member states is essential but resource intensive. Without consistent funding and	(PCP-IT) provides a structured process for selecting and adapting cancer prevention programs to different local contexts, enhancing their relevance and impact. 5. Cross-border collaboration: There is a growing opportunity for EU-wide collaboration in cancer prevention, with PIECES acting as a model for implementing and scaling prevention strategies through cross-border cooperation.
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			institutional support, it will be difficult to maintain the capacity-building programs needed to train healthcare workers to effectively use and adapt the toolkit. 7. Data sharing/ethics requirements for non-medical research: Complex ethical and regulatory standards impede effective data sharing and collaboration in non-medical research based in healthcare environments.	
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PREVENT	1. Sustaining and maintaining premises and infrastructure: making structural changes and building the infrastructure needed for the schools (e.g. cafeterias, canteens, playground) and the change of obesogenic environment (e.g. lanes, parks, spaces for physical activity). 2. Different attitudes towards ideal body weight and body image: that causes lack of understanding from students and their families about the necessity to make healthier menus in schools. 3. Unhealthy foods are considered by parents as an act of love towards their children. 4. Disadvantaged neighbourhoods with high vulnerability and conflict have different perceptions about obesity. 5. Students with different cultural backgrounds and	1. Limited financial resources for hiring and training personnel, purchasing materials and tools needed, continuing educational activities for teachers, parents and other targeted populations. 2. Lack of coordination and cooperation between relevant stakeholders for the successful implementation and evaluation of the intervention/policy. 3. Unsuccessful dissemination efforts in reaching all nutrition-related professionals. 4. Lack of an organizational system to monitor the implementation of the intervention/policy. 5. Lack of actions to raise awareness among parents and professionals. 6. Challenge to integrate digital innovations. Conflicting timelines for codesign and time to integrate proposed functionalities.	1. Limited financial resources for hiring personnel, training personnel, and for long term infrastructure buildings. 2. Lack of transnational collaboration and coordination. 3. Insufficient data sharing between EU countries. No adequate research evidence on the effectiveness of interventions/policies. 4. Lack of sustainability for interventions Consider stakeholder profiles at project initiation and possibility of private/public partnerships.	1. Community-based interventions: Community-based interventions that promote healthy lifestyles (such as urban gardens, family exercise programs, and fresh food markets) have proven effective. Involving schools, local governments, and families in these initiatives can be key to generating a positive impact. 2. Early education in nutrition and health: Introducing nutrition education programs in schools at an early age can form healthy habits that last throughout life. These programs should be inclusive, accessible and culturally adapted to the diversity of communities. 3. Public policies and regulations: Implement public policies that restrict the marketing of unhealthy foods aimed at children or limit their “intake” in spaces
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	different dietary habits do not easily accept proposed changes for healthier food choices. 6. Aggressive food marketing and especially extensive promotion and marketing of ultra- processed food. 7. Negative influences by the media.			such as schools and/or subsidize fresh and healthy foods. Increase taxes on sugary drinks and/or ultra-processed foods.
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2.1.2 Table 2. Updated Common Findings and Agreed Insights from the Research & Innovation Working Group

Community-Level Challenges	National-Level Challenges	EU-Level Challenges	Identified Opportunities
• Financial barriers: Limited funding for preventive measures and promoting healthy lifestyle changes, followed by challenges in financing follow-up care and screening after medical interventions or treatments, as well as maintaining and further developing healthcare infrastructure. • Low awareness of primary prevention: General lack of awareness about the importance of primary prevention, with unclear and inaccessible messaging. • Lack of targeted education programs: "One size fits all" approaches do not work. There is uncertainty about at which level to start when educating the public. • Cultural and social challenges: Low health literacy and disengagement	• Primary healthcare providers' high workload: Primary healthcare providers, including general practitioners, are managing a heavy workload. Additional stakeholders are needed to support tasks related to preventive healthcare and patient education. • Limited acceptancy of introducing new specialists in the healthcare sector: Other health professionals and specialists face resistance when attempting to take over certain healthcare tasks. • Occupational medicine involvement: Employers and occupational health services are not sufficiently involved in national cancer prevention efforts. • Lack of Healthcare provider education in implementing preventive measures.	• Implementation of evidence-based recommendations: More needs to be done to implement evidence-based guidelines, especially in food-related health policies. • Private sector influence: Regulations are needed to ensure that the private sector promotes evidence-based healthy food choices, rather than profit-driven options. • Inconsistent health campaigns: Health engagement campaigns vary greatly across the EU, with insufficient collaboration on shared goals. • Economic barriers: Lack of economic incentives that encourage individuals and businesses to adopt and support preventive health measures. • Unified EU-level policy adoption: There is a need	• Involvement of community leaders: Engage and collaborate with community leaders, including healthcare providers, mayors, school principals, and sports clubs, to actively promote cancer prevention education and raise awareness to raise awareness and educate the public about preventive healthcare. • Policymaker engagement: Engage a broad range of national policymakers, including Ministries of Education, Health, and Finance, to support and advance the implementation of cancer prevention initiatives. • Evidence-based advocacy: Use robust, evidence-based data to advocate for policy changes at the EU level. Infrastructure support: Encourage the development of infrastructure and financial incentives to support



from healthy behaviours due to social and cultural factors, including social ties and networks. Preventive measures hesitancy: Reluctance to adopt preventive actions like vaccines and screening tests. • Adaptability and acceptability issues: Challenges in tailoring health information to meet the specific needs of diverse stakeholders and ensuring that it is both relevant and accepted by communities, considering varying cultural and social contexts. • Distrust in the healthcare system: Scepticism toward the healthcare system, leading to lower engagement in prevention. • Fear of professional consequences: Concerns about negative work-related outcomes when disclosing private health challenges. • Difficulty in engaging community leaders: Difficulty in collaborating with relevant stakeholders	• Insufficient infrastructure, including medical deserts, a shortage of specialists, outdated equipment, limited technological resources, and inadequate facilities for promoting a healthy lifestyle, such as physical activity and providing healthy school meals, hinders the implementation of preventive measures and advancements. • Integrating new systems: The healthcare system is slow to adopt systemic, integrated interventions such as telemedicine. • Tailored approaches needed, particularly in cancer prevention. • Lack of prioritisation by national policymakers: Prevention initiatives may receive less attention from national policymakers, who may be focused on short-term outcomes and immediate visibility in the social media. • Challenges in implementing a national cancer prevention plan: In	for the development of unified, evidence-based minimum recommendations at the EU level, enabling consistent adaptation and implementation into national regulations across all member states. • Inconsistency in the definitions (and understandings) of “Healthy Lifestyle” across EU countries create inconsistencies in policy implementation. • Limited employer involvement in educational programs at the EU level: Across the EU, employers are not sufficiently engaged in offering or supporting educational programs that promote employee health and wellness. • Lack of support for implementing new technologies at the EU level: There is a need for greater financial and structural support across the EU to build a robust system for implementing telemedicine and healthcare apps.	telemedicine, healthcare applications, and other essential services, such as modernizing healthcare facilities, improving internet connectivity in underserved areas, and upgrading outdated medical equipment across all EU member states. • Cross-country collaboration: Create opportunities for EU countries to collaborate on defining and promoting healthy lifestyles, ensuring consistency in health promotion campaigns. • Education and awareness programs: Promote national and EU-wide educational programs for employees and citizens to improve health literacy and engagement with preventive measures. • Enhancing message understanding and acceptance: Develop clear, culturally sensitive communication strategies to improve public understanding and acceptance of cancer prevention messages, ensuring they resonate with diverse audiences and drive effective behavioural change.
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(e.g., community leaders) to spread health messages through informal channels. • Technical barriers: Limited internet access for healthcare applications, hindering the implementation of digital tools.	many EU countries, the absence of a dedicated national cancer prevention plan, combined with a lack of sufficient investment and funding, hinders the development and implementation of comprehensive cancer prevention strategies, limiting the effectiveness of long-term preventive measures. • Industry resistance: Certain industries resist national health campaigns and preventive measures, particularly when policies affect their interests.	• Ethics and local governance widely reported as a major bottleneck, delaying pilots and data collection.	Create a promotional video and policy-focused webinars. • Ensure continuity: Develop a knowledge repository to ensure continuity beyond project lifetimes, including a common terminology framework and a codebook.
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2.2 POLICY RECOMMENDATIONS

In Table 3, each project suggests a few policy recommendations based on the input they have received in the first year.

2.2.1 Table 3: Policy Recommendations from Each Project

Policy Recommendations	
CO-CAPTAIN	• Policies for integration of mental health and cancer prevention services: Promote the creation of integrated community health centres where mental health services and cancer prevention programmes are offered jointly and integrate metric measurements for monitoring. Integration of mental health and cancer systems, with models in which oncologists and psychiatrists can discuss cases, for example. • This would reduce fragmentation of services and facilitate a comprehensive approach for patients. • Community awareness to boost prevention: National education campaigns on early cancer detection and mental wellbeing are essential to overcome low awareness—a key barrier to taking action in prevention, especially among groups in vulnerable situations such as youth, women, and underserved communities. • Adequate funding for integrated mental health and cancer prevention programmes: Increase public funding for integrated mental health and cancer prevention programmes, with a focus on disadvantaged populations. This includes formally establishing the role of Patient Navigators within healthcare systems to ensure sustained, person-centred support. Many countries do not allocate sufficient resources to these programmes, contributing to lack of access and health inequalities. • Promote digital, person-centred solutions to improve coordination: Develop and expand digital tools that support better integration between mental health and cancer prevention services, helping professionals work together and ensuring individuals receive timely, personalised health promotion messages. Digital technologies can facilitate access to health services in geographically isolated or resource-limited areas. • Implement patient navigation as a core person-centred strategy to build trust, improve access, and support better health outcomes for people living with mental ill-health. • Encourage the inclusion of mental health considerations in EU cancer prevention strategies, by promoting policy guidance and funding mechanisms that support Member States in addressing the specific barriers faced by people



	with mental ill-health in accessing prevention and early detection services. • Encourage public-private partnerships in health: Encourage collaboration between governments, the private sector and NGOs to fund and develop social innovations in cancer prevention and mental health. • Promote multisectoral collaboration across health, social care, research, and community sectors to support the development and implementation of innovative, equity-oriented public health solutions. • Increase investment in research that explores the interaction between cancer and mental health, ensuring people experiencing mental ill-health are part of the development of the research as well as in study populations. This will improve the personalisation of interventions and inform more inclusive public health policies. • Policies for equitable access to palliative care and post-treatment support: establish clear guidelines to ensure that individuals experiencing mental-ill health diagnosed with cancer at all stages of the cancer have access to palliative care and post-treatment psychosocial support. Palliative care is essential to improve patients' quality of life, and post-treatment support helps prevent mental health problems such as depression or isolation.
CPW	• To strengthen cancer prevention in the European Union, incorporate comprehensive cancer screening into mandatory occupational health surveillance, including screening for oncogenic infections like Helicobacter pylori (H. pylori), Hepatitis C Virus (HCV), and Human Papillomavirus (HPV). Implement regulations that mandate consistent health monitoring to facilitate early detection and enable preventive measures such as screenings, vaccinations, and treatments. • Foster safe work environments to reduce infection risks, address overall employee health, and provide opportunities for education about cancer prevention. Establish databases compiling occupational history, lifestyle factors, and clinical information to support personalized preventive medicine. • Ensure that privacy protections are in place to maintain worker confidentiality. Implement robust data security measures to balance effective health monitoring with individual rights. Adopt clear and standardized data collection guidelines to ensure ethical, transparent, and comparable information gathering across institutions and countries.
ONCODIR	• Streamline the registration processes and broaden eligibility criteria for community-based prevention programs. • Establish outreach programs and mobile clinics to reach semi-urban and rural areas. • Develop tailored interventions-campaigns adequate to the health literacy levels of the targeted populations that properly address their health information needs.



	• Design and implement sustainable health education programs in different sectors covering multiple health issues. • Offer health information in multiple languages while culturally adjusted; special provisions are required when dietary guidelines are communicated. • Engage with community leaders from marginalized and communities in vulnerable situations to create health programs that are truly inclusive. • Create support groups, peer networks and offer counselling by community health workers to shift away from the family influences. • Offer occupational preventive care programs that are flexible enough to accommodate different lifestyles as well as financial incentives for both employees' and employers' participation. • Incorporate effective health communication training in healthcare professionals' education. • Set up patient advisory councils across communities. • Offer counselling services for cancer-related anxiety and promote positive messaging on early detection and treatment. • Engage community leaders and help to broker partnerships between providers, businesses and other healthcare organizations. • Have more digital resources available at community level while encourage cultivating the digital health literacy competencies of individuals. • Educate businesses of all sizes about cancer prevention and create wellness programs. • Develop physical activity infrastructure and make it available at low or no cost. • Encourage the adoption of telemedicine by means of pilot projects, financial incentives and training. • Encourage the development and piloting of genetic tests. • Advocate for prevention initiatives, highlight long-term cost benefits, and provide economic incentives like tax credits and subsidies.
4P-CAN	• Prioritization of local and regional implementation actions using implementation research tools such as living labs • Promotion of social science tools for in-depth understanding of local environment (personal and social network analysis, NetMap, personalised communication model)



PIECES	• Encourage open access to program results, methodologies, materials and resources: National and EU-level bodies should encourage or mandate the publication of both positive and negative findings from implementation projects. This will help prevent duplication of ineffective strategies and enhance the knowledge base available for successful cancer prevention interventions. Moreover, evidence- based primary cancer prevention programs should include a full publication of materials and resources. These should be made openly accessible to allow other institutions, regions, and countries to reproduce and adapt these interventions. This will increase the scalability and broader use of effective programs. • Establish and maintain National and EU-level repositories for cancer prevention programs: In addition to the PIECES repository, policymakers should create or integrate national and EU-level repositories of evidence-based cancer prevention programs. The PCP Implementation Toolkit (PCP-IT) repository developed by PIECES could act as a reference or even be integrated as the primary tool for this purpose. This would enable cross-border sharing of successful interventions and support collaborative efforts to fight cancer across Europe. Such repositories should include comprehensive details on how to implement and adapt programs for different contexts, making them useful for stakeholders at all levels. • Strengthen implementation science capacity: To improve the success of cancer prevention programs, local healthcare providers and policymakers need enhanced training in implementation science. National governments should invest in capacity-building programs that equip healthcare professionals and community leaders with the skills, but also the time, organizational capacity and institutional support needed to adapt and implement evidence-based interventions. This will address the gap in local expertise and ensure more successful program adaptation at the community level. • Allocate specific resources for program scalability and adaptation (before implementation): Policymakers should ensure that funding streams are aligned with the long-term goals of scaling successful prevention programs. This would involve allocating resources specifically for the adaptation, training and ongoing support of evidence-based programs at both the national and local levels. Developing a permanent, EU-wide platform for the training and upskilling of healthcare implementers is crucial for the successful use and adaptation of the PCP-IT toolkit. This capacity-building initiative should be supported with consistent funding and institutional backing. Additionally, a collaborative effort across member states is needed to standardize training programs and ensure that healthcare professionals are adequately prepared to implement cancer prevention programs using the toolkit. • Fund and support cross-border collaboration: Encourage greater coordination between EU member states in cancer prevention efforts. Cross-border collaboration should be prioritized to ensure the effective sharing of best practices and the joint development of new interventions, helping address policy fragmentation and ensuring consistent
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	preventive measures across the EU. • EU should work toward harmonizing ethical and regulatory standards across member states. Establishing a unified framework that simplifies the ethical approval process while ensuring compliance with GDPR and other privacy regulations would facilitate more efficient data sharing. This could include the creation of standardized ethical guidelines and protocols tailored for non-medical research, which would enable smoother cross-border collaboration and foster innovation in cancer prevention programs.
PREVENT	• Protected timeframes: Ban in all EU countries the broadcasting of advertisements for ultra-processed products during children's prime time viewing. Promote the consumption of fresh and seasonal products on television channels and social networks. • Engage community leaders and help create more and better spaces for physical activity that will be accessible to all and without cost. • Promote the use of digital tools for tailored interventions and implementation research. • Promote the collaboration between public and private sector in health and primary prevention. • Invest in educating stakeholders, health professionals, community about early cancer detection and the benefits of balanced nutrition and physical activity in day-to-day life as well as addressing the paradigm shift in approaching childhood obesity • Develop a one-stop cancer information centre on prevention.



2.3 POTENTIAL IMPACT AND ADVANTAGES OF THE RECOMMENDED POLICIES

This section outlines the potential impact and key advantages of the recommended policies, focusing on how these policies can contribute to cancer prevention efforts, improve public health outcomes, and support sustainable healthcare practices.

CO-CAPTAIN

- **Cancer Prevention:** Policies will promote early detection of cancer for people experiencing mental ill health, thereby improving survival rates through awareness and education.
- **Integrate mental health and cancer prevention services:** Promote models of care that connect mental health and cancer prevention services, such as integrated community health centres or multidisciplinary teams where oncologists and mental health professionals collaborate. Monitoring tools should be included to evaluate impact and coordination.
- **Health System Strengthening:** Implementation of patient navigation interventions will improve the efficiency and quality of care in the health systems, where individuals face barriers in access to services, such as fragmentation, complexity or administrative or financial barriers.
- **Cross-Sector Collaboration:** Fostering collaboration across sectors will enable a more integrated and effective approach to cancer prevention and care for people living with mental ill-health.
- **Awareness and Education:** Awareness campaigns will increase knowledge about people experiencing mental-ill health, reducing stigma among professionals, improving experience of care, and facilitating access to care for this specific group.
- **Sustainable Health Care:** Prioritising prevention will help identify early cancer cases, reducing the burden on individuals, families and health systems and, thus supporting their long-term sustainability.
- **Prioritise co-creation with people with lived experience:** Embed co-creation processes in the design, development, and implementation of cancer prevention strategies by actively involving people living with mental ill-health and their carers.



This ensures that innovations are grounded in real needs and preferences, increasing their relevance, acceptance, and long-term sustainability.

CPW

Putting workers into the centre of cancer prevention programs by involving them in mandatory occupational health surveillance might facilitate early detection and intervention for infection-related cancer. Public health outcomes might include reduced cancer incidence, improved HPV vaccination coverage, and safer work environments, potentially lowering healthcare costs and supporting sustainable healthcare practices. Such policy could also decrease the number of average sick days. The project will raise awareness of important risk factors for cancer and improve general health education of working population. Adopting clear and standardized data collection guidelines will improve the consistency and comparability of occupational health data across regions, allowing for more accurate evaluation of prevention efforts and long-term impact. Over time, such a framework could also guide future projects working with health data, fostering collaboration, responsible data reuse, and stronger evidence-based policies across Europe.

ONCODIR

To make prevention programs more effective and sustainable it's imperative that we make them more accessible at local -community level through simplifying the registration process and expanding the eligibility criteria. It's also essential to reach remote and underserved populations through outreach programs and mobile clinics. Targeted communication campaigns need to be designed to address specific health literacy levels, using various channels like social media, community radio, and local newspapers, while comprehensive health education programs should be developed for schools, day care and senior citizens' centres, facilities for the disabled, and prisons, covering a wide range of health topics, sustained over time to reinforce learning. Additionally, providing multilingual resources and culturally sensitive dietary guidelines will ensure inclusivity and better health outcomes for diverse populations.

Adopting a "whole-of-society" approach by actively involving community leaders in health initiatives is crucial. Engaging community leaders from marginalized groups is key to promoting inclusive health programs. Establish community support groups & peer networks and train community health workers to offer guidance and assistance, reducing the reliance on family for health-related decisions. Flexible prevention programs that accommodate



diverse lifestyles, coupled with financial incentives, can encourage participation. Facilitating partnerships between community organizations, local businesses, and healthcare providers can enhance collaboration. Providing digital literacy training programs and ensuring the availability of digital resources at community centres will improve community members' competencies in using health technologies. To improve patient-centered care, healthcare providers should be trained in effective communication and empathy whilst patient advisory councils should be established to involve patients in decision-making and build trust in healthcare services. Moreover, offering psychological support and counselling services for cancer-related anxiety, along with positive messaging on early detection and treatment options, can help reduce avoidant behaviours.

Promoting the adoption of telemedicine and other integrated healthcare systems through pilot programs, funding incentives, and training is essential. Advocacy for the inclusion of prevention initiatives in national health agendas, highlighting their long-term cost benefits, is necessary. Developing and funding comprehensive national cancer prevention plans with clear objectives and measurable outcomes, establishing accountability mechanisms, and engaging with industries to align health campaigns with their interests will support public health initiatives. Strengthening the implementation of evidence-based guidelines in food-related health policies, fostering collaboration among EU member states to harmonize health campaigns, and standardizing definitions of a healthy lifestyle across EU countries through educational campaigns are critical steps forward.

4P-CAN

Recommendation 1: Prioritization of local and regional implementation actions using implementation research tools such as living labs

Potential Impact: Prioritizing local and regional implementation actions through **living labs** can significantly enhance the effectiveness of cancer primary prevention efforts by fostering **context- specific solutions**. Living labs encourage real-world experimentation, where local communities (local stakeholders and citizens overall) actively participate in the co-creation of interventions. This ensures that cancer primary prevention initiatives are not only scientifically sound but also aligned with the needs, behaviours and preferences of local populations. This approach allows for adaptive implementation, where solutions can be continuously refined based on feedback from the community, leading to **higher adoption rates** and long-term sustainability. Moreover, this approach is particularly crucial for rural



areas and groups in vulnerable situations such as the elderly and the Roma community, who are often hard to reach through traditional campaigns, including those promoting the European Code Against Cancer.

Advantages: One of the key advantages of utilizing living labs is the **engagement of diverse stakeholders**, using the pentahelix model: academia, public sector, civil society and business sector, highlighting in addition the key role of the orchestrator. By working collaboratively, these groups can better address specific challenges such as access to cancer primary prevention, cultural specificities, and local health system capacities. Furthermore, living labs create opportunities to **test and scale innovations** efficiently within a localized setting before broader implementation, reducing risks and enhancing the **transferability of successful interventions** to other regions. This method can support **more equitable health and care delivery** and improve **cancer primary prevention outcomes**, particularly in under-resourced areas.

Recommendation 2: Promotion of social science tools for in-depth understanding of the local environment (personal and social network analysis, NetMap, personalized communication model)

Potential Impact: The promotion of **social science tools** like personal and social network analysis, NetMap, and personalized communication models will enable a **deeper understanding of the social dynamics** within local communities (local stakeholders and citizens). These tools allow us to map out **key influencers** and networks that can play a crucial role in spreading health information and fostering behaviour change. By leveraging these insights, cancer primary prevention campaigns can be **better tailored** to the specific cultural, social, and relational contexts of different communities, leading to more effective outreach and engagement (personalised communication model).

Advantages: A major advantage of these tools is their ability to **uncover hidden barriers and opportunities** within local environments, offering a more nuanced view of how individuals and institutions interact. This can be crucial for improving **communication strategies**, especially in regions where traditional approaches may have failed. Using personalized communication models ensures that messaging is more relevant and relatable, enhancing trust in healthcare initiatives. Additionally, this approach can support the **building of strong local coalitions of willing** that are critical for long-term sustainability, ensuring



that cancer primary prevention efforts are deeply rooted in the community and supported by its most influential members.

PIECES

The recommended policies for cancer prevention are expected to have significant positive impacts on public health, particularly in improving the scalability and effectiveness of preventive interventions. These policies provide a strategic framework that addresses current gaps in knowledge, resources, and collaboration across local, national, and EU levels. The following outlines the key advantages and potential impact of each recommendation:

1. By mandating the publication of both positive and negative results, along with the methodologies, materials, and resources used in cancer prevention programs, policymakers will enable greater transparency and accessibility. This approach will:
 - **Improve knowledge sharing:** Open access will allow stakeholders across regions to learn from successful interventions and avoid ineffective strategies, creating a more efficient and evidence-based approach to cancer prevention.
 - **Enhance scalability:** Making resources widely available will enable other institutions to adapt and reproduce evidence-based programs, increasing their reach and impact.
 - **Optimize use of research:** Policymakers and healthcare providers will benefit from a rich database of cancer prevention initiatives that can be adapted to local contexts, ensuring that valuable research translates into practical, effective actions.
2. The creation of centralized repositories for cancer prevention programs, with PIECES' PCP Implementation Toolkit (PCP-IT) serving as a reference or even as the primary tool, will:
 - **Promote cross-border collaboration:** These repositories will enable countries to share best practices and successful interventions, fostering collaboration across borders to combat cancer at an EU-wide level.
 - **Support evidence-based implementation:** Having a central repository will ensure that programs are based on strong evidence, enabling healthcare providers and policymakers to implement interventions that have been proven



effective.

- **Facilitate adaptation:** By providing detailed guidelines on how to adapt and implement programs in different contexts, these repositories will empower local implementers to customize interventions to meet the unique needs of their communities.
3. Investing in capacity-building initiatives that focus on implementation science will ensure that healthcare providers and policymakers can:
- **Improve program effectiveness:** Local healthcare professionals will have the necessary skills, organizational capacity and institutional support to adapt evidence-based interventions for their communities, leading to better health outcomes.
 - **Address local challenges:** By equipping local stakeholders with training in implementation science, they will be better positioned to overcome local barriers, such as cultural or socioeconomic challenges, ensuring more successful program adaptation.
 - **Sustain long-term impact:** Strengthened knowledge will contribute to the sustainability of cancer prevention programs, ensuring that they are effectively maintained and expanded over time.
4. Ensuring that specific funding is directed towards the scalability and adaptation of successful cancer prevention programs will:
- **Ensure long-term program success:** Programs will be more likely to succeed when they receive financial support not only for implementation but also for the necessary adaptation and ongoing evaluation.
 - **Enhance program reach:** Dedicated resources will allow programs to be scaled more effectively across different regions, ensuring a broader population benefits from proven cancer prevention strategies.
 - **Create sustainable healthcare solutions:** With sufficient funding, programs can be continuously improved and adapted to address emerging health trends, ensuring that cancer prevention efforts remain relevant and effective in the long run.
5. Prioritizing cross-border collaboration will:



- **Reduce policy fragmentation:** Harmonizing cancer prevention efforts across EU member states will lead to more consistent policies, improving the overall effectiveness of preventive measures.
- **Accelerate innovation:** By fostering collaboration among countries, new and innovative cancer prevention strategies can be jointly developed and shared, ensuring that best practices spread rapidly across the EU.
- **Strengthen the EU's position in cancer prevention:** A unified approach to cancer prevention will reinforce the EU's leadership role in public health, setting a strong example for global cancer prevention efforts.

PREVENT

Proposing primary targeted, multi-actor and context-aware interventions along with respective engagement policies for weight control management during childhood and adolescence (closely related with diet and physical inactivity), aims to reduce the incidence of cancer in adulthood. Focusing on early education and awareness in community level and in health professionals, increases user acceptability of the delivered primary interventions, issuing improved counselling and guidelines, and engaging upscaling of the proposed interventions. Incorporating adequately designed digital tools can facilitate the adoption of targeted health habits related to obesity and cancer prevention. The sustainability of effective interventions may be enhanced by the incorporation of public and private sector collaborations. The recommendation on a cancer information centre will contribute to open science repositories, develop collaborations with other EU initiatives as well as exchange knowledge and expertise with similar research initiatives.

2.4 COMMONLY RECOMMENDED POLICIES

This section presents the commonly identified policy recommendations agreed upon by the various projects. These policies reflect shared priorities and strategies aimed at addressing cancer prevention at the community, national, and EU levels. The recommendations are designed to be scalable and adaptable, fostering collaboration across sectors to promote effective and sustainable cancer prevention measures.



- 1) Community education and awareness programmes: implement national education and awareness campaigns on the importance of early cancer detection especially targeting groups in vulnerable situations (youth, women, rural areas). Design and implement sustainable health education programs in different sectors covering multiple health issues.
- 2) Fund and support cross-border collaboration: Encourage greater coordination between EU member states in cancer prevention efforts. Cross-border collaboration should be prioritized to ensure the effective sharing of best practices and the joint development of new interventions, helping address policy fragmentation and ensuring consistent preventive measures across the EU.
- 3) Encourage the development of infrastructure and financial incentives to support telemedicine, healthcare applications, and other essential services, such as modernizing healthcare facilities, improving internet connectivity in underserved areas, and upgrading outdated medical equipment across all EU member states.
- 4) Establish and maintain National and EU-level repositories for cancer prevention programs: This would enable cross-border sharing of successful interventions and support collaborative efforts to fight cancer across Europe. Such repositories should include comprehensive details on how to implement and adapt programs for different contexts, making them useful for stakeholders at all levels.
- 5) Harmonizing ethical and regulatory standards across EU member states. Establishing a unified framework that simplifies the ethical approval process while ensuring compliance with GDPR and other privacy regulations would facilitate more efficient data sharing. This could include the creation of standardized ethical guidelines and protocols tailored for non-medical research, which would enable smoother cross-border collaboration and foster innovation in cancer prevention programs.
- 6) Encourage public-private partnerships in health: Encourage collaboration between governments, the private sector and NGOs to fund and develop technological and social innovations in cancer prevention and mental health. Multisectoral collaboration can facilitate research, development and implementation of new public health solutions.



3 CONCLUSIONS

In conclusion, this updated policy brief tried to formulate recommendations based on the opportunities identified during the first research phase of each project. Our collaborative efforts aim to contribute on the fight against cancer with measures that are easy to adapt, upscale and promote cross-sector collaboration at a local, national and EU-level, facilitating research and innovation in future cancer prevention programs.

After this initial stage of implementation, the Prevention and Early Detection cluster deepens its initial thoughts on the scientific, social and structural facets surrounding cancer prevention. Through Living Labs in rural areas, patient navigation models supporting people with mental ill-health, workplace-based screening programs, clear implementation toolkits empowering local communities, multi-place childhood obesity interventions, and AI-powered personalised prevention platforms, the Cluster emphasises the idea of acting systemically – physically, culturally, and emotionally – for effective cancer prevention.

What have we learned?

- The one-size-fits-all approach fails: Prevention must be co-created with communities, adapted to local contexts, and responsive to cultural realities. Adequate time should be included in the initial phases of intervention development to attain this.
- Implementation is not automatic: Evidence based interventions require dedicated implementation support, trained staff, sustainable funding, and long-term commitment.
- Digital tools are impact supporters: Tech-solutions embedded within trusted relationships, formal healthcare pathways, and community support systems help to increase impact.
- Sustainability as a central consideration: Interventions are most likely to fade without mechanisms to maintain programs and generated knowledge beyond project timelines.



- Stakeholder engagement is fundamental: Stakeholders should be consulted before making decisions, so they are involved in shaping interventions throughout the whole intervention lifecycle.
- Mental health and cancer prevention are intrinsically linked together so behavioural, emotional, and structural barriers must be addressed holistically. Here, it is important to remember that cancer prevention strategies that ignore family dynamics and social networks will have little impact.
- Local leaders – formal and informal – can amplify key prevention messages more effectively than external campaigns not taking them into account.



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